International Association of Certified Home Inspectors

Visit us online at NACHI.ORG

World Headquarters
1750 30th St Ste 301
Boulder, CO 80301

InterNACHI Home Inspection Standards of Practice Course

Welcome to the Course

Welcome

Welcome.
This is the first page of the course.
This course is one of several required to attain your home inspector certification, as described on www.nachi.org/cpi-requirements.
To check your progress in attaining the home inspector certification, visit your Members-Only Account. To download the Certificate of Completion after passing this course's final exam, visit your Transcript.
Listen
Next Page
Let's go to the next page of the course and learn about starting and progressing through the course. Click the "Next Page" button at the bottom of this webpage.

Student Verification

Student Verification

By enrolling in this course, the student hereby attests that the student is the person completing all coursework. The student understands that having another person complete the coursework for the student is fraudulent and will be denied course completion and corresponding credit hours.

The course provider reserves the right to make contact as necessary to verify the integrity of any information submitted or communicated by the student. The student agrees not to duplicate or distribute any part of this copyrighted work or provide other parties with the answers or copies of the assessments of this course. If plagiarism or copyright infringement is proven, the student will be notified of such and barred from the course and/or have the student's credit hours and/or certification revoked.
Communication on the Student Discussion on the Online Forum shall be of the person completing all coursework.

Progressing Through the Course

Watch this short video on how to start, progress through, and complete an InterNACHI® online course. The video describes how to successfully complete the course in order to learn effectively.

How to Proceed
Use the "Next Page" or "Previous Page" buttons at the bottom of each course slide. You may also use the left-side navigation menu to freely move to any portion of the course. We recommend progressing through the online course sections sequentially, starting from the beginning.

Unlimited Access
As a member of InterNACHI, you have unlimited access to all of InterNACHI's online courses at www.nachi.org/education.
InterNACHI® members may complete online e-learning courses and the certificate program at their own pace. The InterNACHI® School offers asynchronous online courses delivered through computerized electronic technologies to allow students flexibility in achieving their continuing education goals. The courses require attendance, participation, interaction with instruction, academic engagement, direct communication, and learning activity to meet the course and program objectives and achieve intended learning outcomes. InterNACHI's e-learning courses compare with similar training offered in a traditional face-to-face class and on-site instruction and comply with time-on-task analysis completed by the curriculum publishers. The online courses mirror their in-person/on-site classes closely, requiring the same components, covering the same topics, and setting the same goals and objectives.

Leaving the Course
Feel free to leave the online course at any time. When you return, the course system will start for you where you left off (if you're resuming the course using the same device). The course system will track your progress through the course.

Various Learning Opportunities
The course system provides you with various opportunities to learn as you proceed through the course, including:

- clear instructions and objectives;
- intermediate quizzes and a final exam;

- study guides and other online resources;
- required reading and writing assignments;
- text, images, tables, video, and illustrations;
- repeated information and summaries of main points;
- unlimited amount of study time; and
- help when you need it.

Education Log & Transcript
Check your InterNACHI Education Log and Transcript within your InterNACHI Members-Only Account.

How to Become a Certified Home Inspector

To become an InterNACHI® Certified Home Inspector and attain the Certified Professional Inspector (CPI)® designation and Home Inspector Certificate, you must complete the certification requirements, one of which includes completing this Standards of Practice Course. Check out the Home Inspector Certification Requirements.

Certification Quiz

InterNACHI® School _____ accredited by a national accrediting agency of the U.S. Department of Education.

- is a college (correct)
- is a high school
- is a trade organization

Question Rationale

The InterNACHI® School is a college, just like any accredited college in the United States or Canada, which has the .edu domain. Our college domain is www.internachi.edu.

T/F: InterNACHI® administers the Online Home Inspector Exam.

- True (correct)
- False

Question Rationale

InterNACHI's exam for inspectors is online and free and open to everyone.

T/F: Every course is provided by our accredited college.

- True (correct)
- False

Question Rationale

All of InterNACHI's online courses are provided by the college that operates as a division within the trade organization.

T/F: Certified Professional Inspector CPI® is a federal certification mark of an inspector.

- True (correct)
- False

Question Rationale

InterNACHI's CPI is a certification mark.

T/F: No one but InterNACHI-certified inspectors can use the InterNACHI® CPI® logo.

- True (correct)
- False
- All members can use the CPI logo.
- Every one can use the CPI logo.

Question Rationale

The Certified Professional Inspector CPI® logo is for use by only InterNACHI® certified inspectors.

T/F: Simply joining InterNACHI® makes you certified.

- False (correct)
- True

Question Rationale

There are many InterNACHI® inspector certification requirements.

Begin

Now that you've gone through all of the introductory information, let's begin the main part of the course.

Click the "Next Page" button below and begin learning.

Have fun!

Student Resources
Library and Learning Resources

Library

Please visit InterNACHI's Library of Inspection Articles for additional resources to help students research, study, and complete courses and assignments. The library includes technical articles, books, images, technical illustrations, checklists, and "how-to" videos.

YouTube

Please visit InterNACHI's YouTube Channel to watch videos on business, marketing, and inspecting homes and buildings.

Illustrations

Please visit InterNACHI's Inspection Image Gallery to research and study inspection images and technical illustrations. InterNACHI® members may download illustrations from the gallery and use them in their inspection reports.

Glossary

Please visit InterNACHI's Glossary of Home Inspection Terms, which is an alphabetical list of terms, words, and definitions related to home inspections.

Webinars

Please visit InterNACHI® Webinars to register for the next free live webinar. The webinars are live and interactive. You be able to join the conversation with the presenter and other students. You can also ask questions during the webinar. The webinars are video recorded and made available for research.

Student Interactivity and Discussion Forum

Students may use the online InterNACHI® Inspection Community Forum to communicate and interact directly with other students, InterNACHI® members, mentors, or inspectors. The forum is monitored according to our guidelines.

Home Inspector Podcast

Visit the InterNACHI® Home Inspector Podcast to enjoy listening to the best podcast dedicated to the home inspection industry.

15-Step Checklist

Feel free to review our step-by-step checklist for running a successful home inspection business.

Home Inspection Business & Marketing Course

InterNACHI's free online "Home Inspection Business & Marketing Course" teaches students how to start, build, operate, market, and grow a successful home inspection business. The course includes:

- updated business processes and marketing strategies that successful inspection companies are currently implementing;
- resources for inspection training, report software, and inspection tools and equipment; and
- mentoring and networking, marketing and websites, insurance, and legal documents.

Optional Materials
Please visit our e-commerce partner, Inspector Outlet, to purchase extra learning materials. You are not required to purchase anything to complete this course.
Update Your Browser
If you're concerned about how fast your computer works, visit www.browsehappy.com and update your browser. BrowseHappy.com has information about the latest versions of the most popular Internet browsers in use. You can also learn about alternative browsers that may work better for your particular computer than your current one. An outdated browser can make your computer vulnerable to viruses and will slow its ability to display and download content.

Contact Us
Feel free to contact InterNACHI® by visiting www.nachi.org/contact or fastreply.nachi.org to get answers to most questions. For help with your education, email the Education Team at education@internachi.org.

InterNACHI® and Our School

InterNACHI®, the International Association of Certified Home Inspectors, is the world's largest trade organization of residential and commercial property inspectors. Founded in 1994 by Certified Professional Inspector CPI® Nick Gromicko, InterNACHI® is a federally tax-exempt 501(c)(6) nonprofit membership trade organization headquartered in Boulder, Colorado.

InterNACHI® provides its membership free online education courses and a Home Inspector Certificate Program through InterNACHI® School, which operates as a division within the membership trade organization. InterNACHI® School is accredited by a national accrediting agency (ACCET.org) recognized by the U.S. Department of Education. Our accredited college at internachi.edu provides our courses exclusively to InterNACHI® members. It's a members-only school. InterNACHI® School is a Member College of the National Association of Career Colleges (NACC) of Canada, a national association representing more than 500 regulated career colleges across Canada.

There are six steps to becoming an InterNACHI® Certified Home Inspector and attaining the Certified Professional Inspector (CPI)® credential. Visit www.nachi.org/cpi-requirements for details.

Course Textbook

Course Textbook
Download the textbook. You will be assessed on the information in it. We recommend reading it.
You can download the book to help you study the course information and prepare for the final exam. You'll need Adobe Reader.

You may download, save, and print it out to take notes while progressing through the online course.
InterNACHI Home Inspection Standards of Practice Course Textbook May 2024.pdf

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Student Interactivity

Student Interactivity
Interactivity between the student and the course provider is made by the opportunity to correspond via email. Students will receive a timely response within 24 hours during the workweek and by close of business on Monday for questions received over the weekend.
You may email the Education Team or Members Services at any time at education@internachi.org.
The student can join the conversation with other students by visiting the Online Inspection Community Forum. The student may also post questions related to the course. The message board will be monitored.
Student Interactivity
Contact
Email the InterNACHI® Education Team for assistance with the course.

Video: Introduction to the Course

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
So, grab a cup of coffee and, sit back and enjoy the course.
So this course is designed to teach you about InterNACHI's home inspection standards of practice, which is available by visiting w w w dot nachi dot org slash s o p.
And the standards are the foundation upon which you build your own step by step process of performing a home inspection.
The standards are the minimum, the absolute minimum, of what you are required to do as a home inspector.
The standards list systems and components that you are required to inspect, and they also list everything that you're not required to inspect. There's a lot that you're not required to inspect.
So for example, are you required to find every defect in a home?
No.
Are you required to find, mold in a home?
No.
Are you required to find, a plumbing drip that is not readily accessible or visible at the time of the inspection?
No.
Are you required to, be responsible for, a roof leak that happens the day after you perform a home inspection? No.

So the standards of practice is, is a guide, and it helps a home inspector understand what he or she is required to inspect and not required to inspect.
So get very familiar with the standards, which may change over time as the home inspection industry changes.
So please refer to the standards of practice that are online and refer your clients to that standards of practice because it is a live document. And if it happens to change, you won't be referring to something that's old and outdated.
So there's some terminology used within the standards, but they're fairly clear to understand, and they're commonly used.
Most of the terminology contained in the standards can be found at the InterNACHI glossary of terms.
And we have, a glossary that's online at nachi dot org slash glossary.
There are quizzes at each section of this course, to test your understanding of the course content, and they also provide an opportunity for you to review information that you may not have fully understood.
Use the quizzes to your advantage, particularly as a preparation for the final exam. There's a final exam, at the end of every free online course. I keep saying free online because InterNACHI is an accredited institution, accredited by the National Accrediting Agency of the US Department of Education, provide InterNACHI members free online training courses, certifications, and continuing education.
To progress through the pages of the course, just click the next page button, and let's scroll down and check one out. So there's one down there.
Next page.
Check your local laws. The standards of practice are not exhaustive and cover the minimum requirements that that an interagency member must follow while performing a residential home inspection.
But your state or province may have adopted rules, regulations, certifications, a licensing law, so please check those.
Local laws and rules overrule anything that's national or international.
And the course outline mirrors the home inspection standards of practice.
So this course will follow in sequence, section by section, just as the standards of practice are outlined.

Introduction to the Course
Introduction

This course is designed to teach the student InterNACHI's Home Inspection Standards of Practice (SOP), which can be read by visiting www.nachi.org/sop.
The standards are the foundation upon which you build your own step-by-step process of performing a home inspection. The standards are considered a minimum and list the systems and components that you are required to inspect. They also help reduce your liability by defining the scope of your visual-only inspection, and by listing the systems, components, and conditions that are not required to be inspected.

Familiarize yourself with the standards, which may change over time as the industry changes. Be sure to refer your clients to the online version of this live document at www.nachi.org/sop.

Audio

Terminology

The terms used within the SOP are commonly used and easy to understand. Most of the terms contained in the Standards can be found in the glossary at the end of this course. InterNACHI® has its own online glossary at www.nachi.org/glossary.

Quizzes

After each section of the course, there is a quiz to test your understanding of the section's content. The quizzes provide an opportunity for you to review information that you may not have fully understood.

The student receives credit for participating in review reinforcement question and answer sessions placed throughout the course in sufficient intervals to allow the student to evaluate the material that needs to be studied more. The clock hour credit for reinforcement review is provided.

Feel free to move back and forth from page to page. Pages can be accessed using the "Previous Page" button and the "Next Page" button at the bottom of each page, or you can use the navigation bar on the left side of each page.

Check Your Local Laws

The Home Inspection Standards of Practice are not exhaustive and cover the minimum requirements that an InterNACHI® inspector must follow while performing a home inspection. Your state, province, or country may have adopted rules, regulations, certifications, or licensing. There may be local Standards of Practice that you must follow by law. We recommend taking the time to read and understand InterNACHI's Home Inspection Standards of Practice before proceeding through this course.

Course Outline

This course mirrors InterNACHI's Home Inspection Standards of Practice and covers the following sections:

1. Definitions and Scope
2. Limitations, Exceptions & Exclusions
3. Standards of Practice
3.1. Roof
3.2. Exterior
3.3. Basement, Foundation, Crawlspace & Structure
3.4. Heating
3.5. Cooling
3.6. Plumbing
3.7. Electrical
3.8. Fireplace
3.9. Attic, Insulation & Ventilation
3.10. Doors, Windows & Interior
4. Glossary of Terms

On the next page, let's review some definitions and the scope of a home inspection.

Exceeding the Standards of Practice

Exceeding the Standards of Practice by InterNACHI's Legal Team
Inspectors sometimes ask about the potential legal consequences if their inspections go beyond what the InterNACHI® Home Inspection Standardsof Practice (SOP) require.

Of course, every inspection must, at a minimum, substantially meet the requirements of the SOP. If an inspector fails to comply with the SOP, the customer would have valid claims against the inspector for breach of contract and misrepresentation.

Therefore, when in doubt about what the SOP requires in a particular situation, the inspector should err on the side of caution and exceed what the SOP requires. It is better to do a little more than what may be required than to do less and risk a potential claim and harm to your reputation.
A word of caution: If an inspector consistently goes far beyond what the SOP requires, a customer might successfully argue that the inspector voluntarily assumed a duty greater than the contract required. Most inspection contracts contain language stating that the inspector will perform the inspection in accordance with InterNACHI's SOP. An inspector who goes far beyond what the SOP requires may expose the inspector to a claim that there was an oral agreement that the inspector was going to do a more rigorous inspection than what's required by the SOP.
If an inspector voluntarily assumes a duty greater than the duty required by the contract, the inspector has an obligation to perform those additional tasks with reasonable care.

Video: Section 1, Definitions and Scope

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
Definitions and Scope.
A home inspection is a noninvasive visual examination of the accessible areas of a residential proper property performed for a fee, which is designed to identify defects within specific systems and components defined by the standards of practice that are both observed and deemed to be material by the inspector.
So are you required to find all the problems in a home? No.
You're required to report upon those defects that you both observe and deemed to be or consider to be material as defined by the standards of practice. A material defect is a really serious problem.
The scope of work may be modified by the client and inspector prior to the inspection process.
Now a system is a term that we use, in the home inspection industry and in your inspection, your inspection report. And a system is an assembly of various components that function as a whole, and a component is part of that system.

So take a gas fired furnace system. That's a system, and there are many parts to that system. One is the normal operating control thermostat, the service switch, the electric switch on the side to turn off the unit. Maybe there's a gas valve. Right?
Another component would be the the panel door, to the air filter, two more components, the burners, the valve, the igniter, the blower fan, heat exchanger, which is not visible, but it's a component of this system. Get it?
And a general home inspection, also a home inspection or a standard home inspection, is the process by which an inspector visually examines the readily accessible systems or components of a home and operates those systems and components using a standards of practice as a guideline.
And the word inspect, we use that a lot to examine readily accessible systems and components safely using normal operating controls.
A noninvasive visual examination relates to the fact that home inspectors are not required to dismantle or remove components.
A home can include apartments, condos, residential, single family homes. So when we talk about home inspections, we're talking about residential buildings.
However, InterNACHI's residential standards of practice applies to properties with four or fewer residential units, and there are attached garages and carports.
Many local authorities limit inspections to a building with a maximum of four units.
So if you are inspecting a building, I have inspect I was a home inspector. I have inspected buildings and you get into the property and there are, multiple units.
The front egress door will have maybe the the name of the people living inside or the house number. Right? And you check the hallway up, you have six down the hallway.
You now have to use a different standards of practice.
So if there are four or fewer, you can use the home inspection standards of practice, the residential standards of practice for residential buildings.
An inspection must include an agreement between the inspector and the client about, what you're going to inspect, what systems and components will be inspected.
Again, this standard as a practice applies to properties with four or fewer residential units and their attached garages and carports. The inspection image above there is of a new commercial building with some residential units on the second floor. An inspection of this type of structure with more than four units and a big commercial property like this would likely require the inspector to use the international standards of practice for inspecting commercial properties, and InterNACHI has those standards at nachi dot org slash com sop, c o m s o p.
This picture here, inspection image, is of a heat pump system, and this inspection image is of a component of that heat pump system, which is the condensate pump.
So that's the difference between the system and the component.
The home inspection is based on the observations made on the date of the inspection and not a prediction of future events.
So the word condition is a is a term that's used a lot in a home inspection report, and the condition is the visible and conspicuous state of being of an object.
So if you find watermarks on the ceiling, you may report upon the apparent condition.
It could feel wet to the touch. You're not required to use a moisture probe or a meter of any sort. It's a visual only inspection.

So the condition would be, showing indications of water intrusion creating or resulting in watermarks that were observed during the time of the home inspection.
So a condition is the visual, obvious, conspicuous states of being of a particular object that you're inspecting.
And evaluate is to assess the systems, structures, components of a property, and the term unsafe means in the inspector's opinion.
A condition of an area, system, or component, or procedure that is judged or, thought of or in your opinion to be a significant risk of injury during normal day to day use. The risk may be due to damage, deterioration, improper installation, or a change in acceptable residential construction standards.
An unsafe deck may come across, in your experience.
You may come across an unsafe deck in your experience.
I have had that in my, occupation, in my experience. So the you know, where the deck is attached to the house, it's called the ledger board, and there should be flashing, properly installed at that ledger board. Well, there wasn't on this deck, and water got behind the ledger board and deteriorated completely, the house structure, to which this deck was attached.
And it was unsafe, in my opinion, to walk upon that deck. So I had to tell everybody. I actually had, tape, and I taped the slider door and with a warning tape. And, I, highly encouraged everyone not to step on that deck because, in my opinion, the condition was unsafe.
So that's that's where you would use something like that.
Report means, to express or communicate or provide information in writing or give a written account of.
And the inspection report, you know what that is. That is written communication of any material defects found during the inspection.
Remember that as an inspector, you can only report on what you see given given reasonable access.
To get a better idea of what an actual home inspection report looks like, Internet actually provides sample reports.
So feel free to use them to make your inspection reports better, and click that link there.
Defects.
A home inspection will not reveal every issue that exists or could ever exist, but only those material defects observed on the date of the inspection and deemed to be material.
A home inspection does not predict future events.
The home inspector is not required to determine future conditions. For example, a roof may leak at any time, even right after you perform a home inspection, and there were no indications of a roof leak observed.
We recommend that home inspectors write their reports in the past tense, and we have an article written by our legal counsel making that recommendation. So your inspection reports should be written that reflects the standards of practice, but also written in the past tense.
A material defect is a specific issue with a system or component of a residential property that may have a significant adverse impact on the value of the property or that poses an unreasonable risk to people.
So going back to that debt collapse, if the if you, in your opinion, think the debt is unsafe and that debt collapse is imminent, that would be a material defect.

The fact that a system or component is near, at, or beyond the end of its normal useful life is not in itself a material defect. So if the roof shingle covering, asphalt shingle covering, the roof covering is, cracked up and there's missing pieces, it's beyond its service life.
That's not necessarily a material defect.
For example, a cracked, open, and moving foundation or a fatally dangerous electrical condition such as, a dead front cover that's been removed and not put back. So the exposed electrical components within that distribution panel are live and could electrocute somebody. That would constitute a material defect, but a roof covering that had exceeded its intended lifespan would not.
Anything or any condition that would result in hurting someone in your opinion should be considered a material defect. Ultimately, these condition these are going to be your judgment calls, to make this decision in your opinion.
To help, please learn as much as you can by taking Internet Gies online courses for home inspectors and read the following article about what a material defect is and click that link there.
Let's go to the home inspection report.
Home inspection report is defined by the standards of practice.
Home inspection shall identify in written format defects within specific systems and components defined by these standards that are both observed and deemed to be material by the inspector. Inspection reports may include additional comments and recommendations.
And deem is a term that we use. It just simply means regard or consider in a specified way.
I deem that to be unsafe.
An inspector may observe a defect but not consider it to be a material defect as defined by the standards of practice. An inspector may not observe a defect and therefore would not be required to include it in the inspection report. For example, if there was a material defect located within the home but was beyond the scope of visual inspection and the inspector did not observe it, the inspector would not be required to report upon that defect.
The inspector must both observe and deem the defect to be material.
The home inspector is not required to find all defects in a home, house, or building inspected according to the InterNACHI Home Inspections Standards of Practice.

Section 1, Definitions and Scope

Audio
1.1. A home inspection is a non-invasive, visual examination of the accessible areas of a residential property (as delineated below), performed for a fee, which is designed to identify defects within specific systems and components defined by these Standards that are both observed and deemed material by the inspector. The scope of work may be modified by the Client and Inspector prior to the inspection process.

- system: An assembly of various components that function as a whole.
- component: A permanently installed or attached fixture, element or part of a system. It's not a system in its entirety.
- general home inspection (also, home inspection and standard home inspection): The process by which an inspector visually examines the readily accessible systems and

components of a home and operates those systems and components utilizing a Standards of Practice as a guideline.

- inspect: To examine readily accessible systems and components safely, using normal operating controls, and accessing readily accessible areas, in accordance with these Standards of Practice.

A non-invasive, visual examination relates to the fact that home inspectors are not required to dismantle or remove components.

A residential property can include apartments, condos, single-family homes, and structures containing multiple units. However, InterNACHI's Residential Standards of Practice applies to properties with four or fewer residential units and their attached garages and carports. Many local authorities limit inspections to a building with a maximum of four units.

An inspection must include an agreement between the inspector and the client as to which components and systems the inspector will be inspecting.

This Standards of Practice applies to properties with four or fewer residential units and their attached garages and carports. The image above is of a new commercial building with some residential units on the second floor. An inspection of this type of structure would require the inspector to use the International Standards of Practice for Inspecting Commercial Properties.

The image above is of a heat pump system.

The image above is of a condensate pump, which is a component of the heat pump system.

A System Is an Assembly

A system is an assembly of various components that function as a whole. A component is a permanently installed or attached fixture, element, or part of a system. For example, an air-conditioning system consists of components such as the thermostat, evaporator, condenser, compressor, expansion valve, blower, filter, and supply and return air ducts.

1.1.I. The home inspection is based on the observations made on the date of the inspection, and not a prediction of future conditions.

- condition: The visible and conspicuous state of being of an object.

- evaluate: To assess the systems, structures and/or components of a property.
- inspected property: The readily accessible areas of the buildings, site, items, components and systems included in the inspection.
- unsafe: In the inspector's opinion, a condition of an area, system, component or procedure that is judged to be a significant risk of injury during normal, day-to-day use. The risk may be due to damage, deterioration, improper installation, or a change in accepted residential construction standards.
- report (verb form): To express, communicate or provide information in writing; give a written account of.
- inspection report: A written communication (possibly including images) of any material defects observed during the inspection.

Remember that, as an inspector, you can only report on what you can see, given reasonable access.

Sample Inspection Reports

To get a better idea as to what an actual home inspection report looks like, visit our webpage with sample reports provided by home inspectors. Feel free to use them to make your inspection reports better.

Defects

1.1.II. The home inspection will not reveal every issue that exists or ever could exist, but only those material defects observed on the date of the inspection. A home inspection does not predict future events. The inspector is not required to determine future conditions.
For example, a roof may leak at any time, even right after a home inspection has been performed and no indications of a roof leak were observed. We recommend that home inspectors write their reports in the past tense. Please read www.nachi.org/inspection-report-present-past.

Material Defect

1.2. A material defect is a specific issue with a system or component of a residential property that may have a significant, adverse impact on the value of the property, or that poses an unreasonable risk to people. The fact that a system or component is near, at or beyond the end of its normal useful life is not, in itself, a material defect.
For example, a cracked-open and moving foundation, or a fatally dangerous electrical condition would constitute a material defect, but a roof covering that had exceeded its intended lifespan would not. Anything or any condition that would result in hurting someone, in your opinion, should be considered a material defect. Ultimately, these are going to be judgment calls for the inspector to make in the inspector's opinion. To help, please learn as much as you can by taking InterNACHI's online courses for home inspectors, and read the following article about defining a material defect at www.nachi.org/material-defects-for-home-inspectors.

Home Inspection Report

1.3. A home inspection shall identify, in written format, defects within specific systems and components defined by these Standards that are both observed and deemed material by the inspector. Inspection reports may include additional comments and recommendations.

- deem: regard or consider in a specified way.

An inspector may observe a defect, but not consider it to be a material defect as defined by the Standards of Practice. An inspector may not observe a defect and, therefore, would not be required to include it in the inspection report. For example, if there was a material defect located within the home but it was beyond the scope of a visual inspection and the inspector did not observe it, the inspector would not be required to report that defect. The inspector must both observe the defect and deem it to be material. A home inspector is not required to find all defects in a home, house, or building inspected, according to the InterNACHI® Home Inspection Standards of Practice.

Quiz #1: Definitions and Scope

A home inspection is a(n) _____.

- non-invasive, visual examination of the accessible areas of a residential property (correct)
- non-invasive visual examination of a commercial property
- invasive, visual examination of a residential dwelling

An issue that would be considered a safety hazard that could hurt someone would also be considered a _____ defect.

- material (correct)
- insignificant
- light
- computer

A component is defined as _____.

- a permanently installed or attached fixture (correct)
- something attached to something else
- a temporarily installed or attached fixture

Question Rationale

It is a permanent thing that is permanently attached to a system.

Removing the dead front (cover) from the electrical panel is _____ by the InterNACHI Standards of Practice.

- not required (correct)
- recommended
- required

An inspection report may include _____.

- all of these (correct)
- images
- additional comments beyond identified material defects
- recommendations

A residential building with up to _____ units is covered by this SOP.

- 4 (correct)
- 2

- 10

A _____ defect is one that could seriously affect the home's value.

- material (correct)
- general
- inherent
- max

A home inspector must produce a _____ report regarding his/her observations of the condition of the property.

- written (correct)
- verbal

A home inspector _____ required to report on the future condition of the structure.

- is not (correct)
- is

Video: Section 2, Limitations, Exceptions, and Exclusions

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
Limitations, exceptions, and exclusions.
So this is the section of the InterNACHI home inspection standards of practice course, and we're not gonna go over line by line all the limitations and exceptions and exclusions and the things that you're not required to inspect. We'll go over some of the highlights.
But there's a lot, which means that, again, as a home inspector, you're not required to inspect everything. You're not responsible for everything.
So an inspection, for example, is not technically exhaustive.
What does that mean? Well, if I'm inspecting a gas furnace, I'm going to use what the home inspection standards practice refers to as, normal operating controls. That's the thermostat. That's the service switch.
Maybe to get to the air filter or turn the unit off and back on again. I'm gonna see it go through a cycle, heating or cooling. In some areas, you're required a home inspector may be required to take the temperature of the air coming in and the condition air coming out of the system to measure that delta t, the difference in temperature.
That's about it. I'm not required to use tools.
I'm not required to, for example, test the gas of the refrigerant gas and the pressure to make sure there's enough in the system.
I'm not there for a very long time, hardly a few minutes.
I'm gonna use normal operating controls, look for material defects.
That's about it. Yep. It's not technically exhaustive.
An inspection will not identify concealed or latent defects. There could be a material defect that could injure somebody behind that banner behind me. Right?

Nobody would ever know until they see it, and that replies to a home inspection.
So the home inspector is not required to report upon material defects that are not observed, Especially ones that are within a wall or behind something. So I'm not required to move that personal item either in order to find a defect behind there. Right? It's a visual only inspection. It's like, I'm limited to a visual only inspection. You can think of it as getting both hands tied behind your back and walking through a home and just looking around.
Right? You can also use normal operating controls.
Inspection will will not include aesthetic concerns, like matters of taste or cosmetic defects. A cosmetic defects defect is a a blemish or a flaw, a stain on the carpet. It it could be, a brown stain on a white carpet, but that's not part of a home inspection.
And, a home inspection does not determine the market value of a home or its marketability.
A home inspection can actually be, performed on a home on any home, regardless of whether that home is for sale or being purchased or leased or rented.
So even if there isn't any transaction, it's actually a good recommendation. Internet actually recommends that every home should be inspected every year.
So it doesn't include, insurability either. Can this house, be insured? Well, there's knob and tube wiring. I'm not sure. Sure. There's a defect, but, a home inspector should not be commenting on the insurability of a home.
And an inspection does not determine the life expectancy of any system or component of a home.
There are exclusions.
So one exclusion that comes up a lot is the inspector is not required to determine the surface life of, any system or component. So a home inspection does include, unless you can't get to it, the inspection of a roof covering.
But, a home inspection report does not include, how many years does that roof have left? How many years does the hot water tank have left? Well, if the hot water tank is leaking or the roof is leaking, that's it's probably a major defect. Right? Nothing should be leaking, but that's something that comes up. Another thing that comes up is the size, capacity, BTU, performance, or efficiency of any component or system.
Is that air conditioner big enough to cool off all of the finished rooms in the house? That's not part of a home inspection. Sorry.
How about future conditions?
Is a home inspector is a home inspector required to predict future conditions? Are you, responsible if the, window top sash falls out of the window and crashes.
No. Right?
A home inspector is responsible for the the defects that are both observed and deemed to be material during the time of the home inspection, not for future conditions. The the dishwasher may leak the day after.
I ran a short cycle during my home inspection. So, the inspector is not required to determine the presence of mold, mildew, or fungus, or radon, or the air quality.
Those are different types of ancillary inspection services.
Fortunately, InterNACHI is accredited to provide those certifications, and they're free and online to InterNACHI members.

The inspector is not required to determine the estimates of the cost to operate any given system or repair, correction, replacement, or repair cost estimates. So how much does it cost to heat, cool, and operate a home? I'm not sure. Although, Internet g has a report, home inspection report. It's a free online report for any Internet g certified professional inspector to use that can help you provide that information.
And if someone ask, well, great you you found that the hot water tank is leaking on the floor, how much is that gonna cost? Well, you don't have to put that in the summary according to the standards of practice. You're not responsible for that. The home inspector is not required to operate any system that is shut down.
So let's say that the the furnace has a piece of tape on it. It says, no. You're not required to turn it back on.
Electrical breakers disconnects at the distribution electrical panel. If that breaker is off, turned off manually or tripped off, you are not required and really shouldn't reset it.
If there's something that has been barred or turned away or covered up or, turned off on purpose, it doesn't work. You're not required to, light a pilot light, for example, or ignite any kind of igniter or flame or anything. You're not required to turn something on that's been turned off. If the if the water to the whole house has been turned off at the main valve, it's very easy to turn it back on. Lefty loosey. Right? But you're not required to.
I would I would not touch any valve. You're not required to open anything that's closed.
So hope that helps you.
If a system, in your opinion, is not functioning properly, you're not required to operate it.
And you're not required to, inspect or operate phone lines, cable lines, low voltage lines, remote controls, anything like that.
You're not required to operate any shutoff valves or manual stop valves, any electrical disconnect or overcurrent protection devices.
You're not required to test, any, alarm systems, and you're not required to operate moisture meters, gas detectors, or similar equipment.
It's a visual only inspection.
Now I once was taken to small claims court. There was, termite damage, subterranean termite damage on four boards in the living room. Well, I looked at my inspection report and I took a picture of the living room and I recall it. There was a a throw rug, a carpet area rug and on top of it was a baby grand piano.
So I explained to the judge, small claims court, in five minutes I was out. I was successful. I defended myself because the Interaction Standards of Practice clearly states that an inspector is not required to move any personal items or other obstructions such as, but not including, but not limited to, throw rugs, carpeting, wall coverings, furniture, window coverings, equipment, plants, debris, snow. So if the roof was covered with snow, you're not required to report upon the condition of the roof or inspect the roof because you you're not required to get up on that roof and shovel any snow or debris, move any debris. If the skylight is just covered with leaves from the overhanging tree, right, there may be a problem with the flashing around the skylight, but you're not required to report upon it because you're not required to remove debris just to perform your visual inspection. So there are many things that are limited, excluded, or restricted.

You're not required to, open or uncover any system or component. So you're not required to remove the dead front cover of any electrical panel.
You're not required to enter crawl spaces or other areas that may be unsafe or not readily accessible.
You're not required to inspect underground items, such as lawn irrigation systems, underground storage tanks, or other indications of their presence, whether abandoned or actively used.
An inspector is not required to do anything which may, in the inspector's opinion, in your opinion, be unsafe or dangerous to the inspector or to others, or damage property, such as, but not limited to, walking on roof surfaces.
So this is a popular one.
Are you required to walk upon the roof?
No.
The InterNACHI standards of practice, the home inspection standards of practice keeps everyone safe, including the home inspector and you are not required to walk upon any roof surface. But what if it's a flat roof essentially only ten, twelve feet off the ground?
It's easy to get to with a ladder. Hey, it's flat, you know, what's gonna happen? You're not required to walk upon any roof surface according to the standards of practice.
You are not required to inspect decorative items.
Not required to inspect common elements or areas in multi unit housing, not required to inspect intercoms or speaker systems or security systems.
Not required to guarantee anything or warranty anything.
Oh, guarantee or a warranty? Nope. That's not up to you.
Not required to offer or perform any trade or professional service other than a general home inspection. And there is a code of ethics, and there's a clause in the code of ethics for home inspectors that prevents you from offering to repair or work on a home, within twelve months of performing a home inspection, if that issue falls within the scope of a home inspection.
So we have a legal department to help you, understand these certain situations if you need some legal advice, and that's free to InterNACHI members.
You're not required to research the history of the property.
So some home inspectors will pull a permit using a service, to see if the basement has been finished properly with a permit. Right?
Or if there was new electrical, upgrades or maybe there was a a deck that was renovated into a finished room, some home inspectors will do a little research on that. You're not required to do so.
And you are not required to perform any kind of environmental inspections, an audit, a phase one, or any you're not required to inspect any system or component that's not included in these standards.
So that's really it's, nice to know that you're not required to inspect everything.
So the this inspection image of a townhouse, it's way up there, and it's beyond the scope of the home inspection because it's not readily visible and not accessible to the home inspector. The home inspector is not required to do anything that may, in the inspector's opinion, be unsafe or dangerous to him or herself or to others or damaged property, such as walking on roof surfaces or climbing ladders.

Unfortunately, the home inspector was unable to see the roof covering materials during this home inspection. The home inspector explained to the client in the inspection report that the inspection was restricted, and the inspection did not include a visual inspection of the roof covering materials. The report recommended that the inspector's client ask the seller for detailed information about the roof's age, its condition, and its performance in the past.
Home inspectors are not required to inspect and report upon systems and components that cannot be observed. Home inspectors are not required to inspect everything in a home. It's impossible. Home inspectors are not required to find and report upon all defects that exist in a house even during the time of the inspection.
This inspection image is of an attached garage filled with personal items.
The inspector is not required to move any personal items or other obstructions that might restrict the visual inspection.
There may be a defect in the garage that the inspector would not be able to observe because of the personal items that obstruct and restrict the visual inspection.
It may be valuable to you as a home inspector to take extra pictures during your inspection that may help document the condition of a room or the inspection restrictions that existed at the time of your home inspection.

Section 2, Limitations, Exceptions, and Exclusions

Audio

2.1. Limitations:

I. An inspection is not technically exhaustive.
II. An inspection will not identify concealed or latent defects.
III. An inspection will not deal with aesthetic concerns, or what could be deemed matters of taste, cosmetic defects, etc.
IV. An inspection will not determine the suitability of the property for any use.
V. An inspection does not determine the market value of the property or its marketability.
VI. An inspection does not determine the insurability of the property.
VII. An inspection does not determine the advisability or inadvisability of the purchase of the inspected property.
VIII. An inspection does not determine the life expectancy of the property or any components or systems therein.
IX. An inspection does not include items not permanently installed.
X. These Standards of Practice apply only to properties with four or fewer residential units and their attached garages and carports.

2.2.Exclusions:

I. The inspector is not required to determine:

A. property boundary lines or encroachments.
B. the condition of any component or system that is not readily accessible.
C. the service life expectancy of any component or system.
D. the size, capacity, BTU, performance or efficiency of any component or system.
E. the cause or reason of any condition.

F. the cause for the need of correction, repair or replacement of any system or component.
G. future conditions.
H. compliance with codes or regulations.
I. the presence of evidence of rodents, birds, bats, animals, insects, or other pests.
J. the presence of mold, mildew or fungus.
K. the presence of airborne hazards, including radon.
L. the air quality.
M. the existence of environmental hazards, including lead paint, asbestos or toxic drywall.
N. the existence of electromagnetic fields.
O. any hazardous waste conditions.
P. any manufacturers' recalls or conformance with manufacturer installation, or any information included for consumer protection purposes.
Q. acoustical properties.
R. correction, replacement or repair cost estimates.
S. estimates of the cost to operate any given system.

II. The inspector is not required to operate:
A. any system that is shut down.
B. any system that does not function properly.
C. or evaluate low-voltage electrical systems such as, but not limited to:

1. phone lines;
2. cable lines;
3. satellite dishes;
4. antennae;
5. lights; or
6. remote controls.

D. any system that does not turn on with the use of normal operating controls.
E. any shut-off valves or manual stop valves.
F. any electrical disconnect or over-current protection devices.
G. any alarm systems.
H. moisture meters, gas detectors or similar equipment.

III. The inspector is not required to:
A. move any personal items or other obstructions, such as, but not limited to: throw rugs, carpeting, wall coverings, furniture, ceiling tiles, window coverings, equipment, plants, ice, debris, snow, water, dirt, pets, or anything else that might restrict the visual inspection.
B. dismantle, open or uncover any system or component.
C. enter or access any area that may, in the inspector's opinion, be unsafe.
D. enter crawlspaces or other areas that may be unsafe or not readily accessible.
E. inspect underground items, such as, but not limited to: lawn-irrigation systems, underground storage tanks (or other indications of their presence), whether abandoned or actively used.

F. do anything which may, in the inspector's opinion, be unsafe or dangerous to the inspector or others, or damage property, such as, but not limited to: walking on roof surfaces, climbing ladders, entering attic spaces, or negotiating with pets.
G. inspect decorative items.
H. inspect common elements or areas in multi-unit housing.
I. inspect intercoms, speaker systems or security systems.
J. offer guarantees or warranties.
K. offer or perform any engineering services.
L. offer or perform any trade or professional service other than a home inspection.
M. research the history of the property, or report on its potential for alteration, modification, extendibility or suitability for a specific or proposed use for occupancy.
N. determine the age of construction or installation of any system, structure or component of a building, or differentiate between original construction and subsequent additions, improvements, renovations or replacements.
O. determine the insurability of a property.
P. perform or offer Phase 1 or environmental audits.
Q. inspect any system or component that is not included in these Standards.

The image above is of a townhouse whose roof is beyond the scope of a home inspection because it's not readily visible and not readily accessible to the inspector. The home inspector is not required to do anything that may, in the inspector's opinion, be unsafe or dangerous to the inspector or others, or damage property, such as walking on roof surfaces or climbing ladders. Unfortunately, the home inspector was unable to see the roof-covering materials in this inspection. The home inspector explained to the client in the inspection report that the inspection was restricted and did not include a visual inspection of the roof-covering materials. The report recommended that the inspector's client ask the seller for detailed information about the roof's age, its condition, and its performance in the past.
Home inspectors are not required to inspect and report on systems and components that cannot be observed. Home inspectors are not required to inspect everything in a house.

Home inspectors are not required to find and report all defects that exist in a house during the time of the inspection.

The image above is of an attached garage filled with personal items. The inspector is not required to move any personal items or other obstructions that might restrict the visual inspection. There may be a defect in the garage that the inspector would not be able to observe because of the personal items that obstruct and restrict the visual inspection. It may be valuable to you, as a home inspector, to take extra pictures during your inspection that may help document the condition of a room and the restrictions that existed at the time of your inspection.

Quiz #2: Limitations

A home inspector is _____ to inspect or comment upon the decor.

- not required (correct)
- expected
- required

Question Rationale

Decorative items are not required.

An inspection report _____ comment on the property's possible commercial use.

- should not (correct)
- should

Question Rationale

It's not part of the standards of practice.

Home inspectors _____ required to move furniture during a home inspection.

- are not (correct)
- are

Question Rationale

Furniture is an exclusion.

A home inspection report _____ a warranty of components and systems.

- is not (correct)
- is

Question Rationale

There are no warranties.

The home inspector is required to determine _____.

- neither of these (correct)
- the presence of mildew
- both of these
- the presence of mold

Question Rationale

Mold and mildew are not part of a home inspection.

Home inspectors _____ required to evaluate parts of a house that are not safe to access.

- are not (correct)
- are

Question Rationale

Home inspectors are not required to endanger themselves.

A home inspection report must include identification of the presence of _____.

- none of these (correct)
- lead paint
- radon
- all of these
- asbestos
- environmental hazards

Question Rationale

Environmental conditions are not part of a home inspection.

The inspection report _____ include a determination of whether any additions were completed to code.

- is not required to (correct)
- should
- is required to
- shall

Question Rationale

It's beyond the scope.

Repair estimates _____ required to be written in the inspection report.

- are not (correct)
- are

Question Rationale

They are not required.

Inspectors _____ required to check for compliance with local codes or regulations.

- are not (correct)
- are

Question Rationale

They are not required to do so.
T/F: Lawn-irrigation systems are part of a home inspection.

- False (correct)
- True

Question Rationale
They are not within the scope.
T/F: A home inspector is required to open and remove the dead front (cover) of an electrical panel.

- False (correct)
- True

Question Rationale
Not required to open and dismantle a system, particularly if it's totally unsafe like a panel.

Video: Home Inspection Standards of Practice Summary

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
Watch this short video about the Standards of Practice that are oriented toward home buyers.

InterNACHI® Home Inspection Standards of Practice.
The residential standards of practice of the International Association of Certified Home Inspectors is located at nachi.org/SOP.
According to the standards of practice, a home inspection is a noninvasive, visual examination of a residential dwelling, performed for a fee, which is designed to identify observed material defects within specific components of said dwelling. And the components may include any combination of mechanical, structural, electrical, plumbing, or other essential systems or portions of the home, as identified and agreed to by the client in the inspector prior to the inspection process.
Now there is no crystal ball. A home inspection is intended to assist in evaluation of the overall condition of the dwelling.
The inspection is based upon the observation of the visible and apparent condition of the structure and its components on the date of the inspection, and not the prediction of future conditions.
You should expect to find problems in your house that were not identified in your home inspection report. And that's because a home inspection will not reveal every problem that exists, or ever could exist, but only those material defects that were observed on the day of the inspection.
Now a material defect is a condition of a residential property, or any portion of it, that would have a significant, adverse impact on the value of the real property, or that involves an unreasonable risk to people on the property. The fact that a system or component is near, at,

or beyond the end of the normal use life does not make the system or component itself a material defect.
Report. An inspection report shall describe and identify, in written format, the inspected systems, structures, and components of the dwelling, and shall identify material defects observed. Inspection reports may contain recommendations regarding conditions reported, or recommendations for correction, monitoring, or further evaluation by professionals, but this is not required.

Video: Section 3.1, Roof

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
This is the roof section of the InterNACHI home inspection standards of practice course. A home inspector is not required to walk upon any roof surface.
Even if that's a flat roof only ten or twelve feet above the ground.
It's dangerous to walk upon the roof. It's dangerous to walk to use a ladder.
The inspector is not required to predict the service life expectancy of a roof system either. It's impossible to predict that. Some inspectors guess the age of the roof cover covering materials, but that's not required according to the standards of practice.
What is required according to the standards of practice? Well, the inspector is required to inspect from the ground level or eaves, the roof covering materials, the gutters, the downspouts, vents, flashing, skylights, chimney, and other roof penetrations, and the general structure of the roof from the readily accessible panels, doors, and stairs.
Home inspector should describe the type of roof covering materials and report as in need of correction, observe indications of active roof leaks. What if, as a home inspector, I see watermarks on the ceiling of the second floor, in the corner, near the gutter that may have overflowed or maybe there's a roof leak or some something. I don't know.
Well, the watermarks are observing indications of active roof leaks.
If it was an active leak and was repaired, likely the homeowner would paint the watermarks and patch the drywall that was damaged by the water intrusion problem.
If it's still there during a home inspection and you see it and you deem it to be a a problem, you should put it in your inspection report. A picture is worth a thousand words as well. And further evaluation and correction should be recommended.
But what if how do you know if it's active or not? What if someone like an uncle or a real estate agent or the seller says, oh, we fixed that. Well, you should have documentation of that repair by a qualified roofer. Yes?
So I would make that recommendation as well. If there isn't any or if there isn't time for the homeowner to retrieve that information, it's a good idea to recommend, as a need of correction any observed indications of a roof leak, whether it's active or inactive. And it's impossible to tell whether it's active or inactive unless it's actually dripping.
And that's rare when you see a a plumbing leak actively dripping or a water leak, roof leak actively dripping.

What you what you usually see is watermarks.
And since you're not required to use an infrared camera or a moisture meter, and if it's not accessible to you to touch, you may not be able to determine that kind of degree, whether it's active, wet, moist, damp.
So if you see anything that looks like a roof leak, it's good to report it as a need of correction any observed indications of an active roof leak. K.
Roof covering material.
The inspector is required to inspect the roof covering materials, not the roof system. There's a difference. The roof system includes many components that are not readily visible or accessible. For example, shingle fastening or nailing is part of the roof system, but it is not readily visible.
Underlayment is part of the roof system, but it is not readily visible.
Sheathing and its fastening are part of the roof system, for sure, but are not readily visible or easily visible. So when inspecting, making observations, taking notes, and writing the inspection report, home inspector need only to inspect and comment upon the roof covering materials.
The international residential code refers to roof covering materials as material that is installed and secured to and cover the roof deck according to the manufacturer's recommendation in order to protect the building or the structure.
The inspection image here is a picture of the roof covering material.
So be careful.
It's not recommended it's not recommended that you use the word system.
And stay safe. While the standards of practice requires home inspectors to inspect the roof, how this is accomplished depends upon the inspector's comfort level. Many inspectors never walk on a roof.
In many cases, the safest way to examine a roof is from the ground.
You may consider using a ladder extended up to the gutter at the eaves, but using a ladder is dangerous, and a fall from a ladder could be fatal.
We have a safe practices for a home inspectors course and a ladder safety training course if you choose to learn more about being safe.
An inspection of the roof covering materials helps identify the type of material installed, like slate, asphalt shingle, wood shake, roll roofing, etcetera.
Based on a visual only inspection, a determination may be made as to the general condition of the roof covering materials, including observed indications of possible defects.
Gutters and downspouts.
Inspecting the inside of gutters may help provide an additional information about the condition of the roof covering materials. For example, there may be excessive roof covering materials or aggregate, the little stones inside the gutters if, the the roof is deteriorated or damaged in some way. But also, you can get that accumulation of aggregate when a brand new roof is installed, so be careful.
Water from the roof reaches the ground through gutters and downspouts or by flowing directly off the roof. Because downspouts create concentrated sources of water in the landscape, where they discharge is important.

Downspouts should not discharge where water flow will go directly over a walkway, a driveway, or stairs.
The downspouts on a hillside building should discharge on the downhill side of the building.
The force of water leaving a downspout is sometimes great enough to damage the adjacent ground, so some protection at grade level, such as a splash block or a paved draining chute, is needed.
In urban areas, it's better to drain downspouts to an underground storm water drainage system if there is one, or underground to discharge at a lower grade away from the buildings.
All gutters should be kept clean, and they should slope uniformly without sags to downspouts.
Drainage without gutters and downspouts can damage the exterior water with overflow.
If the house has no gutters or downspouts, carefully check the exterior walls for signs of water damage.
The inspection image here is of a downspout diverter pipe that is crushed and actually closed at its termination end, And that's a defect that should be corrected.
Flashing.
Fence, flashing, skylights, chimney, and other roof penetrations can be a significant problem because they are all engineered holes in the roof covering material.
If not properly installed or maintained, they may allow rainwater to enter the sheathing and or attic space, water intrusion.
Check the flashing in the joints around all roof penetrations, including drains, soil stacks, chimneys, skylights, hatchways, antenna, mountings, and other roof mounted elements.
This inspection image is of a vent pipe from a kitchen sink, and the home inspector did not observe any indications of a defect at the flashing at the time of the inspection.
A leaking skylight is a common experience.
From outside, watch the glazing for cracks or breaks, loosening of the flashing or rusting or decaying frames.
Skylights should be checked from the inside too. So don't be surprised if your skylight has a leak right after your home inspection. Or remember, a home inspector is not responsible for future weather events.
The inspection here is of a skylight with flashing on its left side improperly installed with flashing components missing and duct tape installed, this is a defect that needs to be corrected.
General structure of the roof.
Inspecting the roof structure is best done from inside the attic space with safe access.
It is an important part of the inspection.
Inspectors must check the underside of the sheathing for signs of moisture intrusion, looking closely at the roof penetrations we mentioned earlier for signs of flashing failure, obvious signs of structural problems such as split cracked rafters or improperly cut roof truss components.
A home inspector should check the general roof structure of the roof from readily accessible panels, doors, or stairs because roof coverings and roof covering materials can wear out, break, rust, crack, detach, blow off, or otherwise fail and expose the roof deck and structural components beneath to moisture intrusion and damage, this area is important to a check.

The inspector is not required, again, to walk on any roof surface, not required to predict the life expectancy of the roof covering materials, Not required to inspect underground downspout diverted drainage pipes. Not required to, remove snow or ice.
Not required to move insulation, not required to inspect antenna, satellite dishes, lightning arresters, de icing equipment, not required to walk on any roof areas that appear in the inspector's opinion to be unsafe, not required to perform a water test or warranty a roof, and not required to con confirm proper flashing or installation of any roof covering materials.
Predicting life expectancy of any component can be very risky, and roof covering materials make that task more difficult still.
A standard asphalt shingle roof, for example, has a lifespan that is dependent upon prevailing weather, overhanging trees, the number of layers of the covering, and adequate ventilation to name but a few factors.
Asphalt or composition shingles should have a service life from fifteen to forty years depending on shingle quality, installation, and maintenance. That's a huge, span of time.
When they begin to lose their granular coverings and start to curl, the shingles should be replaced. No more than two layers of asphalt shingles should be in place at any one time. If a second layer of asphalt shingles has been applied, Check to see if all of the flashing materials of the first layer were removed and replaced with new flashing for the second layer.
Underground pipes.
Underground downspout terminations fall into the if I can't see it, I can't report it category.
Often, the drainage system has failed due to silting up, roof system blockages, or collapsed pipe work.
It's also unsafe to walk most roofs that are wet, icy, snow covered, or mossy.
Removing snow, ice, or debris to inspect the roof is hazardous, and it's not required.
Inspecting antenna, satellite dishes, and similar items is not required, but a home inspector could check their attachment to the fixed systems of the roof, such as chimneys and through the roof mountings.
A home inspector is not required to perform a water test in order to evaluate or diagnose a roof water leak or moisture intrusion problem.
The inspector shall report.
As in need of correction, observe indications of active roof leaks.
It may not be possible to find an active roof leak, such as an active water drip coming from the roof covering materials, but there may be indications that you observe during a home inspection that provides evidence of an active or prior roof leak, So look for signs of dampness and watermarks.
Your hand is a sensitive instrument to help find and confirm moisture or wet materials.
Watermarks could be an indication of an active roof leak or a roof leak that occurred in the past.
It is recommended to identify, describe, and report upon any indications of a roof leak that may have happened in the past.
This inspection image was taken during the inspection of the attic space.
The inspector wrote, I observe indications of a roof leak.
There is a water capturing rag wrapped around the main vent stack pipe. There's a bucket to catch the water drips.

Active actively dripping water was not observed at the time of the inspection, but it may be an active roof leak.
There may have been a roof leak in the past. I recommend asking the homeowner to explain the indications of the roof leak. An active roof leak is a major defect, and correction and further evaluation is recommended.
That's a pretty good inspection narrative.
Fastening or installation.
It is not required for a home inspector to inspect the fastening of the roof covering material or the roof structure, sheathing, or deck.
Fastening is beyond the scope of a home inspection. It is impossible to inspect the fastening.
Home inspectors are not required to inspect and confirm proper installation according to manufacturer's recommendations.
Home inspectors are not required to inspect according to the building code. Home inspectors are not code inspectors.
So to learn about how to inspect a roof, take Internet of Cheese online courses that are free to members at our education page, which is nachi dot org slash education. Let me take you there. And use the search field. Let's say I want to look for roof. Well, we have a lot of nationally accredited roof courses that are free and online to InterNACHI members.
We highly recommend taking the video based course, ten steps to performing a roof inspection course. That is a short and sweet training course. It's really good. So we highly recommend that.

Section 3.1, Roof

Audio

The inspector is not required to walk on any roof surface, even if the roof is flat and only 10 feet above the ground. The inspector is not required to walk on any roof. It's dangerous. The inspector is not required to predict the service life expectancy of a roof system either. It's

impossible to predict that. Some inspectors guess at the age of the roof-covering material, but guessing or estimating is not required by the Home Inspection Standards of Practice.

3.1. Roof

I. The inspector shall inspect from ground level or the eaves:

A. the roof-covering materials;
B. the gutters;
C. the downspouts;
D. the vents, flashing, skylights, chimney, and other roof penetrations; and
E. the general structure of the roof from the readily accessible panels, doors or stairs.

II. The inspector shall describe:

A. the type of roof-covering materials.

III. The inspector shall report as in need of correction:

A. observed indications of active roof leaks.

Roof-Covering Material

The inspector is required to inspect the roof-covering materials, not the roof system. The system includes many components that are not readily visible and not accessible. For example, shingle fastening (nailing) is part of the roof system but is not readily visible. Underlayment is part of the roof system, but it is not visible. Sheathing and its fastening are part of the roof system but are not readily accessible and easily visible. So, when inspecting, making observations, taking notes, and writing the inspection report, a home inspector needs only inspect and comment upon the roof-covering materials. The International Residential Code refers to roof-covering materials as material that is installed and secured to and covers the roof deck according to the manufacturer's recommendation in order to protect the building or structure. The inspection image below is of the roof-covering material.

Stay Safe

While the Standards of Practice require inspectors to inspect the roof, how this is accomplished depends on the inspector's comfort level; many inspectors never walk a roof. In many cases, the safest way to examine a roof is from the ground. You may consider using a

ladder extended up to the gutter at the eaves, but using a ladder is dangerous, and a fall from a ladder could be fatal. Please refer to the Safe Practices for the Home Inspector Course and the Ladder Safety Training Course.
An inspection of the roof-covering materials helps identify the type of material installed (slate, asphalt shingle, wood shake, roll roofing, etc.). Based on a visual-only inspection, a determination may be made as to the general condition of the roof-covering material, including observed indications of possible defects.

Gutters and Downspouts
Inspecting the inside of the gutters may help to provide additional information about the condition of the roof-covering materials. For example, there may be excessive roof-covering material or aggregate lying in the gutter, which may indicate a deteriorated or damaged condition.

Water from the roof reaches the ground through gutters and downspouts or by flowing directly off roof edges. Because downspouts create concentrated sources of water in the landscape, where they discharge is important. Downspouts should not discharge where water will flow directly on or over a walkway, driveway, or stairs. The downspouts on a hillside building should discharge on the downhill side of the building. The force of water leaving a downspout is sometimes great enough to damage the adjacent ground, so some protection at grade, such as a splash block or a paved drainage chute, is needed. In urban areas, it is better to drain downspouts to an underground stormwater drainage system, if there is one, or underground to discharge at a lower grade away from buildings.
All gutters need to be kept clean. They should slope uniformly, without sags, to downspouts.

Drainage without gutters and downspouts can damage the exterior wall with overflow. If the roof has no gutters and downspouts, carefully check the exterior walls for signs of water damage.

The inspection image above is of a downspout diverter pipe that is crushed and closed at its termination end. That's a defect that should be corrected.

Flashing

Vents, flashing, skylights, chimneys, and other roof penetrations can be a significant problem, as they are all engineered holes in the roof covering. If not properly installed or maintained, they may allow rainwater to enter the sheathing and/or attic space. Some components, such as the chimney flashing, can be difficult to evaluate from up close.

Check the flashing and joints around all roof penetrations, including drains, soil stacks, chimneys, skylights, hatchways, antenna mountings, and other roof-mounted elements. The inspection image above is of a vent pipe from a kitchen sink, and the home inspector did not observe any indications of a defect at the flashing at the time of the inspection.

A leaking skylight is a common experience. From outside, watch the glazing for cracks or breaks, loosening of the flashing, and rusting or decaying frames. Skylights should be checked from the interior, too. Don't be surprised if your skylight develops a leak right after your home inspection. But remember, a home inspector is not responsible for future weather events.

The inspection image above is of a skylight with flashing on its left side improperly installed with flashing components missing and duct tape installed. This is a defect that needs to be corrected.

General Structure of the Roof

Evaluating the roof structure is best done from inside the attic space (with safe access); it is an important part of the inspection. Inspectors must check the underside of the sheathing for signs of moisture penetration, look closely at roof penetrations for signs of flashing failure, and obvious signs of structural problems, such as split rafters and improperly cut roof-truss systems.

A home inspector should check the general structure of the roof from the readily accessible panels, doors, or stairs. Roof-covering materials can wear out, break, rust, crack, detach, blow off, or otherwise fail and expose the roof deck and structural components beneath to moisture intrusion and damage.

IV. The inspector is not required to:

A. walk on any roof surface.
B. predict the service life expectancy.
C. inspect underground downspout diverter drainage pipes.
D. remove snow, ice, debris, or other conditions that prohibit the observation of the roof surfaces.
E. move insulation.
F. inspect antennae, satellite dishes, lightning arresters, de-icing equipment, or similar attachments.
G. walk on any roof areas that appear, in the inspector's opinion, to be unsafe.
H. walk on any roof areas if doing so might, in the inspector's opinion, cause damage.
I. perform a water test.
J. warrant or certify the roof.
K. confirm proper fastening or installation of any roof-covering material.

Walking on the Roof Surface

As discussed previously, walking a roof is a matter of choice, but some roof coverings can be easily damaged by careless inspection. With materials such as slate, tile, and some types of shingles, an inspector can crack or dislodge parts of the covering.

Life Expectancy

Predicting the life expectancy of any component can be very risky, and roof-covering materials make that task more difficult still. A standard asphalt shingle roof, for example, has a lifespan that is dependent on prevailing weather, overhanging trees, the number of layers of covering, and adequate ventilation, to name but a few factors.

Asphalt or composition shingles have a service life of 15 to 40 years, depending on the shingle quality, installation, and maintenance. When they begin to lose their granular covering and

start to curl, the shingles should be replaced. No more than two layers of asphalt shingles should be in place
 at any one time. If a second layer of asphalt shingles has been applied, check to see if all the flashing materials of the first layer were removed and replaced with new flashing at the second layer.
Check out InterNACHI's Standard Estimated Life Expectancy Chart.

Underground Pipes
Underground downspout terminations fall into the "If you can't see it, you can't report it" category. Often, the drainage system has failed due to silting up, root system blockages, or collapsed pipe work.

Removing Snow or Debris
It is also unsafe to walk most roofs when they are wet, icy, snow-covered, or mossy. Removing snow, ice, or debris to inspect the roof is hazardous, similar to being up on the roof in adverse weather conditions.

Roof Attachments
Inspecting antennae, satellite dishes, and similar items is not required, but a home inspector could check their attachment to the fixed systems of the roof, such as chimneys and through-the-roof mountings.

Water Test
A home inspector is not required to perform a water test in order to evaluate or diagnose a roof water leak or moisture intrusion problem.
Inspector Shall Report
The home inspector shall report as in need of correction observed indications of active roof leaks. It may not be possible to find an active roof leak, such as an active water drip coming from the roof-covering materials. But there may be indications that you observed during a home inspection that provides evidence of an active or prior roof leak. Look for signs of dampness and watermarks. Your hand is a sensitive instrument to help find and confirm moisture or wet materials. Watermarks could be an indication of an active roof leak or a roof leak that occurred in the past. It is recommended to identify, describe, and report any indications of a roof leak that may have happened in the past.

The inspection image above was taken during the inspection of the attic space. The inspector wrote, "I observed indications of a roof leak. There is a water-capturing rag wrapped around the main vent stack pipe. There is a bucket to catch water drips. Actively dripping water was not observed at the time of the inspection, but it may be an active roof leak. There may have been a roof leak in the past. I recommend asking the homeowner to explain the indications of the roof leak. An active roof leak is a major defect, and correction and further evaluation are recommended."

Fastening or Installation

It is not required for a home inspector to inspect the fastening of the roof-covering material or the roof structure, sheathing, or deck. Fastening is beyond the scope of a home inspection. It is impossible to inspect the fastening. Home inspectors are not required to inspect and confirm proper installation according to the manufacturer's recommendations. Home inspectors are not required to inspect according to the building code. Home inspectors are not code inspectors.

Roof Inspection Training

To learn how to inspect a roof, take InterNACHI's online courses, which are free to members at www.nachi.org/education. Search for "roof." We recommend taking the "10 Steps to Performing a Roof Inspection Course."

Quiz #3: Roof

Home inspectors _____ required to walk every roof.

- are not (correct)
- are

Question Rationale

Not required to walk upon the roof.
_____ need not be inspected.

- Television antennae and satellite dishes (correct)
- Downspouts
- Roof vents and flashings
- Skylights

Question Rationale
They are beyond the scope of a home inspection.
Inspectors ___ required to gain access to all attic spaces.

- are not (correct)
- are

Question Rationale
Some attics spaces may not have access at all.
The inspector is required to report on the _____ condition of the roof-covering materials.

- visible (correct)
- unseen
- palpable

Question Rationale
It is required, and it's a visual only inspection.
The condition of _____ need not be reported.

- underground drainage (correct)
- the guttering
- the downspouts
- roof-covering materials

Question Rationale
Underground components are beyond the scope of a visual-only inspection.
Home inspectors _____ trained to determine the future life expectancy of roof-covering materials.

- are not (correct)
- are

Question Rationale
They are not trained, and predicting life expectancy is not required.
Which of the following should the inspector remove prior to evaluating the roof?

- none of these (correct)
- snow and ice
- all of these
- leaves
- debris

Question Rationale
Home inspector is not required to remove snow or debris from the roof.
T/F: If the roof is flat, the home inspector is required to walk upon it.

- False (correct)
- True

Question Rationale
Home inspector is not requied to walk upon any roof surface.
The fastening of the roof-covering material is _____ the scope of a home inspection.

- not within (correct)
- within

Question Rationale
It is not required and not within the scope according to the Standards of Practice.
A leaking skylight is a _____ occurrence.

- common (correct)
- uncommon

Question Rationale
Skylights leak water.

Video: Section 3.2, Exterior

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
This is the exterior section, one of my favorite sections of the Internet G home inspection standards of practice course.
And, again, this is a supplemental video that you can watch as you go through the course content yourself. And after every section, there's a quiz. And we'll check out a quiz, on this one.
So the exterior.
This this section of the course, it covers the exterior, which includes the exterior wall covering materials, kind of like the roof covering materials that we talked about in the previous section.
Doors, steps, windows, and surface drainage among many other components of the exterior.
That's when this wet that's within the scope of the home inspection.
This inspection image here, that's me. I found a major structural crack at the top corner of a window that shows movement and displacement, And that's a major defect.
And correction and further evaluation was recommended in my inspection report.
The exterior of a home is the exterior of every home is slowly deteriorating and aging. The sun, wind, rain, and temperatures are constantly affecting it.
Every structure is gaining entropy.
Every structure, every home is slowly falling apart and breaking down.
Our job as home inspectors is to check the building's exterior for the conditions that are observed.
It's kind of fun.
But what is required by the standards of practice?
Well the inspector shall inspect The exterior wall covering materials.
The eaves, soffit, and fascia.
A representative number of windows, not all of them.
All exterior doors.

Flashing and trim.
Adjacent walkways and driveways.
Stairs, steps, stoops, stairways, and ramps, Porsches, patios, decks, balconies, and carports, railings, guards, and handrails, and vegetation, surface drainage, retaining walls, and grading of the property where they may adversely affect the structure due to moisture intrusion.
Exterior wall covering material.
The inspector is required to describe in the inspection report the type of exterior wall covering materials.
Many inspectors start with a walk around the structure, taking notes as well as photos, and looking closely at the structure for walls out of plumb, or whether the chimney is leaning or whether there are cracks observed, and generally getting the feel of the home and the grading around the home.
I tend to do an inspection in the same way for every home. I get to the front door and I go counterclockwise around the house.
Maybe that's not possible for every home like a townhome in a row.
But I do the same inspection process all the way around.
And that way, when a defect is there, hopefully, it'll pop up because I'm doing the same inspection pattern over and over again for every house, and it's kind of like tripping over something during a walk, it should be obvious a defect. If you do the same inspection process all around, instead of just randomly going here and there, which you may tend to want to do for your client who is asking questions about various parts of the home.
But if you stick to an inspection process and use the standards of practice as a guide, an inspection guide, you'll have a a better time, and you'll be more successful at performing an inspection.
So, many things that are observed outside are clues to greater issues within the property. The exterior itself can be very complicated with multiple components and systems.
It's easy to walk around the house and simply check the exterior of the foundation and structural supports.
Exterior walls above the foundation may be covered with a variety of materials including wood siding, aluminum siding, vinyl siding, asbestos cement shingles, plywood, stucco, brick, and stonemasonry or an exterior insulation and finish system.
This inspection image is of dense vegetation in contact with the exterior wall covering material, and that is a correction that's needed. And it's also a photograph of the inspection restriction.
Exterior wooden components.
Check the painted surfaces for peeling, blistering, and checking.
Paint related problems may be due to vapor pressure beneath the paint, improper paint application, or excessive paint build up.
Wooden components are susceptible to rot, particularly when they're installed near the ground or just under the roof line. For example, exterior flashing and trim are typically problematic issues even on an otherwise well maintained home.
It is not unusual to see trim rotted away due to poor insulation of flashing.
It's unusual to find an old wooden garage door without rot.

The attachment of any exterior component should be checked, particularly decks, stoops, steps, stairs, many of which could show signs of inadequate attachments and poor flashing.
This inspection image is of a wooden rake board with deteriorated paint surfaces.
Correction and further evaluation was recommended.
Clearance.
Check the distance between the bottom of wood components and the grade or ground surface. In locations that have little or no snow, the distance should be no less than eight inches. In locations with significant lasting snow, the bottom of the wood elements should be no less than eight inches above the average snow depth. That's pretty tall.
Check for landscaping materials such as wood chips and mulch that are piled up against the house wall.
This inspection image here is of dense vegetation and vines that are up against the vinyl siding and growing within the vinyl siding, within the wall cavity, possibly. The bottom of the wood siding was in contact with the ground surface, and this condition is prone to water intrusion at the bottom of the wall through the siding. Correction and further evaluation was recommended in the inspection report.
Eaves, soffit, and fascia.
Damaged soffits, that's the horizontal surfaces under the eaves, can allow snow or rain to be blown into the attic, damaging insulation, ceiling, and and walls.
Fascia boards, that's the vertical roof trim sections, can be damaged also, allowing moisture to come in.
So check the exterior walls and trim for deterioration developing beneath the eaves of pitched roofs that have no overhangs and gutters especially.
Here's an inspection image that is of the soft events installed at the horizontal surfaces of the eaves. No indications of a defect was observed at this area at the time of the inspection.
Exterior windows and doors.
All exterior doors should be inspected during a home inspection. But a representative number of windows should be inspected from the exterior. You can't just reach all the windows, and you can't move a ladder all around. That would be technically exhaustive, I guess.
Many windows are simply out of reach and not accessible to be inspected up close. Windows and doors are the most complex elements of a home's exterior, and they require monitoring by the homeowner to keep in good shape.
Here's an inspection image taken during an inspection of an exterior door.
There's a sign attached to the door that says, watch your step.
And that's because, there is some construction being, done or some concrete was blown out and new concrete was just about to be poured in. But during the inspection, it wasn't. So, this area was under construction and correction was recommended.
There should be a smooth walking, standing surface, and stepping surface at each exterior door.
And the house is required to have a main egress door, at least one.
The required door, this is an a required egress door, it must be a side hinge door, and it must be at least three feet wide and six feet eight inches tall. The other doors don't need to meet these minimum standards. They can be of any size, and they don't need to be of the swinging type.

But all egress doors must be readily openable from the inside without the use of a special tool or key, or special knowledge or effort.
So an interior key deadbolt is a defect, is a safety hazard.
Stairs and guards.
Stairways are one of the most hazardous areas of the home, and stair falls are often fatal.
We recommend learning the standards and requirements of a stairway and ramp in detail so that when you're on an inspection, you'll be able to recognize defects quickly and report them concisely.
So we have a course and a section within the course that deal a lot with stairs and stairways and guards. It's the how to inspect the attic insulation, ventilation, and interiors course.
Any stairway with four or more risers should have a handrail on at least one side.
But as a home inspector, I'm not a code inspector.
So if I think my grandmother can't get up those stairs, let's say on the exterior, and there's three steps, not four, but three, maybe two, and I want to recommend a handrail, I will.
I'm not a code enforcement officer. I'm not a code inspector. It's basically in my opinion.
So if I don't think someone can walk four stairs or more without a handrail, then I'm going to, make that recommendation for my client.
The handrail height should be at least thirty four inches and not more than thirty eight inches.
The minimum stair riser height is four inches, and the maximum is seven and three quarter inches. And the minimum tread depth is ten inches.
According to the standards of practice, the inspectors shall report as a need of correction any improper spacing between intermediate balusters, spindles, and rails. And this comes up a lot when you're inspecting an older existing home that was built to code way back when.
The design strength of a guard should resist a two hundred pound concentrated load applied at any direction at any point along the handrail or the top of the guard.
All decks and porches, including those with insect screening, landings, balconies, mezzanines, galleries, ramps, and raised floor services located more than thirty inches above the floor or ground should have guards. A guard is necessary at those elevated floor levels because a fall from that height, just thirty inches, can result in serious injury.
The minimum height of the horizontal guard is thirty six inches.
Open sides of stairways with a total rise of more than thirty inches above the floor or ground surface should have guards not less than thirty four inches in height.
Here's this four inch sphere.
Rule.
Horizontal guards at raised floor areas, balconies and porches, should have intermediate rails of ornamental enclosures or rails or closures or spindles.
The vertical boards that don't allow a passage of a four inch diameter sphere.
And again, this could be an issue when you're inspecting a home that was built to code way back when. And they allowed children to fall through railings essentially.
So that's a defect.
Here's another illustration in the course, about a six inch sphere and a four and three eight inch sphere at the stairway.
So a triangular area formed by a tread, a riser, and a guard should not allow the passage of a six inch sphere in diameter. I actually have one here.

It's made out of foam. You can get it off of Internet G's inspector outlet ecommerce partner. It's kind of fun to use.
The opening at the guards on the sides of stair treads should not allow the passage of a sphere four and three eighths inch in diameter.
So Internet actually has an online inspection gallery of illustrations just like this. You can choose to download a high def illustration, insert it into your inspection report software so that you can easily explain your observations.
Because it's kinda complicated with those measurements.
Surface drainage. Now, that's one of the first things I take a look at when I'm walking around the perimeter of the house. Remember, counterclockwise, same. You can do it any way you want, but same pattern.
Home inspectors may also check the lot, the ground surrounding the house, and the land at the property.
Home inspectors may report on trees that pose a threat to the structure, retaining walls that are damaged or rotten or leaning, footpaths and walkways that present the trip hazard, and the general topography of the site and its ability to drain service water.
There should be an adequate slope of the land and ground around the house. Slope refers to the land around the house that is graded at an angle away, down, down and away.
The slopes of the ground should be directed towards appropriate and improved drainage devices that are capable of carrying concentrated runoff.
The ground should slope a minimum of six inches within the first ten feet away from the property, the house structure itself, the first ten feet.
There are exceptions to this rule when drains and swells are provided. But our task as a home inspector should include walking the perimeter of the house and the surrounding land.
Verify that the site appears to be adequately sloped. Away from the house.
Detached garage.
InterNACHI's, residential or home inspection standards of practice does not require inspectors to evaluate detached garages, but attached garages and attached carports are included within the standards of practice. Many home inspectors inspect the detached garage as part of their exterior inspection exceeding the standards of practice. I did as well.
Some inspectors are required to include detached garages in their general home inspections as as mandated by their state or local province rules. In this case, inspectors should note the same types of defects as described in the home's exterior structure.
And it actually provides useful guidelines for inspecting garages and garage door openers in our how to inspect the exteriors course, and there's a link right there.
What's not required?
There's a lot not required to be inspected by the standards of practice.
And we'll go over some of them. The inspector is not required to inspect or operate screens, storm doors, shutters, awnings, fences, outbuildings, exterior accent lighting.
The inspector is not required to inspect items that are not visible or readily accessible from the ground, including window and door flashing.
The inspector is not required to inspect or identify geological, geotechnical, hydrological, or soil conditions.
The inspector is not required to inspect recreational facilities or playground equipments.

Whenever there's a a fountain and I know my client has small children, I'll take a look at that. And, I won't really inspect it. I'll just warn everyone with an automatic narrative in my inspection report using my software that, children may find, that fun to play in, but it could be hazardous.
An inspector is not required to inspect seawalls, break walls, or docks. The home inspector is not required to inspect erosion control or earth stabilization measures, especially for coastal houses. That's an issue. Inspector is not required to inspect underground utilities, underground items, wells, or springs.
Inspector is not required to inspect solar or wind or geothermal systems.
Solar panels are getting more popular.
Home inspector is not required to inspect swimming pools or spas, wastewater treatment systems, septic systems, or cesspools.
Home inspector is not required to inspect irrigation or sprinkler systems, the lawn sprinkler systems.
If it's on, I'll comment if, a sprinkler system is spraying water on a component like a fence, a system, or like an air conditioner or on the house structure itself. It shouldn't be. Or if there's waste water, like, on the driveway, if sprinkler is wasting water on a hard surface.
An inspector is not required to inspect drain fields or dry wells.
I made comments upon some dense vegetation and really nice green grass growing on top of, a potential, septic field.
The inspector is not required to determine the integrity of multiple pane window glazing or thermal window seals. But if you see a fog window pane, a cracked glass pane, I would, put it in the report.
Exterior courses. We have a few very good courses, free and online, related to how to inspect the exterior. We recommend Fundamentals of Inspecting the Exterior course. That's a great video course. And a course that's part of our certification program, which is the how to inspect the exteriors course.
And then if you click next page, the button, you get to the quiz.
So, here's how one of the quizzes work. It's a lot of fun.
We'll go through and answer some of these questions. And there's a pool of questions, so you never get the same quiz. You can take the quiz over and over again if you'd like.
Let me just click the first answer to all these quiz questions, and let's just see if I got anything right or wrong. And you click grade the quiz.
Oh, sorry. You need to answer at least eighty percent of this quiz correctly to proceed with the course. I only answered less than thirty percent correctly.
Please retake the quiz below. And, here are the questions that I answered incorrectly, and it helps me, take those questions again. And I get another shot at it with no penalty. So it's kinda fun. Alright. The next section is basement, foundation, crawl space, and structure. That's a good one.
Alright. Have fun. Bye.

Section 3.2, Exterior

Audio

This section covers the exterior of the home, which includes the exterior wall-covering material, doors, steps, windows, and surface drainage, among many other components of the exterior that is within the scope of a home inspection. The inspection image below is a major structural crack observed during a home inspection indicating movement of the structure at the top right corner of a window. The home inspector recommended correction and further evaluation.

The exterior of a home is slowly deteriorating and aging. The sun, wind, rain, and temperatures are constantly affecting it. Your job is to check the building's exterior for its condition.

3.2. Exterior

The inspector shall inspect:

- the exterior wall-covering materials;
- the eaves, soffits and fascia;
- a representative number of windows;
- all exterior doors;
- flashing and trim;
- adjacent walkways and driveways;
- stairs, steps, stoops, stairways and ramps;
- porches, patios, decks, balconies and carports;
- railings, guards and handrails; and
- vegetation, surface drainage, retaining walls and grading of the property, where they may adversely affect the structure due to moisture intrusion.

Exterior Wall-Covering Material

II. The inspector shall describe:

- the type of exterior wall-covering materials.

Many inspectors start with a walk around the structure, taking notes as well as photos, and looking closely at the structure for walls out of plumb, whether a chimney is leaning, etc., and generally getting the feel of the home. Many things that are observed outside are clues to greater issues with the property. The exterior itself can be very complicated, with multiple components and systems. It is easy to walk around the house and simply check the exterior of the foundation and structural supports.

Exterior walls above the foundation may be covered with a variety of materials, including wood siding, aluminum, vinyl, asbestos cement shingles, plywood, stucco, brick, and stone masonry or an exterior insulation and finish system.

The inspection image above is of dense vegetation in contact with the exterior wall-covering material.

Exterior Wooden Components

Check the painted surfaces for peeling, blistering and checking. Paint-related problems may be due to vapor pressure beneath the paint, improper paint application, or excessive paint build-up.

Wooden components are susceptible to rot, particularly when they are installed near grade or just under the roof line. For example, exterior flashings and trim are typically problematic issues even on an otherwise well-maintained home. It is not unusual to see trim rotted away due to poor installation of flashings. It is unusual to find an old wooden garage door without rot. The attachment of any exterior component should be checked, particularly decks, stoops, steps and stairs, many of which show signs of inadequate attachment and poor flashing.

This inspection image is of a wooden rake board with deteriorated paint surfaces. Correction was recommended.

Clearance

Check the distance between the bottom of wood elements and the grade or ground surface. In locations that have little or no snow, the distance should be no less than 8 inches. In locations with significant lasting snow, the bottom of wood elements should be no less than 8 inches above the average snow depth. Check for landscaping materials, such as wood chips and mulch, that are piled up against the house wall.

The inspection image is of dense vegetation and vines up against and growing within the vinyl siding. The bottom of the vinyl siding was in contact with the ground surface. This condition

is prone to water intrusion at the bottom of the wall and through the siding. Correction and further evaluation was recommended.

Eaves, Soffit and Fascia

Damaged soffits (horizontal surfaces under the eaves) can allow snow or rain to be blown into the attic, damaging the insulation, ceilings and walls. Fascia boards (vertical roof-trim sections) can be damaged, allowing the moisture from rain and snow into the attic and atop interior walls. Check the exterior walls and trim for deterioration developing beneath the eaves of pitched roofs that have no overhang or gutters.

The inspection image above is of the soffit vents installed at the horizontal surface of the eaves. No indications of a defect was observed at this area at the time of the inspection.

Exterior Windows and Doors

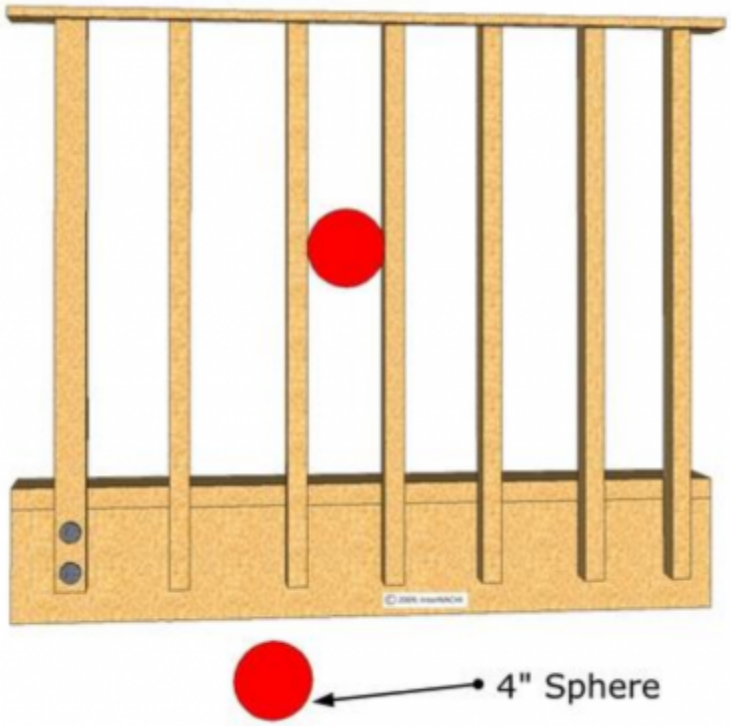
All exterior doors should be inspected during the home inspection. A representative number of windows can be inspected from the exterior, because many windows are simply out of reach and not accessible to be inspected up close. Windows and doors are the most complex elements of your home's exterior and they require monitoring.

The inspection image of this exterior door shows a sign attached to the door, warning everyone to watch their step. There should be a smooth walking, standing and stepping surface at the exterior door. There isn't in this image. This area was under construction. Correction was recommended.
A house is required to have a main egress door. The required door must be a side-hinged door, and it must be at least 3 feet wide, and 6 feet and 8 inches tall. Other doors do not need to meet these minimum dimensions. They can be of any size and need not be a swinging type. All egress doors shall be readily openable from the inside without the use of a tool or key, or special knowledge or effort.

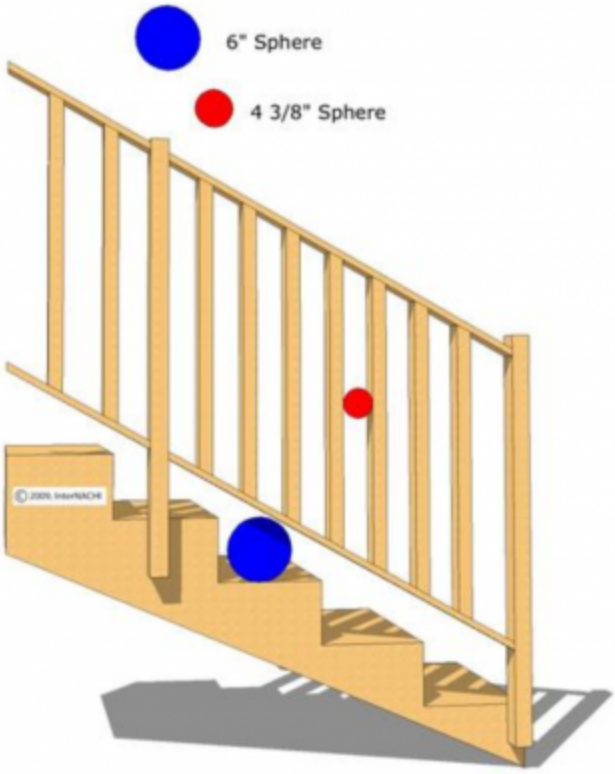
Stairs and Guards
Stairways are one of the most hazardous areas of a home, and stair falls are often fatal. We recommend learning the standards and requirements of a stairway and ramp in detail so that when you are on an inspection, you will be able to recognize defects quickly and report them concisely. We recommend referring to the stairway section of the How to Inspect the Attic, Insulation, Ventilation, and Interior Course.
Any stairway with four or more risers should have a handrail on at least one side. The handrail height should be at least 34 inches, and not more than 38 inches. The minimum riser height is 4 inches, and the maximum is 7-3⁄4 inches. The minimum tread depth is 10 inches.

Inspector Shall Report
According to the Standards of Practice, The inspector shall report as in need of correction any improper spacing between intermediate balusters, spindles and rails.
The design strength of a guard should resist a 200-pound concentrated load applied at any point in any direction along the handrail or the top of the guard. All decks and porches, including those with insect screening, landings, balconies, mezzanines, galleries, ramps or raised floor surfaces located more than 30 inches above the floor or ground should have guards. A guard is necessary at those elevated floor areas because a fall from that height can

result in injury. The minimum height of the horizontal guard is 36 inches. Open sides of stairways with a total rise of more than 30 inches above the floor or ground should have guards not less than 34 inches in height.



Horizontal guards at raised floor areas, balconies and porches should have intermediate rails or ornamental enclosures that do not allow passage of a 4-inch diameter sphere.



The triangular area formed by a tread, riser and guard should not allow passage of a sphere 6 inches in diameter. The opening at guards on the sides of stair treads should not allow the passage of a sphere 4-3/8 inches in diameter.

Surface Drainage

Home inspectors may also check the lot, the ground surrounding the house, and the land at the property. Home inspectors may report on trees that pose a threat to the structure, retaining walls that are damaged or rotten, footpaths and walkways that present a trip hazard, and the general topography of the site and its ability to drain surface water.

There should be adequate slopes of the land and ground around a property. "Slope" refers to the land around the house that is graded at an angle. The slopes of the ground should be directed toward appropriate and approved drainage devices that are capable of carrying concentrated runoff. The ground should slope a minimum of 6 inches within the first 10 feet. There are exceptions to this rule when drains and swales are provided. Your task should include walking the perimeter of the house and the surrounding land. Verify that the site appears to be adequately sloped away from the house.

Detached Garage

As a side note, InterNACHI's Residential Standards of Practice does not require inspectors to evaluate detached garages. But attached garages and attached carports are included within the Standards of Practice.

Many home inspectors inspect the detached garage as part of their exterior inspection, exceeding the Standards of Practice. Some inspectors are required to include detached garages

in their general home inspections, as mandated by their state or province. In this case, inspectors should note the same types of defects as described for the home's exterior structure in general.
InterNACHI provides useful guidelines for inspecting garages and garage door openers in its How to Inspect the Exterior Course.

Not Required
IV. The inspector is not required to:

- inspect or operate screens, storm windows, shutters, awnings, fences, outbuildings, or exterior accent lighting.
- inspect items that are not visible or readily accessible from the ground, including window and door flashing.
- inspect or identify geological, geotechnical, hydrological or soil conditions.
- inspect recreational facilities or playground equipment.
- inspect seawalls, breakwalls or docks.
- inspect erosion-control or earth-stabilization measures.
- inspect for safety-type glass.
- inspect underground utilities.
- inspect underground items.
- inspect wells or springs.
- inspect solar, wind or geothermal systems.
- inspect swimming pools or spas.
- inspect wastewater treatment systems, septic systems or cesspools.
- inspect irrigation or sprinkler systems.
- inspect drainfields or dry wells.
- determine the integrity of multiple-pane window glazing or thermal window seals.

Exterior Courses
We have a few courses related to inspecting the exterior. We recommend the Fundamentals of Inspecting the Exterior Course and a course that's part of our certification program How to Inspect the Exterior Course.

Quiz #4: Exterior

An inspector is not required to report on the siding's _____.

- color (correct)
- material
- flashings
- condition

Question Rationale
The other things are required to be reported upon.
An inspector should report on vegetation around the home when it may adversely affect the structure due to _____.

- moisture intrusion (correct)
- poor planting practices

- structural integration
- bad soil

Question Rationale

Moisture intrusion is the concern and mentioned within the Standards.

An inspector is required to report all of the following elements of a deck, except its _____.

- furniture (correct)
- railings
- guards
- steps
- spacing between spindles

Question Rationale

Furniture is not withing the scope of a home inspection.

An inspector _____ inspect the condition of soffit and fascia.

- should (correct)
- shall not
- should not
- is not required to

The home inspector _____ to inspect soil conditions.

- is not required (correct)
- is required
- is expected

Question Rationale

Soil condition are not reqiured to be inspected.

T/F: The home inspector is required to inspect lawn irrigation or sprinkler systems.

- False (correct)
- True

Question Rationale

Lawn irrigation is not part of a home inspection.

T/F: The home inspection includes checking the walkways and driveways.

- True (correct)
- False

Question Rationale

Those two are part of the standards.

The exterior wall-covering materials _____ the scope of a home inspection.

- are within (correct)
- are not part of
- are not within
- are beyond

Question Rationale

They are part of a home inspection according to the Standards of Practice.

_____ of the windows must be inspected.

- A representative number (correct)
- All

- A majority
- All ground level components

Question Rationale

Just a representative number of windows is required to be inspected.

A _____ is part of a home inspection.

- carport (correct)
- playground
- storm window
- fence

Question Rationale

A carport is listed within the scope of a home inspection.

A _____ is part of a home inspection.

- railing (correct)
- window screen
- seawall
- dock
- safety glass

Question Rationale

A railing is part of a home inspection. The others are not.

_____ is part of a home inspection.

- Flashing (correct)
- An erosion-control measure
- The underground main electrical line
- An underground downspout drainage pipe

Question Rationale

Only the flashing from that list is part of an inspection.

Solar panels are _____.

- not within the scope of a home inspection (correct)
- required to be inspected if present

Question Rationale

Solar systems are not part of a home inspection.

T/F: All exterior doors must be inspected.

- True (correct)
- False

Question Rationale

All doors must be inspected according to the Standards of Practice. Not just a representative number.

The inspector shall report upon _____.

- improper spacing between spindles at the guardrail. (correct)
- proper riser height
- upon a pool's condition.
- a tree located in the far year yard.

Question Rationale

Spacing at a railing is required by the standards if it's improperly spaced.

Video: Section 3.3, Basement, Foundation, and Crawlspace

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
This is the Basement Foundation and Structure video. Again, my recommendation is to watch this video, as a supplement to the course, the Internet Shield Home Inspection Standards of Practice course, and follow along.
So this section of the course covers all the visible structural elements of a house that are required to be inspected during a home inspection. And it's important to understand these systems and components.
The inspection image here is of a temporary support jack that's improperly being used as a permanent structural support under a cracked floor joist. So correction and further evaluation was recommended by the home inspector.
Remember that this course is about the standards of practice and not about how to inspect various systems themselves.
So we recommend taking the free online structural issues for home inspectors course.
So what are you required to inspect? Well, the inspector shall inspect the foundation, the basement, the crawl space, and structural components.
Most homes do not have major structural problems, but some do. In a well maintained, modern residential building, there may be no structural problems at all.
Homes built in the nineteenth century often show signs of settlement that may have only minor structural faults that can be easily remedied.
Major structural problems when they do develop are sometimes easily seen. But most often, there are finished walls and personal items obstructing the visual only inspection overfits concealed and not readily accessible, the home inspector is over fits concealed and not readily accessible, the home inspector is not required to report upon it.
According to the standards of practice, the inspector shall describe in the report the type of foundation and the location of the access to the under floor space. Now in this inspection restriction, the access to the under floor space is behind the hot water tank.
And if you can see, there are many defects observed at the hot water tank itself. But, this picture is describing the access to the underfloor space, the crawl space.
Home inspectors are not structural engineers. A visual home inspection of structural components can identify a home's structural design and type of foundation.
In relation to it diagnosing the structural integrity of a home, that's far beyond the scope of a home inspection. Only a structural engineer is qualified to check for and determine structural vulnerability, soundness, or integrity.
A home inspector is not required to provide any engineering or architectural service and not required to report on the adequacy of any structural system or component.

This inspection image shows a loose brick and a load bearing exterior masonry wall at the corner of a house. The home inspector recommended correction and further evaluation at this structural wall. The home inspector should not comment upon structural integrity, soundness, or make any other structural comment that would require them to be a structural engineer. Home inspectors should make observations and report defects they observe.
Evaluating the design of the structure and its effectiveness are beyond the scope of a home inspection, and any load or engineering calculations should be left to professional engineers and architects.
Always report the facts as you have visually observed them. Do not offer speculation.
When in doubt regarding a structural or any other issue, defer further evaluation to a qualified or licensed professional.
According to the standards of practice, a home inspector shall report as in need of correction, observe indications of wood in contact with or near soil, and that could sometimes come up in the exterior inspection.
Inspector inspectors shall report, as in need of correction, observed indications of active water penetration.
Observe indications of possible foundation movement, such as sheetrock cracks, drywall cracks, brick cracks, out of square door frames, and unlevel floors.
The inspector shall report, as in need of correction, any observed cutting, notching, and boring of framing members that may, in the inspector's opinion, present a structural safety concern.
Masonry cracking.
Monitoring the masonry walls of the house is needed as part of a homeowner's routine home maintenance plan. Although masonry can deform elastically over long periods of time to accommodate for small amounts of movement, large movements normally cause cracking, and cracks may appear along the mortar joints or through masonry units. Cracking can result from a variety of problems, including differential settlement of the foundation, drying shrinkage, particularly in concrete block, expansion and contraction due to ambient thermal and moisture variations, improper support over openings, the effects of freeze thaw cycles, the corrosion of iron or steel wall reinforcement, differential movement between building materials, expansion of salts, and the bulging or leaning walls.
Uneven or differential settlement can be a major structural problem in houses.
Serious settlement problems are relatively uncommon.
Many signs of masonry distress are incorrectly diagnosed as settlement related when, in fact, they are due to moisture and thermal movements.
Indications of differential settlement include vertical distortion or cracking of masonry walls, warped interior and exterior openings, sloped floors, and sticking doors and windows.
Settlement most often occurs early in the life of the building or where there is a dramatic change in underground conditions.
Often, such settlement is associated with improper foundation design, particularly inadequate footers and foundation walls.
Wood and structural components.
Wood structural components in houses are often observed only in attics, crawl spaces, or basements.
Elsewhere, they are concealed by floor, wall, and ceiling materials.

Common signs of wood structural problems include sloping or springing floors, wall or ceiling cracks, bulges in the wall, and sticking doors and windows, although many of these problems can be attributed to differential settlement of the foundation or problems with exterior masonry bearing walls.

The five types of problems commonly associated with such components in houses include deflection and warping, fungal and insect attack, fire, connection failure, and improper alteration.

When failures in wood structural components occur, they usually involve individual wood members and rarely result in the failure of the entire structure. Instead, an elastic adjustment takes place that redistributes stresses to other components of the building.

Active water penetration.

When evaluating the structure, one of the biggest problems to look for is an indication of active moisture intrusion or water coming into the structure. Sometimes, it's obvious, such as when there is water pooling on the floor.

Often, the signs are more subtle, such as efflorescence or staining of the interior trim.

All accessible areas should be inspected for indications of moisture intrusion. When indications of water penetration are found, those areas could be probed, examined further, and reported as in need of correction and further evaluation to determine the extent of any potential structural damage.

One of the most common problems in small residential structures is a wet basement.

The home inspector should check the walls and floors for signs of water penetration, such as dampness, water stains, peeling paint, efflorescence, and rust.

In finished basements, look for rotted or warped wood, paneling, and doors, loose floor tiles, and stains.

Water may come through the walls and cracks in the floor or from backed up floor drains, leaking plumbing lines, or clogged air conditioner condensate lines.

This inspection image shows indications of active water penetration into the house. The moisture intrusion was coming through the plaster wall at the front corner of a finished third floor bedroom. The plaster and painted surface was damaged by the moisture. This was deemed to be a major defect. Correction and further evaluation was recommended by the inspector.

Efflorescence is indicated by white deposits on the concrete block foundation wall, which is a result of moisture intrusion through the masonry, just like this inspection image shows.

Indications of moisture intrusion was observed at the band rim wooden joist located above the concrete block foundation wall here in the inspection image. The watermarks are an indication of the problem. Possible structural damage may have resulted. Correction and further evaluation was recommended.

If the home has a sump pump, it should be checked as long as that that it's safe to do so. In some cases, the pump is sealed as part of a radon mitigation system and should not be disturbed.

If the homeowner neglects to test the pump routinely, it may lead to water penetration into the structure when when a significant weather event occurs. This inspection image is of a sump pump with a cover. This is an inspection restriction.

The float is not accessible. The home inspector was not required to inspect a sump pump if there are restrictions.
Wooden contact with soil.
This inspection image is of an exterior wall in close proximity and contact with the ground surface. The exterior wall is made of wooden components, and the bottom of the wall is assumed to be a wooden seal plate.
Now the wooden components of this wall are prone are prone to water penetration and possible structural damage caused by the water penetration at the bottom of the wall. The bottom of this wall, covered with vinyl siding, should have at least eight inches of clearance from the ground to help prevent water penetration and structural damage.
Access.
A home inspector is not required to enter any crawl space that is not readily accessible or where entry could cause damage or pose a hazard to the inspector.
The basement or crawl space is often the most revealing area in the home and usually provides a general picture of how the entire structure works.
In most cases, the structure is exposed overhead, as are the HVAC system, plumbing supply, drain lines, and the electrical branch circuit wiring.
This inspection image shows several components to be inspected, including the electrical wires. You can see the plumbing pipes, the water supply pipes, an electrical light fixture, and other things.
The home inspector should attempt to observe areas of the foundation structure whenever it's safe to do so.
The inspection is based on observed conditions at the time of the inspection.
Many homes have small accesses into crawl spaces and basements are often filled with personal storage and items.
If access is restricted and limited, the inspector should note the limitations of the inspection.
In this inspection image, you can see a lot of inspection restrictions.
According to the standards of practice, the home inspector is not required to enter any crawl space that's not readily accessible or where entry could cause damage or pose a hazard to the inspector.
The inspector is not required to move any stored items or debris.
Not required to operate any sump pumps with inaccessible floats. Not required to identify the size, spacing, span, or location, or determine the adequacy of the foundation bolting, bracing, joists, joist spans, or support systems. Home inspector is not required to provide any engineering or architectural service, and the home inspector is not required to report on the adequacy of any structural components or system in the house.

Section 3.3, Basement, Foundation, Crawlspace & Structure

Section 3.3, Basement, Foundation, Structure

Audio

This section covers all of the visible structural elements of a house that are required to be inspected during a home inspection. It is important to understand these systems and components. The inspection image above is of a temporary support jack that is improperly being used as a permanent structural support under a cracked floor joist. The home inspector recommended correction and further evaluation.
Remember that this course is about the Standards of Practice and not about how to inspect the various systems themselves. We recommend taking the free, online Structural Issues for Home Inspectors Course.

3.3. Basement, Foundation, Crawlspace & Structure
I. The inspector shall inspect:

A. the foundation;
B. the basement;
C. the crawlspace; and
D. structural components.

Most homes do not have major structural problems, but some do. In a well-maintained, modern residential building, there may be no major structural problems. Homes built in the 19th century often show signs of settlement and may have only minor structural faults that can be readily remedied. Major structural problems, when they do develop, are sometimes easily seen. But most often, there are finished walls and personal items obstructing the visual-only inspection performed by the home inspector. There could be major structural defects in a house, but if they are not observed or if they are concealed and not readily accessible, the home inspector is not required to report them.

According to the standards, the inspector shall describe in the report the type of foundation and the location of the access to the under-floor space. In the inspection image above, the access to the under-floor space is behind the hot water tank. (There were defects observed in the hot water tank.)

Home Inspectors Are Not Structural Engineers

A visual home inspection of structural components can identify a home's structural design and type of foundation. In relation to diagnosing the structural integrity of a home, that's far beyond the scope of a home inspection. Only a structural engineer is qualified to check for and determine structural vulnerability, soundness, or integrity. A home inspector is not required to provide any engineering or architectural service and is not required to report on the adequacy of any structural system or component.

The inspection image above shows a loose brick in a load-bearing exterior masonry wall at a house. The home inspector recommended correction and further evaluation at this structural wall. The home inspector should not comment upon structural integrity, soundness or make any other structural comment that would require them to be a structural engineer. Home inspectors should make observations and report defects they observe.
Evaluating the design of the structure and its effectiveness are beyond the scope of a home inspection, and any load or engineering calculations should be left to professional engineers and architects. Always report the facts as you have visually observed them; do not offer speculation. When in doubt regarding a structural (or any other) issue, defer further evaluation to a licensed professional.

According to the Standards of Practice
III. The inspector shall report as in need of correction:

A. observed indications of wood in contact with or near soil;
B. ons of active water penetration;
C. observed indications of possible foundation movement, such as sheetrock cracks, brick cracks, out-of-square door frames, and unlevel floors; and
D. observed cutting, notching and boring of framing members that may, in the inspector's opinion, present a structural or safety concern.

Masonry Cracking
Monitoring the masonry walls of the house is needed as part of a homeowner routine maintenance plan. Although masonry can deform elastically over long periods of time to accommodate small amounts of movement, large movements normally cause cracking.

Cracks may appear along the mortar joints or through the masonry units. Cracking can result from a variety of problems: differential settlement of the foundation; drying shrinkage (particularly in concrete block); expansion and contraction due to ambient thermal and moisture variations; improper support over openings; the effects of freeze-thaw cycles; the corrosion of iron and steel wall reinforcement; differential movement between building materials; expansion of salts; and the bulging or leaning of walls.

Uneven Settlement

Uneven or differential settlement can be a major structural problem in houses. Serious settlement problems are relatively uncommon. Many signs of masonry distress are incorrectly diagnosed as settlement-related when, in fact, they are due to moisture and thermal movements. Indications of differential settlement include vertical distortion or cracking of masonry walls, warped interior and exterior openings, sloped floors, and sticking doors and windows. Settlement most often occurs early in the life of a building or when there is a dramatic change in underground conditions. Often, such settlement is associated with improper foundation design, particularly inadequate footers and foundation walls.

Wooden Structural Components

Wood structural components in houses are often observable only in attics, crawlspaces or basements. Elsewhere, they are concealed by floor, wall and ceiling materials. Common signs of wood structural problems include sloping or springy floors, wall and ceiling cracks, wall bulges, and sticking doors and windows, although many of these problems can be attributable to differential settlement of the foundation or problems with exterior masonry bearing walls. The five types of problems commonly associated with such components in houses include: deflection and warping; fungal and insect attack; fire; connection failure; and improper alteration. When failures in wood structural components occur, they usually involve individual wood members and rarely result in the failure of the entire structure. Instead, an elastic adjustment takes place that redistributes stresses to other components in the building.

Active Water Penetration

When evaluating the structure, one of the biggest problems to look for is an indication of active moisture intrusion or water coming into the structure. Sometimes, it is obvious, such as when there is water pooling on the floor. Often, the signs are more subtle, such as efflorescence or staining of the interior trim. All accessible areas should be inspected for indications of moisture intrusion. When indications of water penetration are found, those areas could be probed, examined further, and reported as in need of correction and further evaluation to determine the extent of any potential structural damage.

One of the most common problems in small residential structures is a wet basement. The home inspector should check the walls and floors for signs of water penetration, such as dampness, water stains, peeling paint, efflorescence, and rust on exposed metal parts. In finished basements, look for rotted or warped wood paneling and doors, loose floor tiles, and mildew stains. Water may come through the walls or cracks in the floor, or from backed- up floor drains, leaky plumbing lines, or a clogged air-conditioner condensate line.

The inspection image above shows indications of active water penetration into the house. The moisture intrusion was coming through the plaster wall at the front corner of a finished 3rd floor bedroom. The plaster and painted surface was damaged by the moisture. This was deemed as a major defect. Correction and further evaluation was recommended by the inspector.

Efflorescence is indicated by the white deposits on the concrete block foundation wall, which is a result of moisture intrusion through the masonry.

Indications of moisture intrusion was observed at the band/rim wooden joist located above the concrete block foundation wall. The water marks are an indication of the problem.

Possible structural damage may have resulted. Correction and further evaluation is recommended.

Sump Pump

If the home has a sump pump, it should be checked as long as there is safe access to it; in some cases, the pump is sealed as part of a radon mitigation system and should not be disturbed. If the homeowner neglects to test the sump pump routinely, it may lead to water penetration into the structure when a significant weather event occurs.

The inspection image above is of a sump pump with a cover. This is an inspection restriction. The float is inaccessible. A home inspector is not required to inspect a sump pump if there are restrictions such as an inaccessible float.

Wood in Contact with Soil

The inspection image above is of an exterior wall in close proximity and contact with the ground surface. The exterior wall is made of wooden components, and the bottom of the wall is assumed to be a wooden sill plate. The wooden components of this wall are prone to water intrusion and possible structural damage caused by the water penetration at the bottom of the wall. The bottom of this wall, covered with vinyl siding, should have at least eight inches of clearance from the ground surface to help prevent water penetration and structural damage.

Access

A home inspector is not required to enter any crawlspace that is not readily accessible or where entry could cause damage or pose a hazard to the inspector. The basement or crawlspace is often the most revealing area in the home and usually provides a general picture of how the entire structure works. In most cases, the structure is exposed overhead, as are the HVAC distribution system, plumbing supply and DWV lines, and the electrical branch- circuit wiring.

In the inspection image above, there are several components to be inspected, including electrical wires, plumbing, water supply pipes, an electrical light fixture, and drainage pipes. The home inspector should attempt to observe areas of the foundation structure whenever it is safe to do so. Your inspection is based on observed conditions at the time of the inspection. Many homes have small accesses into crawlspaces, and basements are often filled with personal storage and items. If access is restricted, the inspector should note the limitations of the inspection.

The inspection image above shows the inspection restricts are numerous and significant.

According to the Standards of Practice
IV. The inspector is not required to:

A. enter any crawlspace that is not readily accessible or where entry could cause damage or pose a hazard to the inspector.
B. move stored items or debris.
C. operate sump pumps with inaccessible floats.
D. identify the size, spacing, span or location or determine the adequacy of foundation bolting, bracing, joists, joist spans or support systems.
E. provide any engineering or architectural service.
F. report on the adequacy of any structural system or component.

Quiz #5: Basement, Foundation, etc.

The inspector is not required to report on the _____.

- footer (correct)
- foundation
- crawlspace
- basement

Question Rationale

Footers are underground and not visible.

The home inspector is required to report on any indications of _____ settlement.

- foundation (correct)
- lawsuit

- gas level
- baseboard

Question Rationale

Observed indications of possible foundation movement is required to be reported upon.

All home inspectors _____ qualified or permitted to offer structural engineering advice.

- are not (correct)
- are

Question Rationale

Home inspectors are not structural engineers.

The following should be evaluated by the home inspector: _____.

- none of these (correct)
- foundation bolting
- joist span length
- all of these
- beam size

Question Rationale

None of those components are required.

An inspector _____ required to use a moisture meter to evaluate structural dampness.

- is not (correct)
- is

Question Rationale

Moisture meters are not required.

The home inspector _____ required to enter all crawlspaces.

- is not (correct)
- is

Question Rationale

The crawlspace has to be accessible and safe for the inspector, in the inspector's opinion.

The home inspector _____ required to open up and remove paneling to properly reveal the foundation.

- is not (correct)
- is

Question Rationale

Not required to move, open, dismantle, or remove paneling in order to inspect.

The inspector is required to inspect the _____.

- foundation (correct)
- adequacy of structural systems
- footings
- size of bracing
- joist spans

Question Rationale

The foundation is required to be inspected.

T/F: The location of the access to the under-floor space should be described by the inspector.

- True (correct)

- False

Question Rationale
The access is required to be described.
If the inspector see that structural wood is almost in contact with the soil, _____.

- the inspector should report that condition as in need of correction (correct)
- the inspector should report that condition as in need of monitoring
- the inspector should report that condition as in need of digging up the dirt
- the inspector should report that condition as in need of being covered with siding
- the inspector need not report upon that condition.

Question Rationale
It's in need of correction, even if it's near the soil.
Observed indications of active water penetration should be _____.

- reported by the inspector as in need of correction (correct)
- reported by the inspector as in need of monitoring
- reported by the inspector as in need of cleaning up

Question Rationale
It's a correction that is needed.
Out-of-square door frames are _____ the scope of a home inspection.

- within (correct)
- not within

Question Rationale
It's listed in the standards of practice.
When notching of a joist poses a structural concern, the inspector should _____.

- report it as in need of correction (correct)
- report it as in need of monitoring
- report it as in need of "sistering" with structural supports
- not report upon it, since it's not required by the standards

Question Rationale
Structural concerns should be reported as in need of correction.

Video: Section 3.4, Heating

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
K. This is the supplemental video for the heating section of the InterNACHI Home Inspection Standards of Practice course.
And, according to the standards of practice, the home inspector shall inspect the heating system according to, with normal operating controls.
Most HVAC systems, that's heating, ventilating, and air conditioning systems in a house are relatively simple in design and operation. They consist of four components essentially. There's the controls, fuel supply, the heating and cooling unit, and the distribution system.

The adequacy of the heating and cooling is often quite subjective and depends upon occupant perceptions that are affected by how the air is distributed, the location of air vents, return air vents, air velocity, the sound of the system when it's running, and similar characteristics.
So HVAC adequacy is not within the scope of a home inspection.
Residential HVAC controls consist of one or more thermostats and a master start up switch, for the heating and cooling unit. Thermostats are temperature sensitive switches that automatically control the heating and cooling system. And thermostats and shutoffs are considered normal operating controls.
This is an inspection image of a thermostat, a normal operating control.
This is an inspection image of an emergency shutoff switch, which is a normal operating control.
This is an inspection image of a service shutoff switch, a normal operating control.
According to the standards of practice, the inspector shall describe the location of the thermostat for the heating system, the energy source, and the heating method.
When inspecting a boiler or furnace, inspector should operate it only using normal operating controls such as the thermostat. The home inspector is not required to remove fixed appliance cabinetry.
Energy source.
Oil fired and gas fired furnaces and boilers provide heat to the majority of houses.
Such fuel burning units, whether they are part of a warm air or hot air system, should be serviced, maintained, and inspected regularly.
No fuel burning unit should be located directly off sleeping areas or close to combustible materials. This inspection image is of a mid efficiency gas fired forced air furnace.
The inspection image here is of an electric heat pump furnace. And the inspector is grabbing the electrical line to the interior air handler unit.
Electric resistance heating elements are commonly used in heat pump systems, wall heaters, radiant wall and radiant ceiling panels, and baseboard heaters. They are less frequently used as a heat source for central warm air or hot water systems. Such heating devices require service, maintenance, and routine inspections.
Here's another inspection image of an oil fired forced hot water boiler.
Hot water heating systems, like warm air systems include two types, forced and hydronic or gravity.
Gravity systems are sometimes found in very old homes, but in most cases, such systems have been replaced or converted to a forced air system or forced hot water system.
Heating and cooling method.
There are two types of warm air heating systems, forced air and gravity. Gravity systems are occasionally still found in very old homes, but most gravity systems have been replaced or converted to forced air. Most forced air systems use natural gas or fuel oil as the energy source. But some use electric resistance heaters or heat pumps.
The circulation blower and air distribution ductwork for electric resistance heating systems and heat pumps are identical to those as gas fired and oil fired warm air systems and should be regularly serviced, maintained, and inspected.
The distribution system for heating and cooling method May be made up of supply and return ducts, filters, dampers, and registers.

Supply and return ducts may be made of made of sheet metal, fiberglass, or other materials. You can inspect the ducts for open joints and possible air leakage areas wherever the ducts are exposed. It's recommended that ducts should be cleaned every five years.
Cleaning ducts is part of maintaining a healthy home. There should be no openings in return ducts in the same room as a combustion furnace. That's hazardous.
And this inspection image is of a home inspector reaching and touching the warm fins of an electric baseboard unit.
According to the standards of practice, the inspectors shall report as in need of correction any heating system that did not operate and if the heating system was deemed inaccessible.
The home inspector is required to make note in the report of any limitations to the evaluation of the system. Such notes may include that the furnace did not turn on and operate, the mechanical room was locked, or access to the border was blocked by personal storage items.
Now what are you not required to do? A lot. According to the standards of practice, the inspector is not required to inspect, measure, evaluate interior flues or chimneys, fire chambers, heat exchangers, combustion air systems, fresh air intakes, makeup air, humidifiers, dehumidifiers, electric air filters, geothermal systems, or solar solar heating systems.
The inspector is not required to inspect fuel tanks, especially if they're underground and sealed concealed.
You're not required to determine the uniformity, temperature, flow, balance, distribution, size, capacity, BTU, or supply adequacy of the heating system. You're not required to and should never light or ignite pilot flames.
The inspector is not required to activate heating, heat pump systems, or other heating systems when ambient temperatures or other circumstances are not conducive to safe operation or may damage the equipment.
You're not required to override electric thermostats, not required to evaluate fuel quality, or verify thermostat calibration, or heat anticipation, or automatic setbacks, or features, or programs.
The inspector is not required to measure or calculate the air for combustion, ventilation, or dilution of flue gases for appliances.
While most inspectors will attempt to give a client as much information as possible about the heating system, it's it is often the situation that its full evaluation is beyond the standards of practice or the expected knowledge and capacities of the home inspector.
This, interior flue liner is, of an old chimney stack and there is no interior flue liner. It's missing. It was never installed when the chimney was built hundred years ago. It is critical for all masonry chimneys to have an interior flue liner installed. This is a major defect. The home inspector is not required to inspect the interior flues or chimneys.
This is an inspection image of a removal of a buried oil storage tank in the front yard of a house in Delaware by the Delaware Division of Waste and Hazardous Substances.
Underground fuel tanks are, by definition, not readily accessible or visible.
But their presence should be reported if there were observed indications, such as the tank fill and vent pipes. If the presence of an underground fuel storage tank is observed, the home inspector could note that in the inspection report and recommend that a specialist further evaluate.

This inspection image is of a heat pump exterior unit at a house. The inspector is not required to inspect or determine the size, capacity, or BTU of the heating system.
Any analysis of the adequacy or efficiency of a heating unit and its distribution is technically beyond the home inspector's ability.
A heating system's performance should be evaluated by a trained and or licensed personnel.
Most home inspectors check the service tag on the heating and cooling system. If there hasn't been any service on the system within the past twelve months, then service and further evaluation is recommended.
The inspection image here is of a service tag of a furnace duct.
Any system should be operated only in its normal environment and care should be taken not to damage any system or control by any inappropriate use.
The inspector should return all controls to their previous settings after completing the inspection. The inspection image here is of a humidifier control on a furnace duct.
The inspection image here is of a mid efficiency gas fired forced air furnace in the basement of a house. The home inspector is not required to measure or calculate the air for combustion, ventilation, or dilution of flue gases for appliances such as this heating system.
InterNACHI has many courses on how to inspect HVAC systems and components. Please visit our education page and search for HVAC.

Section 3.4, Heating

According to the Standards of Practice
I. The inspector shall inspect:

- the heating system, using normal operating controls.

Most HVAC (heating, ventilating, and air-conditioning) systems in houses are relatively simple in design and operation. They consist of four components: controls, fuel supply, heating or cooling unit, and distribution system. The adequacy of heating and cooling is often quite subjective and depends upon occupant perceptions that are affected by the distribution of air, the location of return-air vents, air velocity, the sound of the system in operation, and similar characteristics. HVAC adequacy is not within the scope of a home inspection.
Residential HVAC controls consist of one or more thermostats and a master shutoff switch for the heating or cooling unit. Thermostats are temperature-sensitive switches that automatically control the heating or cooling system. Thermostats and shutoff switches are considered normal operating controls.

This is an inspection image of a thermostat, a normal operating control.

This is an inspection image of an emergency shutoff switch, a normal operating control.

This is an inspection image of a service shutoff switch, a normal operating control.

According to the Standards of Practice
II. The inspector shall describe:

- the location of the thermostat for the heating system;
- the energy source; and
- the heating method.

When inspecting a boiler or furnace, an inspector should operate it only using its normal controls, such as the thermostat. The home inspector is not required to remove fixed-appliance cabinetry.

Energy Source
Oil-fired and gas-fired furnaces and boilers provide heat to the majority of houses. Such fuel-burning units, whether they are part of a warm-air or a hot-water system, should be serviced, maintained, and inspected regularly. No fuel-burning unit should be located directly off sleeping areas or close to combustible materials.

The inspection image above is a mid-efficiency, gas-fired, forced-air furnace.

The inspection image above is of an electric heat pump furnace, and the inspector is touching the electrical line to the interior air handler unit.

Electric-resistance heating elements are commonly used in heat-pump systems, wall heaters, radiant wall and ceiling panels, and baseboard heaters. They are less frequently used as a heat source for central warm-air or hot-water systems. Such heating devices require service, maintenance, and routine inspections.

The inspection image above is of an oil-fired forced hot-water boiler. Hot-water heating systems, like warm-air systems, include two types: forced or hydronic and gravity. Gravity systems are sometimes found in older houses, but in most cases, such systems have been replaced or converted to a forced hot-water system.

Heating and Cooling Method

There are two types of warm-air heating systems: forced-air and gravity. Gravity systems are occasionally still found in older houses, but most gravity systems have been replaced or converted to forced-air. Most forced-air systems use natural gas or fuel oil as the energy source, but some systems use electric resistance heaters or heat pumps. The circulation blower and air-distribution ductwork for electric resistance heating systems (and heat pumps) are identical to those of gas-fired and oil-fired warm-air systems and should be regularly serviced, maintained, and inspected.

The distribution system (or heating and cooling method) may be made up of supply and return ducts, filters, dampers and registers. Supply and return ducts may be made of sheet metal, fiberglass or other materials. Inspect the ducts for open joints and possible air leakage areas wherever the ducts are exposed. It is recommended that ducts could be cleaned every five years. Cleaning ducts is part of maintaining a healthy home. There should be no openings in return ducts in the same room as a combustion furnace.

The inspection image above is of a home inspector reaching and touching the warm fins of an electric baseboard unit.

According to the Standards of Practice

III. The inspector shall report as in need of correction:

- any heating system that did not operate; and
- if the heating system was deemed inaccessible.

The home inspector is required to make note in the report of any limitations to the evaluation of the system. Such notes may include that the furnace did not turn on and operate, the mechanical room was locked, or access to the boiler was blocked by personal storage items.

According to the Standards of Practice

IV. The inspector is not required to:

A. inspect, measure, or evaluate the interior of flues or chimneys, fire chambers, heat exchangers, combustion air systems, fresh-air intakes, makeup air, humidifiers, dehumidifiers, electronic air filters, geothermal systems, or solar heating systems.
B. inspect fuel tanks or underground or concealed fuel supply systems.
C. determine the uniformity, temperature, flow, balance, distribution, size, capacity, BTU, or supply adequacy of the heating system.
D. light or ignite pilot flames.
E. activate heating, heat pump systems, or other heating systems when ambient temperatures or other circumstances are not conducive to safe operation or may damage the equipment.
F. override electronic thermostats.
G. evaluate fuel quality.

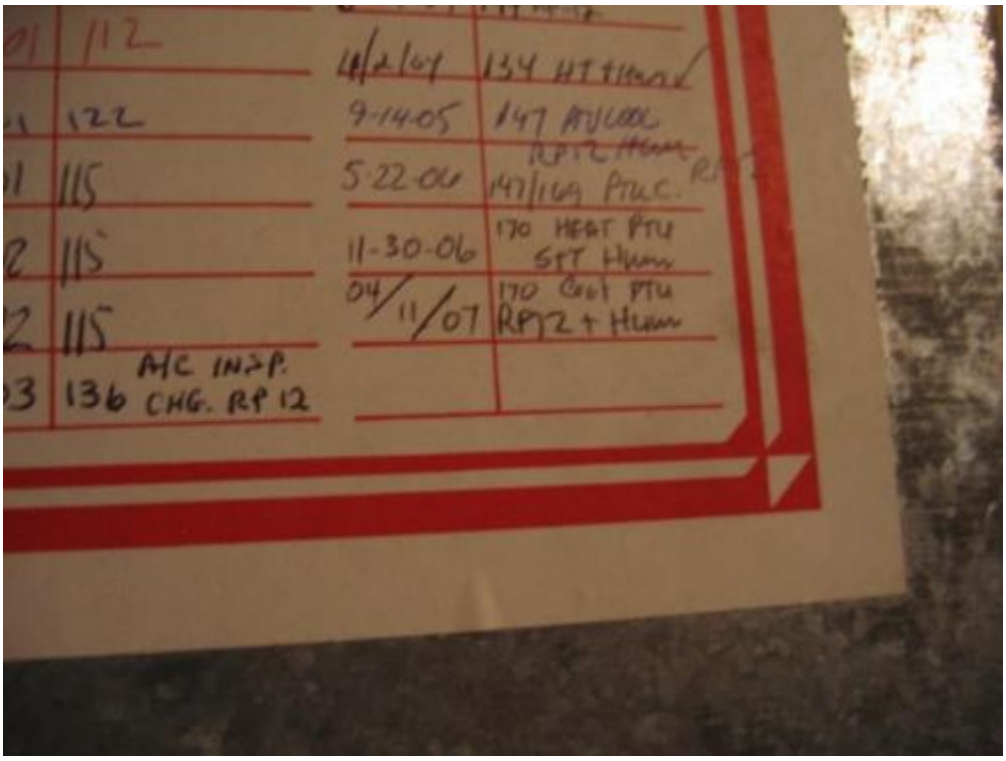
H. verify thermostat calibration, heat anticipation, or automatic setbacks, timers, programs or clocks.
I. measure or calculate the air for combustion, ventilation, or dilution of flue gases for appliances.

While most inspectors will attempt to give a client as much information as possible about the heating system, it is often the situation that its full evaluation is beyond the Standards of Practice or the expected knowledge or capabilities of home inspectors.

The interior flue liner in this old chimney stack is missing. It was never installed when the chimney was built. It is critical for all masonry chimneys to have an interior flue liner installed. This is a major defect. The home inspector is not required to inspect the interior of flues or chimneys.

The inspection image above is a removal of a buried oil storage tank in the front yard of a house in Delaware by the Delaware Division of Waste & Hazardous Substances. Underground fuel tanks are, by definition, not readily accessible, but their presence should be reported if there were observed indications, such as the tank fill and vent pipes. If the presence of an underground fuel storage tank is observed, the home inspector could note that in the inspection report and recommend a specialist to further evaluate.

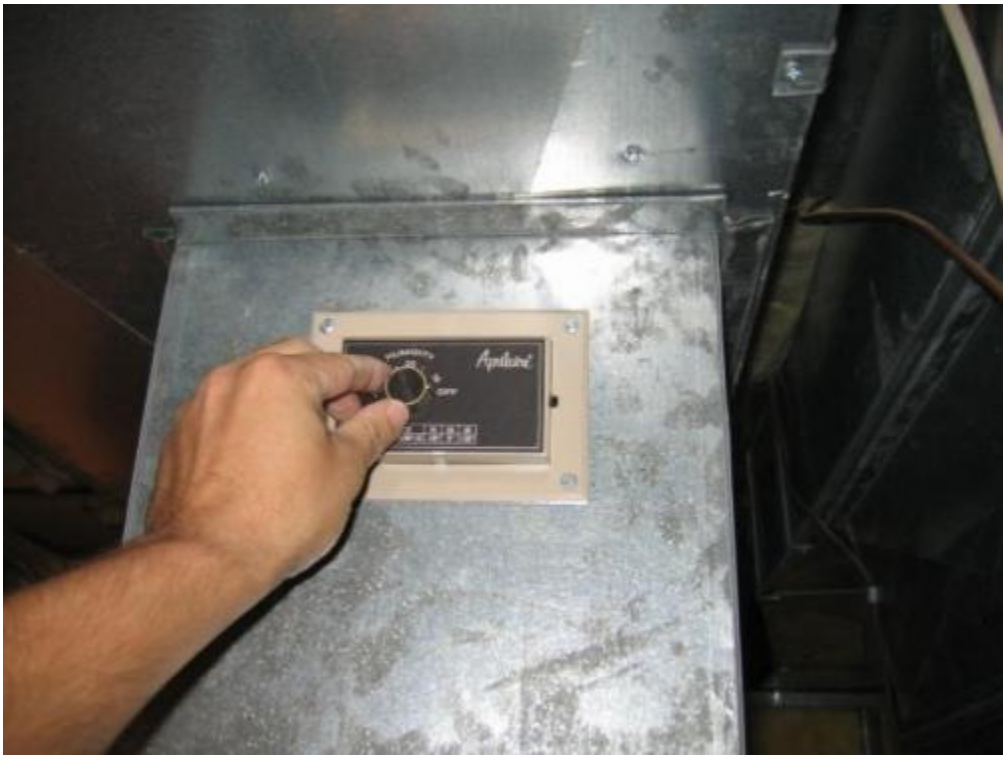
The inspection image above is of a heat pump exterior unit at a house. The inspector is not required to inspect or determine the size, capacity, or BTU of the heating system.



Any analysis of the adequacy or efficiency of a heating unit and its distribution is technically beyond most home inspectors' ability. A heating system's performance should be evaluated by

trained and/or licensed personnel. Most home inspectors check the service tag on the heating and cooling system. If there has not been any service on the system within the past 12 months, then service and further evaluation are recommended. The inspection image above is of a service tag on a furnace duct.

Any system should be operated only in its normal environment, and care should be taken not to damage any system or control by inappropriate use.



The inspector should return all controls to their previous settings after completing the inspection. The inspection image above is of a humidifier control on a furnace duct.

The inspection image above is of a mid-efficiency, gas-fired, forced-air furnace in the basement of a house.
The home inspector is not required to measure or calculate the air for combustion, ventilation, or dilution of flue gases for appliances such as this heating system.

HVAC Inspection Training
InterNACHI has many courses on how to inspect HVAC systems and components. Please visit our education page and search "HVAC."

Quiz #6: Heating

The inspector is required to describe the _____ source.

- energy (correct)
- plumbing
- ventilation
- power

Question Rationale
The energy source must be described by the inspector.
The inspector shall inspect the heating system using _____.

- normal operating controls (correct)
- pilot light ignitor
- main electrical breaker
- sensitive testing equipment
- any means necessary

Question Rationale

Home inspectors must use only normal operating controls.
Heating systems could be operated using the _____.

- thermostat (correct)
- main disconnect
- fuel shut-off valve
- emergency by-pass

Question Rationale
Thermostat should be used in a home inspection.
Inspecting electric furnaces falls _____ this Standards of Practice.

- within (correct)
- outside

Question Rationale
Home inspections include electric furnaces.
The following heating systems must be reported on: _____.

- all of these (correct)
- hydronic
- none of these
- electric furnaces
- forced hot air

Question Rationale
All are within the scope of a home inspection.
Inspectors _____ required to uncover the heat exchanger for a full evaluation.

- are not (correct)
- are

Question Rationale
Exchangers are not readily visible.
If a gas-fired boiler's pilot light is not lit, the inspector _____ required to ignite it.

- is not (correct)
- is

Question Rationale
Home inspectors must never ignite or turn on a flame.
The inspector is required to note the _____ in the inspection report.

- energy source (correct)
- life expectancy of the system
- carbon monoxide levels
- capacity

Question Rationale
Energy source or fuel type is required to be described.
Underground oil storage tanks _____ evaluated and tested by environmental specialists to help prevent oil fuel leakage and an environmental hazard.

- should be (correct)
- should never be

Question Rationale

Tanks leak, and pose a potential environmental hazard. They should be tested by a specialist contractor.

Home inspectors _____ required to operate water shut-off valves.

- are not (correct)
- are

Question Rationale

Home inspectors should not operate shut-off valves.

The home inspector _____ required to visually inspect the interior of a chimney flue.

- is not (correct)
- is

Question Rationale

Chimney flues are excluded from the inspection.

Determining the efficiency of geothermal heating systems _____ the scope of a home inspection.

- is not within (correct)
- is required by
- is listed as part of

Question Rationale

It is not required.

T/F: It's up to the home inspector to determine whether or not to activate a heating system when the ambient temperature may not conducive to its safe operation.

- True (correct)
- False

Question Rationale

It's up to the inspector to make that determination.

T/F: Verifying the thermostat calibration and clock timer is part of a home inspection.

- False (correct)
- True

Question Rationale

It's beyond the scope.

Documenting the BTUs of a heating system is _____ the scope of a home inspection, according to the InterNACHI Standards of Practice.

- is not within (correct)
- is within

Question Rationale

It is excluded specifically by the InterNACHI Home Inspection Standards.

The home inspector should return thermostats and other controls to their _____ settings after inspecting such systems.

- original (correct)
- factory
- lowest
- highest

Question Rationale

Putting things back to where they were originally is expected.

A home inspector pulling out an electronic air filter to check for dust on the fins is _____.

- not required by the Standards of Practice (correct)
- required by the Standards of Practice
- listed as a required process of a home inspection
- critical to performing an inspection of the heating system

Question Rationale

It's excluded. It could be dangerous to touch the electric air filter.

If the heating system is not on, a home inspector _____.

- must report that condition as: "in need of correction" (correct)
- should report that condition as: "in need of monitoring"
- need not do anything, because it's not working
- is required to tag the system as "hazardous."
- need not report that condition

Question Rationale

It's required to report a inoperable heating system as in need of correction.

What if the heating system is completely covered by personal storage items and is inaccessible?

- The home inspector should report that condition as in need of correction. (correct)
- The home inspector should report that condition as in need of improvement.
- The home inspector should report that condition as in need of monitoring.
- The home inspector should report that condition as in need of "service and cleaning."

Question Rationale

It's required that an inaccessible heating system be reported as in need of "correction."

Video: Section 3.5. Cooling

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.

Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.

We're in the cooling section of the InterNACHI Home Inspection Standards and Practice course. And this video, again, is supplemental to the course. You can play it as you go along your pages within the course.

Central air conditioning are defined as electrically operated, refrigerant type systems used for cooling and dehumidification.

Heat pumps are similar to air conditioners, but are reversible and can be used for heating devices as heating devices.

Air conditioning systems should be operated only when the outside temperature is above sixty five degrees Fahrenheit.

Below that temperature, the system may not operate properly, may shut down due to safety controls, and could be damaged by operating the unit in, cool temperatures.

There are two types of central conditioning systems, central air conditioning systems, integral and split.

In the integral system, all mechanized components, compressor, condenser, evaporator, and fans, are contained in a single unit. In the split system, the compressor and condenser are located outside the building and are connected by refrigerant lines to an evaporator coil inside the building's air air distribution network, the ductwork.
Split systems in houses heated by forced warm air usually share the warm air system's circulating fan and ductwork.
The heating and cooling share the same ductwork.
In such cases, the evaporator is placed either directly above or below the furnace depending upon the furnace design.
Here's an illustration of the liquid refrigerant cycle of a common split air conditioning system, which comes from InterNACHI's online gallery of inspection illustrations.
Hundreds of illustrations that members can use to boost their inspection reports and help communicate systems like an air conditioning system.
According to the standards of practice, the inspector shall inspect the cooling system using normal operating controls, just like the heating system section that we went over before.
The inspector shall describe the location of the thermostat for the cooling system and the cooling method.
The inspector shall report as in need of correction.
Any cooling system that did not operate. And if the cooling system was deemed inaccessible.
As is the case with heating systems covered in the previous section of the course, cooling systems should be operated using only their normal operating controls.
Most home inspectors perform their visual inspection of the cooling system by inspecting the components located outdoors, such as the condenser cabinet, fins, refrigerant lines, the support of the base, and electrical disconnect.
Inside the homes, a home inspector inspects the evaporator cabinet, refrigerant lines, condensate drain pipes, air filter, and the method by which the condensate water is collected and discharged.
The inspection image here is of an electric disconnect at the air conditioner condenser unit, which is outside the house on a split system.
According to the two thousand eighteen international residential code, table e four one zero one point five, The disconnect must be located within sight of the air conditioning, condensing unit, or heat pump.
Interrupting the power supply to the unit by using this disconnect is not required and not recommended.
It is not considered a normal operating control, is considered a service disconnect, and it should not be used during a home inspection.
This inspection image is of an evaporator coil unit installed on a high efficiency, gas fired, forced air furnace.
In this inspection image, the home inspector is grasping the condensate drain pipe coming from the evaporator coil.
In this inspection image, the condensate drains into a condensate pump resting next to the furnace.
In this inspection image, the condensate pump is plugged into an electric installed on the side of the furnace next to the service shutoff switch.

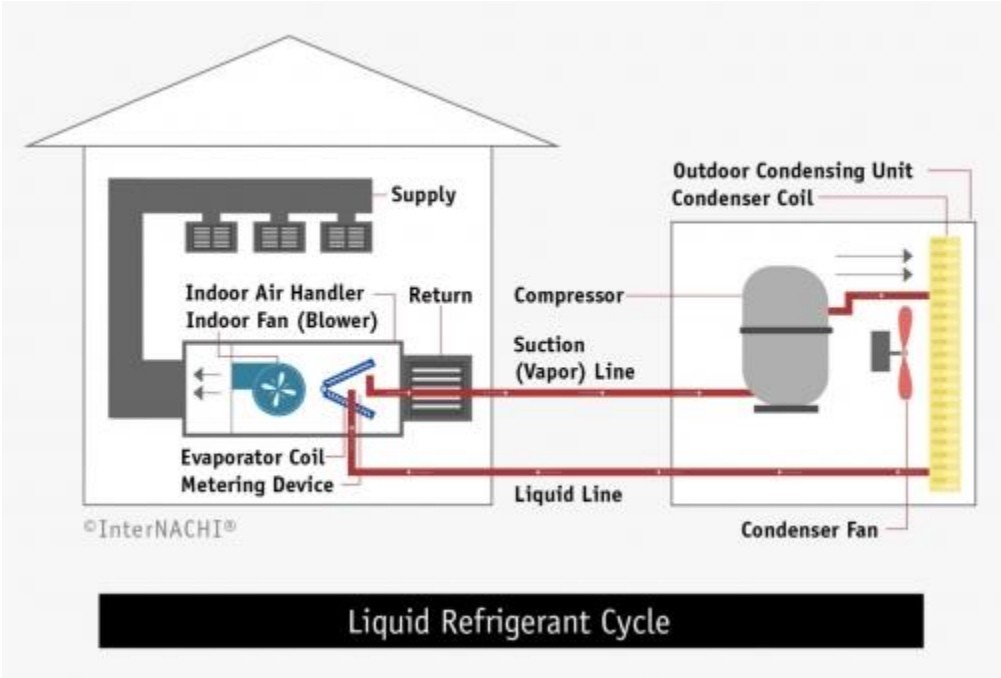
In this inspection image, you can see that the home inspector turns off the switch to confirm that the service switch functions and turns off the system. This switch is used to inspect the air filter during a home inspection. It is a normal operating control.
In this inspection image, the condensate discharge pipe was observed outside and located near the point where the refrigerant lines of the air conditioning unit passed through the vinyl siding.
Cold weather.
One issue when inspecting cooling systems is to operate the equipment when the ambient temperature outside is warmer than sixty five degrees Fahrenheit.
This is a general rule of thumb or standard recommended practice for a home inspector.
The general rule is that if it's cold outside, don't operate the air conditioner.
Likewise, if it's hot outside, don't operate the heating system.
Care should be taken to use normal operating controls and operating procedures.
Compressors have been reported to be damaged by an operation in cold weather or by turning on a system that was shut down purposely.
The reason for not operating an air conditioner in cold weather is because of the oil used to lubricate lubricate the compressor. In cold weather, the oil may be too thick for the safe functioning of the compressor.
Many HVAC technicians and home inspectors won't run a central air conditioner unless daytime temperatures are above well above sixty, sixty five degrees Fahrenheit for at least two or three days prior to the inspection.
Another reason is that the refrigerant may condense within the compressor.
Refrigerant liquid is not compressible.
Some new compressors will have a small heating element on the compressor to help prevent this potential problem.
Some newer units have low ambient temperature sensors that prevent the compressor from turning on in cold weather, thereby protecting itself.
If a home inspector does does not operate a unit for any reason, including weather conditions, the home inspector could document that the inspection was restricted.
Heat pumps.
Heat pumps operate in cold weather, obviously.
However, do not operate an air to air heat pump in when the outdoor temperature is below sixty five degrees Fahrenheit on the cooling cycle and above sixty six degrees Fahrenheit on the heating cycle.
Electric resistance auxiliary heaters are designed to activate when the outdoor temperature is around thirty degrees Fahrenheit, and the air to air heat pump cannot produce enough heat to satisfy the thermostat.
According to the standards of practice, there are a few things that you're not required to inspect.
The inspector is not required to determine the uniformity, temperature, flow, balance, distribution, size, capacity, ETU, or supply adequacy of the cooling system.
The home inspector is not required to inspect portable window units, through wall units, or electronic air filters.

The home inspector is not required to operate equipment or systems if the exterior temperature is below sixty five degrees Fahrenheit or when the circumstances are not conducive to safe operation or may damage the equipment.
The home inspector is not required to inspect or determine thermostat calibration, cooling anticipation, or automatic setbacks and clocks.
And the home inspector is not required to examine electrical current, coolant fluids or gases, or coolant leakage.
Frost on the coil outside.
Watch for improper frosting.
During cold, damp weather, frost or ice may form on the metal fins of a coil at an outdoor unit. Heat pumps are designed to defrost this buildup by reversing modes either at preset intervals or upon activation of a pressure sensitive device.
Window air conditioner units.
According to the standards of practice, home inspector is not required to inspect window air conditioner units.
Window air conditioners are portable, integral air conditioning systems without ductwork.
If you do inspect a unit, look at the seal around each unit and its attachment to the window or the wall. It should be adequately supported. It should not be obstructed. Look for proper condensate drainage.
After several minutes of operation, air from the unit should feel quite cool. It should start smoothly and run quietly, and check for water dripping from the condensate discharge on the exterior of the unit.

Section 3.5, Cooling

Audio
Operating Temperatures
As a precautionary practice, air-conditioning systems may be operated only when the outside air temperature is above 65° F; below that temperature, the system may not operate properly, may shut down due to safety controls, and very old cooling systems may be damaged by operating in cool temperatures. Modern systems are capable of operating at any temperature, but it may be good practice not to run systems in extreme weather conditions. Out of courtesy, the inspector may choose not to operate the heating system when it's very hot outside or the cooling system when it's very cold outside.
Cooling Systems
Central air-conditioning systems are defined as electrically operated refrigerant-type systems used for cooling and dehumidification. Heat pumps are similar to central air conditioners, but are reversible and can also be used as heating devices.
There are two types of central air-conditioning systems: integral and split. In the integral system, all mechanized components (compressor, condenser, evaporator and fans) are contained in a single unit. In the split system, the compressor and condenser are located outside the building and are connected by refrigerant lines to an evaporator inside the building's air-distribution ductwork. Split systems in houses heated by forced warm air usually share the warm-air system's circulating fan and ductwork. In such cases, the

evaporator is placed either directly above or below the furnace, depending on the furnace design.



The illustration of the liquid refrigerant cycle of a common split air conditioning system comes from [InterNACHI's online gallery of inspection illustrations], which are available for all members to download and use in inspection reports for free.

According to the Standards of Practice
I. The inspector shall inspect:
   A. the cooling system, using normal operating controls.
II. The inspector shall describe:
   A. the location of the thermostat for the cooling system; and
   B. the cooling method.
III. The inspector shall report as in need of correction:
   A. any cooling system that did not operate; and
   B. if the cooling system was deemed inaccessible.

As is the case with heating systems covered in the previous course section, cooling systems should be operated using only their normal controls.

Most inspectors perform their visual inspection of the cooling system by inspecting the components located outdoors, such as the condenser cabinet, fins, refrigerant lines, base support, and electrical disconnect. Inside the home, they inspect the evaporator cabinet, refrigerant lines, condensate drain pipes, air filter, and the method by which the condensate water is collected and discharged.

The inspection image above is of an electric disconnect at the air conditioner condenser unit (outside the house). According to the 2018 International Residential Code Table E4101.5, the disconnect must be located within sight of the air conditioning condensing unit or heat pump. Interrupting the power supply to the unit by using this disconnect is not required and not recommended. It is not considered a normal operating control. It is considered a service disconnect, and it should not be used during a home inspection.

The inspection image above is of an evaporator coil unit installed on a high-efficiency, gas-fired, forced-air furnace.

The home inspector is grasping the condensate drain pipe coming from the evaporator coil.

The condensate drains into a condensate pump resting next to the furnace.

The condensate pump is plugged into an electric receptacle installed on the side of the furnace, next to the service shut-off switch.

The home inspector turns off the service switch to confirm that the switch functions and turns off the system. This switch is used to inspect the air filter during a home inspection.

The condensate discharge pipe was observed outside and located near the point where the refrigerant lines of the air conditioner unit pass through the vinyl siding.

Cold Weather

One issue when inspecting cooling systems is to operate the equipment when the ambient temperature outside is warmer than 65 degrees. This is a general "rule of thumb" or standard recommended practice for a home inspector. The general rule is that if it's very cold outside, don't operate the air conditioner. Care should be taken to use the normal controls and operating procedures. Compressors on old systems have been reported to be damaged by an operation in cold weather or by turning on a system that was shut down purposely.

The reason for not operating an old air conditioner in cold weather is because of the oil used to lubricate the compressor. In cold weather, the oil may be too thick for the safe functioning of the compressor. Many HVAC (heating, ventilating, air conditioning) technicians and home inspectors won't run an old central air conditioner unless daytime temperatures are above 60 degrees F. Another reason is that the refrigerant may condense within the compressor. The refrigerant liquid is not compressible.

Newer compressors will have a small heating element on the compressor to help prevent this potential problem. Newer units have low-ambient temperature sensors that prevent the compressor from turning on in cold weather, thereby protecting the unit. If a home inspector does not operate a unit for any reason, including weather conditions, the home inspector should document that inspection restriction in the inspection report.

Heat Pumps

Heat pumps can operate in cold weather, obviously. Electric-resistance auxiliary heaters are designed to activate when the outdoor temperature is around 30° F, and the air-to-air heat pump cannot produce enough heat to satisfy the thermostat.

According to the Standards of Practice

IV. The inspector is not required to:

A. determine the uniformity, temperature, flow, balance, distribution, size, capacity, BTU, or supply adequacy of the cooling system.
B. inspect portable window units, through-wall units, or electronic air filters.
C. operate equipment or systems if the exterior temperature is below 65° Fahrenheit, or when other circumstances are not conducive to safe operation or may damage the equipment.
D. inspect or determine thermostat calibration, cooling anticipation, or automatic setbacks or clocks.
E. examine electrical current, coolant fluids or gases, or coolant leakage.

Frost on the Coil Outside

Watch for improper defrosting. During cold, damp weather, frost or ice may form on the metal fins of the coil at an outdoor unit. Heat pumps are designed to defrost this buildup by reversing modes either at preset intervals or upon activation by a pressure-sensing device.

Window Air Conditioner Units

According to the Standards of Practice, a home inspector is not required to inspect window air conditioner units. Window air conditioners are portable, integral air-conditioning systems without ductwork. If you do inspect a unit, look at the seal around each unit and its attachment to the window or wall. It should be adequately supported. It should not be obstructed. Look for proper condensate drainage. After several minutes of operation, the air from the unit should feel quite cool. It should start smoothly and run quietly. Check for water dripping from the condensate discharge on the exterior of the unit.

Quiz #7: Cooling

The home inspector is required to operate the air-conditioning system using _____ controls.

- normal (correct)
- high
- low
- safety
- every

Question Rationale

Home inspectors must use only normal operating controls.

The inspector should describe the _____.

- cooling method (correct)
- color of the unit's cabinet exterior
- pressure of the refrigerant
- humidity levels of the conditioned interior
- noise level of the compressor

Question Rationale

Cooling method is required to be described. It's commonly described as "ductwork."

The inspector _____ always run the air conditioning system for the purpose of inspection.

- should not (correct)
- should

Question Rationale

There many be a reason to NOT operate the system.

The inspector is _____ inspect electronic air filters.

- not required to (correct)
- required to

Question Rationale

The is no requirement to inspect electronic air filtes.

An air-conditioning system should not be operated if the outdoor temperature is below _____.

- 65° F (correct)
- 70° F
- 85° F
- 32° C

Question Rationale

It's 65° F.

The inspector _____ required to check the air-conditioning system for refrigerant leaks.

- is not (correct)
- is

Question Rationale

It is not required.

A normal operating control is the air conditioner's _____.

- thermostat (correct)
- electrical breaker at the panel
- pressure valve of the refrigerant
- compressor override switch

Question Rationale

Thermostat should be used in a home inspection.

T/F: A home inspector doesn't need to describe the location of the thermostat.

- False (correct)
- True

Question Rationale

It's required.

An air conditioner unit that does not operate is a condition that _____.

- a home inspector must report as in need of correction (correct)
- a home inspector must report as in need of improvement
- a home inspector must report as in need of monitoring
- a home inspector must report as in need of cleaning up

Question Rationale

It's a correction that is needed.

What if the cooling system is completely covered by personal storage items and is inaccessible?

- The home inspector should report that condition as in need of correction. (correct)
- The home inspector should report that condition as in need of improvement.
- The home inspector should report that condition as in need of monitoring.
- The home inspection need not do anything, because it's inaccessible.

Question Rationale

It's a condition that must be reported as in need of "correction."

If the air conditioner unit's BTU is 12,000 for a 3,000-square-foot home, that condition _____.

- is not required to be considered by the home inspector because BTU and sizing is beyond the scope of a home inspection (correct)
- is a defect because of the inadequate sizing of the unit in relation to the house size
- must be documented in the inspection report with BTU calculations
- need not be reported because the size and BTU are in alignment

Question Rationale

BTU and sizing is beyond the scope of a home inspection.

If the window air conditioner unit is unplugged, the home inspector _____.

- need not do anything because inspecting a window air conditioner is not required by these Standards of Practice. (correct)

- is required to plug in the unit and operate the unit
- should recommend that a licensed master plumber turn the unit on
- should report a material defect exists at the window unit

Question Rationale
It's not required to inspect window units.

Video: Section 3.6, Plumbing

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
The plumbing section of the InterNACHI home inspection standards of practice course.
According to the standards of practice, the home inspector shall inspect the main water supply shutoff valve, the main fuel supply shutoff valve, the water heating equipment, interior water supply, including all the fixtures and faucets by running the water, all the toilets by flushing it, all the sinks are running water, tubs and showers, taking a look at the drainage, the drain waste and vent system, and drainage sump pumps with accessible floats.
The main water shutoff valve refers to the master shutoff valve that should be located where the house service main enters the building. The house service main begins at the street curb valve and ends at the inside wall of the building at the master shutoff valve.
A homeowner should know where the curb valve is located.
It is a way for the main water supply to be turned off. It is typically located at the junction of the public water main and the house service main, usually at the street. The curb valve is typically the responsibility of the local water department.
According to the standards of practice, the home inspector shall describe whether the water supply is public or private based upon observed evidence.
Inspector shall describe the location of the main water supply shutoff valve and the location of the main fuel supply shutoff valve and the location of any observed fuel storage systems and the capacity of the water heating equipment, if labeled.
This inspection image is of the water meter next to the main water shutoff valve.
The inspector described that the water supply is public, not private, based upon observed evidence of a water supply line and water meter. The home inspector is not required to determine the flow rates, volume, pressure, or adequacy of the water supply.
Inspectors should determine whether the water supply is from a private well or a public supply. If the inspector cannot make that determination, the inspection report should disclaim that system identification.
It should explain that the inspection did not include a determination of whether or not the so the water supplied to the house was public or private. An inspector may recommend water testing of a private water source to determine the safety of the supply, but this is not required by the standards of practice.
This inspection image is of the water shutoff valve next to the main water meter in the front of the basement of a house. According to the standard practice, a home inspector is required to describe the location of the main water supply shutoff valve.

This inspection image is of a public gas meter and the main fuel shutoff valve located next to the meter at the front of the house.
This inspection image is of the main fuel shutoff valve at the gas meter.
This inspection image is of a water heater tank. The home inspector is not required to determine the temperature of the water supplied to the fixtures.
Inspectors should describe the capacity of the water heating equipment, if labeled.
The inspection image here is of the manufacturer's label attached to the water heater tank.
This tank is fifty gallons in size, and the home inspector is not required to measure and evaluate the adequacy of the water heater.
This is an inspection image of a gas shutoff valve next to the water heater tank.
The tank is gas fired. That's the energy source.
The home inspector is not required to operate any valve.
This is an inspection image of the vent connection pipes that are part of the water heater tank's exhaust system, which includes a draft fan. The vent connection pipes are made of PVC plastic.
And this is an inspection image of the water heater tank's temperature pressure relief valve, TPR valve.
It extends to the floor and is properly installed.
Home inspectors are required to inspect the water heater's temperature pressure relief valve, TPR valve.
Now the two thousand eighteen international residential code describes more than one dozen requirements that a TPR discharging pipe or discharge piping must meet, and that's in two thousand eighteen IRC section five zero four point six. The inspector is not required to operate the TPR valve, but it needs to be present and it should have a proper discharge line and termination. Because a TPR valve may be filled with corrosion or debris, the operation of the valve may cause the valve to open and not close back again. So home inspectors should not operate any valves, including shutoff and TPR valves.
This is an inspection image of a bathroom sink fixture running water.
The inspection image included a check for functional drainage.
The inspection image here is of a bathroom toilet being flushed and filling up the tank with water. The inspection included a check for functional drainage.
Here's an inspection image of a bathroom tub fixture running water.
Inspection included a check for functional drainage. The home inspector is not required to test shower pans, tub and shower surrounds, or enclosures for leakage or functional overflow protection.
Here's an inspection image of a bathroom shower fixture running water.
The inspection included a check for functional drainage.
Here's an inspection image of a laundry tub fixture running water.
Inspection included a check for functional drainage.
Here's an inspection of a bathroom, large bathing tub fixture that is running water.
The inspection included a check for functional drainage.
Here's an inspection image of a kitchen sink fixture running water. Guess what it included?
A check for functional drainage.

The inspection image above is of a kitchen dishwasher after running a short cycle with running water. The inspection included a check for functional drainage from the dishwasher. If the dishwasher does not drain properly, that is a defect.
The inspector must inspect drain waste and vent DWV, that system.
The inspection image here is of PVC, DWV pipes, including fittings, indications of cleaning and gluing, support, and a clean out. The inspector is not required to determine whether there are sufficient clean outs.
The inspection image here is of a sump pump in a house basement. The inspection is restricted. Why? Because the lid is secured.
The pump's float is inaccessible.
There's a battery backup system installed at the sump pump. That's good.
The observations and the restrictions to system's components and performance was documented in the inspection report.
Here's an inspection image of copper water supply pipes.
The inspector is not required to determine the existence or condition of polybutylene, polyethylene, or similar plastic piping.
According to the standards of practice, the inspector shall report as in need of correction deficiencies in the water supply by viewing the functional flow in two fixtures operated simultaneously.
Inspector shall report as in need of correction, deficiencies in the installation of hot and cold water faucets.
The inspector shall report as a need of correction, active plumbing water leaks that are observed during the inspection.
And the inspector shall report as a need of correction, toilets that were damaged, had loose connections to the floor, were leaking, or had tank components that did not operate.
Functional flow.
Home inspector may notice a significant drop in water flow when the bathroom sink, bathroom tub, and shower fixtures are all turned on at the same time.
This observation may be communicated in an inspection report as a concern related to the flow in two or more fixtures that were operated simultaneously.
In the two thousand eighteen International Plumbing Code, IPC, section six zero four, there are requirements for the water distribution system such that under conditions of peak demand, the capacities at the fixture supply pipe outlet meet a certain minimum.
For example, the minimum flow rate at a bathroom tub fixture bathtub fixture is four gallons per minute and two and a half gallons per minute for a shower fixture.
In this inspection image, there is, flow of water observed at a shower fixture, and it's very low. This condition occurred while the bathroom sink fixture was turned on and was running water, which also demonstrated a a low flow of water. Correction and further evaluation by a plumber was recommended.
Here's another inspection image of a bathroom sink fixture mentioned previously, which had a low flow of water while the shower fixture was turned on at the same time during the inspection.
Inspectors should report upon the functional flow of water through the fixtures. The most common method is to run two or more faucets or fixtures at the same time.

Significant drops in flow, water flow, at an individual faucet during this test can be a sign of either porous water supply or partially clogged piping, which would require further professional evaluation.
Some inspectors use water pressure and flow meters, but these are not required.
Hot is on the left.
It is conventional and standard plumbing practice to install the hot water control on the left side and the cold water on the right side. In the two thousand eighteen International Plumbing Code, IPC, section six zero four six zero seven point four, The fixture fittings, faucets, and diverters must have the flow of hot water corresponding to the left hand side of the fixture fitting. The inspection image above is of a tub with the hot water supplied on the incorrect side. The hot water should have been controlled by the left hand side handle of the tub fixture. Correction and further evaluation by a plumber was recommended.
Drain stops. Home inspectors may check for drain stops, that's the pop up sink drain stopper, that are missing or do not operate. The two thousand eighteen international residential code, section p two seven one one point three, states that a strainer, a pop up stopper, crossbar, or other device should be installed to restrict the clear opening of a waste drain outlet. The home inspection image above, in this picture here, is of a bathtub drain stopper being checked.
Toilets.
You have to inspect the toilets.
Home inspectors may flush the toilet once or twice and watch for functional drainage and water leakage. Home inspectors may use the side of their leg to lean lightly up against the side of the toilet in order to determine whether or not the toilet is loosely connected to the floor. If the toilet moves slightly, the watertight connection between the toilet and its drain pipe may leak. It is difficult to determine if a toilet is actively leaking because a leak would possibly drip within the floor system below the toilet and will not be readily visible or apparent.
A toilet leak may become evident only after significant amounts of time has passed after the toilet was flushed. Sometimes a leak will make stains on the ceiling below, and this inspection image here is of a home inspector flushing a toilet.
According to the standards of practice, the home inspector is not required to ignite or light pilot flames. You shouldn't ignite any flames.
The home inspector is not required to measure the capacity, temperature, age, life expectancy, or adequacy of the water heater.
The home inspector is not required to inspect the interior flues or chimneys, combustion air systems, water softening or filtering systems, well pumps or tanks, safety or shutoff valves, floor drains, lawn sprinkler systems, or fire sprinkler systems.
Inspector is not required to determine the exact flow rate, volume, pressure, temperature, or or adequacy of the water supply.
The inspector is not required to determine the water quality.
The inspector is not required to operate any valve.
The inspector is not required to test shower pans and tubs for leakage.
The inspector is not required to determine whether there are sufficient cleanouts for effective cleaning of the drains.
The inspector is not required to inspect water treatment systems or water filters or wastewater treatment systems.

The inspector is not required to evaluate or determine the adequacy of combustion air.
And the inspector is not required to inspect or test for gas or fuel leaks or indications thereof.
A home inspector can only comment and report on what he or she can see. The home inspector is not required to remove any fixed access panels.
Many plumbing components are hidden in this way and are therefore not accessible for an inspection.
Bath and shower drains are examples of components that simply cannot be inspected during a visual only home inspection. The internal parts of other components, such as the bladder and a pressure tank, are generally inaccessible and cannot be evaluated for their condition. There are many components that a home inspector simply cannot see and are beyond the scope of a home inspection.
The evaluation of septic or other sewage systems is likewise beyond the capabilities of most inspectors. In many states, this is a separately licensed profession. This is not part of a home inspection.
Inspection of sprinkler systems or irrigation systems or equipment is not required by the standards of practice.
Water filtration and water softening equipment and other systems should be evaluated and serviced by the original installers and the manufacturer's agents.

Section 3.6, Plumbing

Audio
According to the Standards of Practice
I. The inspector shall inspect:

A. the main water supply shut-off valve;
B. the main fuel supply shut-off valve;
C. the water heating equipment, including the energy source, venting connections, temperature/pressure-relief (TPR) valves, Watts 210 valves, and seismic bracing;
D. interior water supply, including all fixtures and faucets, by running the water;
E. all toilets for proper operation by flushing;
F. all sinks, tubs and showers for functional drainage;
G. the drain, waste and vent system; and
H. drainage sump pumps with accessible floats.

The main water shut-off valve refers to the master shutoff valve that should be located where the house service main enters the building. The house service main begins at the street curb valve and ends at the inside wall of the building at the master shutoff valve. A homeowner should know where the curb valve is located. It is the way for the main water supply to be turned off. It is typically located at the junction of the public water main and the house service main, usually at the street. The curb valve is typically the responsibility of the municipal water department.

According to the Standards of Practice
II. The inspector shall describe:

A. whether the water supply is public or private based upon observed evidence;

B. the location of the main water supply shut-off valve;
C. the location of the main fuel supply shut-off valve;
D. the location of any observed fuel-storage system; and
E. the capacity of the water heating equipment, if labeled.

The inspection image above is of the water meter next to the main water shut-off valve. The inspector described that the water supply is public, not private, based upon observed evidence of a water supply line and water meter. The home inspector is not required to determine the flow rate, volume, pressure, or adequacy of the water supply.

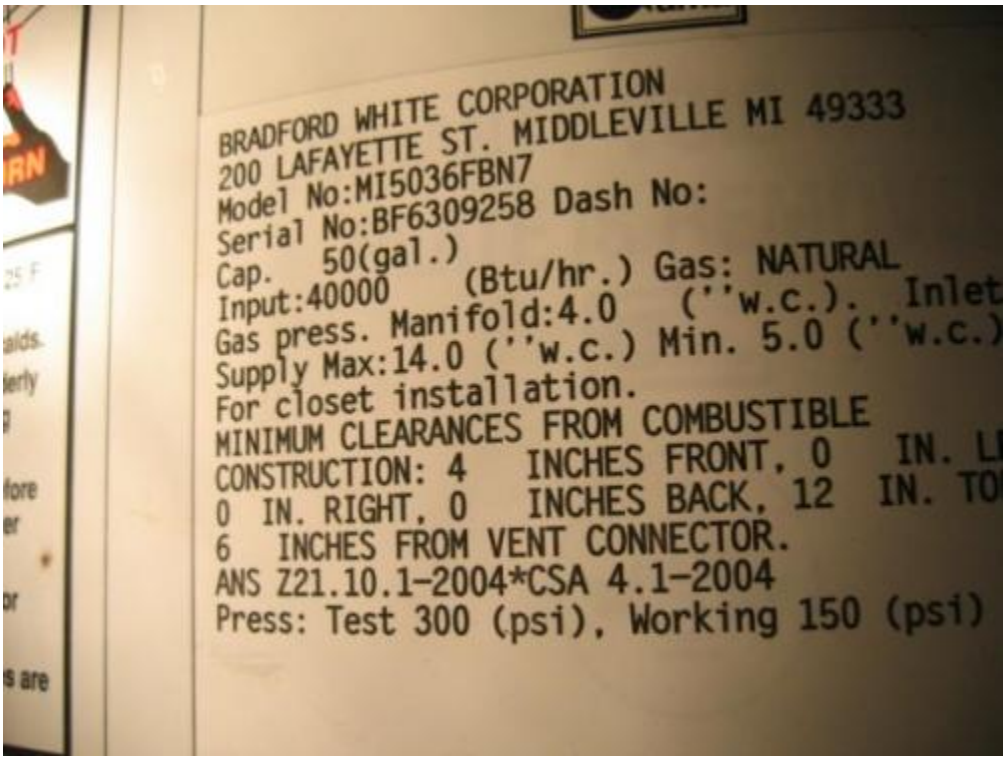
Inspectors should determine whether the water supply is from a private well or a public supply. If the inspector can not make that determination, the inspection report should disclaim that system identification. It should explain that the inspection did not include a determination of whether or not the water supplied to the house was public or private. An inspector may recommend water testing of a private water source to determine the safety of the supply, but this is not required by the Standards of Practice.

The inspection image above is of the water shut-off valve next to the main water meter in the front of the basement of a house. According to the Standards of Practice, a home inspector is required to describe the location of the main water supply shut-off valve.

The inspection image is of a public gas meter and the main fuel shutoff valve located next to the meter at the front of the house.

This is the main fuel shutoff valve at the gas meter.

The inspection image is of a water heater tank. The home inspector is not required to determine the temperature of the water supplied to the fixtures.



The inspector must describe the capacity of the water heating equipment. The inspection image above is of the manufacturer's label attached to a water heater tank. This tank is 50 gallons in size. The home inspector is not required to measure and evaluate the adequacy of the water heater.

This is an inspection image of the gas shutoff valve next to the water heater tank. It is gas-fired. That's the energy source. A home inspector is not required to operate any valve.

This is an inspection image of the vent connection pipes that are part of the water heater tank's exhaust system, which includes a draft fan. The vent connection pipes are made of PVC plastic.

This is an inspection image of the water heater tank's temperature/pressure-relief (TPR) valve. It extends to the floor, which is properly installed.
Home inspectors are required to inspect the water heater's temperature/pressure-relief (TPR) valve. The 2018 International Plumbing Code describes more than one dozen requirements that a TPR discharge piping must meet (2018 IRC 504.6). The inspector is not required to operate the TPR valve, but it needs to be present and it should have a proper discharge line and termination. Because a TPR valve may be filled with corrosion or debris, the operation of the valve may cause the valve to open and not close back again. Home inspectors should not operate any valves, including shutoff and TPR valves.

The inspection image above is of a bathroom sink fixture that is running water. The inspection included a check for functional drainage.

The inspection image above is of a bathroom toilet being flushed and filling up the tank with water. The inspection included a check for functional drainage.

The inspection image above is of a bathroom tub fixture that is running water. The inspection included a check for functional drainage. The home inspector is not required to test shower pans, tub and shower surrounds or enclosures for leakage or functional overflow protection.

The inspection image above is of a bathroom shower that is running water. The inspection included a check for functional drainage.

The inspection image above is of a laundry tub fixture that is running water. The inspection included a check for functional drainage.

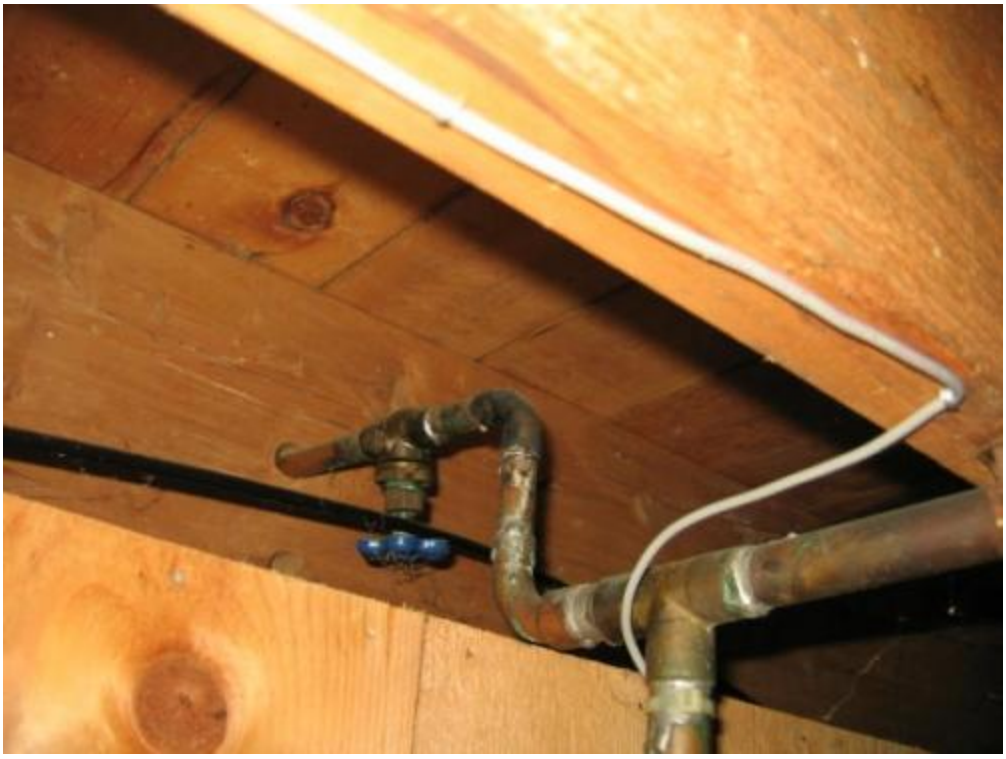
The inspection image above is of a large bathing tub fixture that is running water. The inspection included a check for functional drainage.

The inspection image above is of a kitchen sink fixture that is running water. The inspection included a check for functional drainage.

The inspection image above is of a kitchen dishwasher after running a short cycle with running water. The inspection included a check for functional drainage from the dishwasher. If the dishwasher does not drain properly, that is a defect.

The inspector must inspect the drain, waste, and vent (DWV) system. The inspection image above is of PVC DWV pipes, including fittings, indications of cleaning and gluing, support, and a clean out. The inspector is not required to determine whether there are sufficient cleanouts.

The inspection image above is of a sump pump in a house basement. The inspection is restricted, because the lid is secured. The pump's float is inaccessible. There is a battery backup system installed at the sump pump. The observations and the restrictions to the inspection of the system's components and performance was documented in the inspection report.



The inspection image above is of copper water supply pipes. The inspector is not required to determine the existence or condition of polybutylene, polyethylene, or similar plastic piping.

According to the Standards of Practice

III. The inspector shall report as in need of correction:

A. deficiencies in the water supply by viewing the functional flow in two fixtures operated simultaneously;
B. deficiencies in the installation of hot and cold water faucets;
C. active plumbing water leaks that were observed during the inspection; and
D. toilets that were damaged, had loose connections to the floor, were leaking, or had tank components that did not operate.

Functional Flow

A home inspector may notice a significant drop in water flow when the bathroom sink, bathroom tub and shower fixtures are all turned on at the same time. This observation may be communicated in the inspection report as a concern related to the flow in two or more fixtures that were operated simultaneously. In the 2018 International Plumbing Code (IPC), Section 604, there are requirements for the water distribution system such that under conditions of peak demand, the capacities at the fixture supply pipe outlet meet a certain minimum. For example, the minimum flow rate at a bathtub fixture is 4 gallons per minute and 2.5 gallons per minute for a shower fixture.

The home inspection image above is of a very low flow of water at a shower fixture, and this condition occurred while the bathroom sink fixture was turned on and was running water, which demonstrated the low flow of water. Further evaluation by a plumber was recommended.

The home inspection image above is of the bathroom sink fixture, which had a low flow of water while the shower fixture was turned on at the same time.
Inspectors should report on the functional flow of water through the fixtures. The most common method is to run two or more faucets or fixtures at the same time. Significant drops in flow at an individual faucet during this test can be a sign of either poor supply pressure or partially clogged piping, which would require further professional evaluation. Some inspectors use a water pressure and flow meter, but this is not required.

Hot Is on the Left

It is conventional and standard plumbing practice to install the hot water on the left-side and the cold water on the right-side. Hot should be on the left. In the 2018 International Plumbing Code (IPC), Section 607.4, the fixture fittings, faucets, and diverters must have the flow of hot water corresponding to the left-hand side of the fixture fitting. The inspection image above is of a tub with the hot water supplied on the incorrect side. The inspector is pointing to the left-side handle (from the perspective of the person in the tub), and cold water was coming out. The cold water should have been controlled by the right-hand side handle of the tub fixture (as viewed from sitting inside the tub). Correction and further evaluation by a plumber was recommended.

Drain Stops

Home inspectors may check for drain stops (pop-up sink drain stopper) that are missing or do not operate. The 2018 International Residential Code (IRC), Section P2711.3, states that a strainer, pop-up stopper, crossbar or other device should be installed to restrict the clear opening of the waste drain outlet. The home inspection image above is of a bathtub drain stopper being checked.

Toilets

Home inspectors may flush the toilet once or twice and watch for functional drainage and water leakage. Home inspectors may use the side of their leg to lean lightly up against the side of the toilet in order to determine whether or not the toilet is loosely connected to the floor. If the toilet moves slightly, the watertight connection between the toilet and its drain pipe may leak. It is difficult to determine if a toilet is actively leaking, because a leak could possibly drip within the floor system and will not be readily visible or apparent. A toilet leak may become evident only after a significant amount of time after the toilet is flushed. Sometimes the leak will make stains on the ceiling below. The inspection image above is of a home inspector flushing a toilet.

According to the Standards of Practice
IV. The inspector is not required to:

A. light or ignite pilot flames.
B. measure the capacity, temperature, age, life expectancy or adequacy of the water heater.
C. inspect the interior of flues or chimneys, combustion air systems, water softener or filtering systems, well pumps or tanks, safety or shut-off valves, floor drains, lawn sprinkler systems, or fire sprinkler systems.
D. determine the exact flow rate, volume, pressure, temperature or adequacy of the water supply.
E. determine the water quality, potability or reliability of the water supply or source.
F. open sealed plumbing access panels.
G. inspect clothes washing machines or their connections.
H. operate any valve.

I. test shower pans, tub and shower surrounds or enclosures for leakage or functional overflow protection.
J. evaluate the compliance with conservation, energy or building standards, or the proper design or sizing of any water, waste or venting components, fixtures or piping.
K. determine the effectiveness of anti-siphon, back-flow prevention or drain-stop devices.
L. determine whether there are sufficient cleanouts for effective cleaning of drains.
M. evaluate fuel storage tanks or supply systems.
N. inspect wastewater treatment systems.
O. inspect water treatment systems or water filters.
P. inspect water storage tanks, pressure pumps, or bladder tanks.
Q. evaluate wait time to obtain hot water at fixtures, or perform testing of any kind to water heater elements.
R. evaluate or determine the adequacy of combustion air.
S. test, operate, open or close: safety controls, manual stop valves, temperature/pressure-relief valves, control valves, or check valves.
T. examine ancillary or auxiliary systems or components, such as, but not limited to, those related to solar water heating and hot water circulation.
U. determine the existence or condition of polybutylene, polyethylene, or similar plastic piping.
V. inspect or test for gas or fuel leaks, or indications thereof.

The home inspector can only comment and report on what he or she can see. The home inspector is not required to remove any fixed access panels. Many plumbing components are hidden in this way and are, therefore, not accessible for inspection. Bath and shower drains are examples of components that simply cannot be inspected during a visual-only inspection. The internal parts of other components, such as the bladder in a pressure tank, are generally inaccessible and cannot be evaluated for their condition. There are many components that a home inspector can not see and are beyond the scope of a home inspection.

Septic System
Evaluation of septic and other sewage systems is, likewise, beyond the capabilities of most inspectors. In many states, this is a separately licensed profession.

Irrigation System
Inspection of sprinkler systems and irrigation equipment is not required by these standards.

Water Filtering, Softening, and Conditioning
Water filtration and water-softening equipment and other treatment systems should be evaluated and serviced by the original installers and manufacturers' agents.

Quiz #8: Plumbing

When inspecting toilets, home inspectors should check _____.

- all of these (correct)
- operation
- drainage

- connection to the floor
- damage
- leakage

Inspectors _____ flush all toilets.

- should (correct)
- should not

Question Rationale

All toilets should be flushed, if they work.

All _____ wastes, drains and vents should be inspected.

- visible (correct)
- non-visible
- working
- non-working
- hidden

Question Rationale

There visible components can be observed.

Reporting on the inspection of the water heater should include the _____.

- TPR valve (correct)
- interior sludge build-up
- age of the unit
- pressure
- date of manufacture

Question Rationale

TPR valves should be inspected.

The home inspector is required to report as in need of correction _____.

- active plumbing leaks that were observed during the inspection (correct)
- all active plumbing leaks
- plumbing leaks that were not observed
- water leaks that are discovered after the inspection.

Question Rationale

Active leaks observed during the inspection should be documented.

Inspectors should determine whether the water supply is _____.

- public or private (correct)
- visible or unseen
- within the home or outside the home

Question Rationale

This task is required, if possible to be determined by the inspector.

Inspectors should identify the location of the main water and fuel _____ valves.

- shut-off (correct)
- vapor
- containment
- joist

Question Rationale

This is required by the Standards of Practice.
Functional water flow can be checked by _____.

- running two faucets simultaneously (correct)
- using a pressure and flow meter only
- the local utility company
- hiring a master plumber during the home inspection

Question Rationale
A home inspector can check flow using two fixtures at the same time.
When inspecting a water heater tank, the inspector should describe on its _____.

- capacity, if labeled. (correct)
- life expectancy
- total capacity, even if it's not labeled
- age

Question Rationale
The capacity, if labeled, should be described.
Mechanical drain stoppers may be inspected, _____.

- but it's not required by the Standards of Practice (correct)
- because it's required by the Standards of Practice

Question Rationale
It is not required.
A home inspector _____ to operate the main plumbing shutoff valve.

- is not required (correct)
- is required

Question Rationale
It is NOT required.
Sump pumps _____ included as part of a home inspection.

- are (correct)
- are not

Question Rationale
Sump pumps are within the scope of a home inspection.
The home inspector _____ determine the potability of the water supply.

- is not required to (correct)
- is required to

Question Rationale
It is not required.
The home inspector is _____ to guarantee that shower pans and bath wastes are free of leaks.

- not required (correct)
- required

Question Rationale
It is NOT required.
Evaluating water softeners and purifiers _____ part of a home inspection.

- is not (correct)
- is

Question Rationale
It is NOT required.
T/F: The home inspector must check the interior water supply, including all fixtures and faucets, by running the water.

- True (correct)
- False

Question Rationale
It is required.
The home inspector is required to describe whether the water supply is public or private based upon _____.

- observed evidence (correct)
- guessing
- what the seller said
- what the agent thinks

Question Rationale
It's based upon observed evidence.
_____ plumbing water leaks that were observed during the inspection should be reported as in need of correction.

- Active (correct)
- Prior
- Repaired

Question Rationale
Active leaks observed during the inspection should be documented.
A toilet that wobbles should be reported as in need of _____.

- correction (correct)
- monitoring
- improvement
- replacement

Question Rationale
Corrections are recommended.
If the gas-fired water heater tank is not working, the home inspector should _____

- report it as a defect and in need of correction (correct)
- turn on the ignitor
- need not do anything, because it's not working
- turn off the water shutoff valve at the tank
- call a plumber immediately
- report it as a "material defect"

Question Rationale
It's a defect that needs to be corrected.
If a plumbing access panel is sealed and secured shut, the home inspector _____ to open it up anyway.

- is not required (correct)
- is required

Question Rationale
Inspector should leave it sealed.

Video: Section 3.7, Electrical

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
This is the electrical section of the InterNACHI Home Inspection Standards of Practice course. And, again, this is a supplemental video, and we recommend opening the video in a new window and playing along, as you go along through the course content.
So right now, we're in the electrical. And this is an exciting section of the course. So let's begin. Get a cup of coffee, and here we go.
So the evaluation of the electrical supply and systems is fairly complicated because it covers so many areas. It also poses potential hazards to the home inspector, and often highlights defects that could endanger the home's occupants.
So please, stay safe and get trained and certified as much as possible.
Please take the Internet GE free online how to reform residential electrical inspections course and the free online advanced electrical inspection training course. And all of InterNACHI's online courses are nationally accredited by the National Accrediting Agency of the US Department of Education.
Always keep safety in mind.
Be safe. Stay safe out there. Protect yourself and your clients by getting the proper training on electrical inspection, and equip yourself with the appropriate safety gear, personal protection equipment.
So please take InterNACHI's free online safe practices for the home inspectors course.
A home inspector is not required to remove the dead front cover off the electrical panel. Doing so could be fatally dangerous.
We do not recommend removing the front cover to view the distribution wiring or the components inside any electrical panel. It's not required by the InterNACHI Home Inspection Standards of Practice.
What is required according to the standards of practice?
Well, let's go over them. There's a lot.
The inspector shall inspect the service drop, the overhead service conductors and attachment points, the service head, gooseneck, and drip loops, The service mast, service conduit and raceway.
The electrical meter and base.
Service engines conductors.
The main service disconnect.
Panel boards and overcurrent protection devices that's circuit breakers or fuses.
Service grounding, bonding.
A representative number of switches, light fixtures, receptacles, including those observed and deemed to be arc fault circuit interrupters, AFCIs, using the AFCI test button where possible.

And all ground fault circuit interrupter receptacles and circuit breakers observed and deemed to be GFCIs using a GFCI tester where possible. And for the presence of smoke and carbon monoxide detectors.
So let's go over some terms and identify certain parts, particularly rated related to the service. Now the word service is used a lot by home inspectors. And service is a term to describe the conductors and equipment for delivering electricity from the utility company to the wiring system of the house.
So service is, in my mind, the main electrical equipment coming from the telephone pole or the electric company, utility company to the house. That's service.
And only one is typically installed for a house.
And a minimum of a hundred amp service is needed for a single resonance.
Now take a look at this inspection image.
There's a few parts, components of this area.
There's a blue arrow, white arrows, orange arrows, and red arrows. Let's go over them and identify them so so that you're using proper terminology during your inspection and within your inspection report.
The service entrance cable, SEC, that's the blue arrow arrow right there. So it's pointing to the SEC, the service entrance cable. And that's that line that's, for me, usually attached to the side of the house, on the outside of the house, and it goes right into the top of the meter box. Right?
And that's the line of service conductors, which are identified by those white arrows. So there's three of them. Three big black cables.
And they're located between the terminals of the service equipment. That's the main disconnect, at the electrical pin near the it could be near the meter or electrical panel. That's the main disconnect.
And a point usually outside the building, clear of the walls where they are joined by a tap or a splice, and that's the orange arrows there.
So the orange arrows is that connection.
And it's a connection to the service dropper overhead service conductors from the telephone pole, let's say, from the utility company. And that's the red arrows there. So going backwards, from the meter that's below the service entrance cable here, SEC, the blue arrow, meter. Imagine it coming up. Service entrance cable, that's the line of conductors.
Those white arrows are pointing to the conductors located between the terminals of the service equipment, which is the main disconnect, let's say. And a point usually outside the building where they're joined by a splice, the orange arrows, to the service drop or overhead conductors, and that's the red arrows. Now the blue arrow was pointing to a protected or sheathed SE service entrance cable.
And there's where I pay particular attention. I want that cable attached well and in good shape. Sometimes very old SE cables have that cloth sheathing on it, and it's deteriorated. And that would be a defect.
The service point is the point of connection.
That's that splice. That's the orange arrows there between the facilities of the service utility, the utility coming in, the service coming in, and the house wiring.
So that's the service point.

And that's at the drip loop too.
The overhead service conductors, those those three black wires there, the white arrows are pointing to them, are also the overhead conductors between the service point, splice, orange arrows. And the first point of connection to the service entrance conductor, and that's the blue arrow.
So that's the the service, the white arrows, the overhead service conductors are also forming the drip loop. And I'll pay attention to that connection as well, or that form. We want that nice drip. So that water, essentially water, doesn't travel down the what? The service entrance cable, SCC.
Blue arrow.
The service equipment is usually is the necessary equipment, usually consisting of breakers, circuit breakers, switches, and fuses, and their accessories connected to the load end of service conductors to a building or designated area.
And they're intended to constitute the main control and cut off of the supply. So the service equipment is all the equipments.
Let's scroll up a little bit.
Consisting of circuit breakers, switches, fuses, and their accessories connected to the load end of service conductors to a building or designated area.
And they're intended to constitute the main control and cutoff of the supply.
It is understood that raceways, fittings, and enclosures, housing service conductors, are also part of the service equipment.
Now, the meter socket enclosures are not considered service equipment.
The meter enclosures don't have any interrupting ratings or disconnecting means or over overcurrent protection.
Grounding and bonding.
Generally speaking, the difference between grounding and bonding is grounding is the direct connection to Earth to aid in removing damaging transients over voltages due to lighting.
And the purpose of bonding is to ensure the electrical continuity of the fault current path, To provide the capacity and ability to conduct safely any fault current likely to be imposed. And to aid in the over and to aid in the operation of the overcurrent protection device.
So that's what grounding and bonding is.
Rounding for removing damaging transient over voltages due to lightning.
And bonding, to ensure the electrical continuity of the fault current path.
And to provide the capacity and ability to conduct safely any fault current likely to be imposed and to aid in the operation of the overcurrent protection device.
Properly bounding bonding properly bonding all metal parts within electrical system helps ensure a low impedance fault path.
Now the issue of grounding bonding is very confusing to many inspectors, even me.
Due to complexity, we highly recommend taking the free online how to perform residential electrical inspections course.
Remember, this is the InterNACHI home inspection standards of practice course. Designed to teach a student about the standards of practice.
Not intended to teach you how to perform an inspection.
AFCIs.

They were developed in response to a need for equipment to sense when an arc fault was occurring.
A combination type arc fault circuit interrupter should be installed to protect, all branch circuits that supply hundred and twenty volt single phase fifteen and twenty amp outlets installed in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, and similar rooms or areas. There's a lot of rooms. And as a home inspector, I'm very cautious in testing AFCIs without first informing the homeowners that I'm going to do so. I simply do not want to, make a mess out of things, like things that are on and need to be on, like computers and sensitive equipment.
GFCIs.
They're designed to sense any difference in current between the supply of the ungrounded hot conductor, the black wire in a circuit, and the grounded neutral conductor, the difference between the two.
Since the nineteen seventies, GFCIs have been required in an increasing number of damp and wet locations. And more recently, this requirement has extended to all receptacles in the garage.
Because they are safety devices, the home inspector should check every installed GFCI circuit, and may advise the client of areas where they should also be fitted.
So it's a good idea as a home inspector, and I did this as well, to inspect every home without any regard to the age of the home. So if it's a hundred year old home, we're not going to find any AFCIs or DFCIs.
But you'll find in my inspection report those recommendations.
Because without these two safety devices, people can get hurt.
So if it's a brand new home, ten year old home, thirty year old home, hundred year old home, I, as a home inspector, make recommendations to keep people safe according to modern building standards. I'm not a coat inspector, but if there's a missing GFCI, for example, in the bathroom, I don't care when the house was built.
I don't use the word grandfathered anywhere. And I don't need to be a code inspector in order to recommend, that g a GFCI circuit be installed or GFCI device to be installed in the circuit, where I think it should be.
So it's a good idea.
According to the standards of practice, the inspector shall describe in your inspection report, the main service disconnects disconnects amperage rating, sorry, if labeled. So if you have a main disconnect at the panel, first of all, you're not required to test it and you really shouldn't. If it's not labeled, I wouldn't guess.
You can look at the, labeling on the breaker panel, circuit panel, distribution panel, the main panel. There could be other clues elsewhere. But if it's not labeled, that's okay. You don't have to identify the amperitrating.
The The inspector shall describe the type of wiring observed. And there are several different types of wiring. There's common wiring too. And we'll get to that in a little bit. But you should take the electrical course to train yourself on identifying the types of wiring.
Here's an inspection image. It's of a hundred and fifty amp main service disconnect, and the amperage rating was observed, and the inspector described the rating in the inspection report.

So I think this inspector used one finger for one hundred and a half a finger bent finger for fifty. So it's a hundred and fifty amp panel. Two fingers, two full fingers would be two hundred amps.
In this inspection image, the type of wiring observed during the inspection was described in the report. The home inspector described the type of wiring as nonmetallic cable. Most circuits in the modern North American home, and light commercial construction are wired with nonmetallic sheathing, NM cable, designated type. Often referred to by the brand name, Romex.
That's a brand name.
This type of cable is the least expensive for a given size and is appropriate for dry indoor applications. Many people use the name Romex when referring to the type n m cable. But Romex is a trademark name that has come into common usage for referring to plastic covered wires. But type n m just means nonmetallic, and also applies to other cable styles.
Type n m b, non metallic sheathed cable, may be used for both exposed and concealed work in normally dry locations at temperatures not exceeding ninety degrees Celsius with capacity limited to that for sixty degrees Celsius conductors as specified in the National Electrical Code. And then b cable is primarily used in residential wiring as branch circuits for outlet switches and other loads. And then b cable may run-in air voids of masonry block walls or tile walls where such walls are not subject to water, dampness, or moisture.
Now home inspectors are not code inspectors. Yay.
The code book is huge.
This isn't the code book, but I have it somewhere here. It's about this big. And if you're a code inspector, you're you're supposed to be able to just pop right in there and identify that code and try to refer to it immediately and apply to it.
We are not code inspectors. Home inspectors are not code inspectors. In some areas, especially in regulated states and provinces, you're not even allowed to say the word code.
But InterNACHI's online training and certification and continuing education courses are all based upon a standard, a truth.
And that is code. Building code, international residential code, plumbing code, energy codes. So that training that you get, the knowledge you get from taking Interactice courses, they're all based upon code and standards and practices.
You can apply all that knowledge as a home inspector in a general manner during your home inspection. So again, electrical inspections can be fairly complicated, especially in the case of older properties where there may be a variety of systems and wiring types.
Some of which would not meet current codes. However, home inspectors not perform code inspections.
They are only required to evaluate the condition of systems and report observed deficiencies that pose a danger to the property or its occupants.
Home inspectors to inspect the house without direct reference to the age of the house. For example, and that's because, going back, that's because code is highly dependent upon date. When the home was built? When is the home being built? And what modern codes are being applied by the local authority having jurisdiction?
Is it the two thousand fifteen code? Is it the two thousand eighteen code being applied to this new home? And when homes age, well, homeowners typically don't know the code iterations

when things are improved, and they don't install things until there is some kind of transaction, or renovation, or an upgrade, or a home inspection. So it's a good opportunity to help people stay safe and protect the property.

Now, for example, GFCIs and AFCIs were required by construction standards and residential codes at various times in the past. Because a home inspector is not a code enforcement officer or a code inspector, the home inspector need not concern him or herself with when the GFCIs should have been installed or not installed in the house.

If a home inspector observes a lack of GFCIs in the house, that's a defect. That should be reported by the home inspector. Another example would be smoke detectors.

Code requirements for smoke detectors have changed in the past over the many years. Years ago, only a few detectors were required in a house. Presently, there are many areas in the house that smoke detectors should exist regardless of whether the home is newly built or fifty years old. Smoke detectors, just like GFCIs, saves lives. Pay no attention to grandfathering excuses provided by homeowners, contractors, or real estate agents.

Let's take a look at the inspection process related to the electrical system.

It's ultimately up to the home inspector to develop their own inspection process. The initial steps of the inspection sometimes starts outside with an inspection of the service supply from the utility company's equipment.

The inspection then may follow the attachment to the house structure, the the service entrance cables, the electric meter, the main disconnect, and the connection to the main distribution panel itself.

The objective for the home inspector is to check everything that is readily accessible and observable, and to document indications of observed deficiencies in the components of the electrical system.

Visual inspection of the service panel or panels may come next in the process.

A home inspector is not required to remove the electrical panel's front cover, called the the dead front, from the accessible main panel or any other sub panels. If the inspector decides to exceed the standard practice and removes the cover, the inspector might look at the condition of the panel, breakers or fuses, panel interior, and the attachment of the branch circuit wiring, and determine what the materials are that is used inside the electrical system. In some cases, the inspector may find solid branch aluminum circuit wiring that may require further evaluation by a qualified electrician.

You may find that there were renovations at the house and newer wiring installed by homeowners, which would result in a condition that may be unsafe.

All electrical wiring should be conducted by an electrician and inspected to meet current codes. And that is far beyond the scope of a home inspection.

According to the standards of practice, the inspector shall report as in need of correction, deficiencies in the integrity of the service entrance conductor's insulation, drip loop, and vertical clearances from grade and roofs.

The inspector shall report in as in need of correction.

Any unused circuit breaker panel opening that was not filled. There should be no openings there. If you stick your finger in there, you get electrocuted.

The inspector shall report as a need of correction, the presence of solid conductor aluminum branch circuit wiring, if readily visible.

The inspector shall report, as in need of correction, any tested receptacle in which power was not present, polarity was incorrect, the cover was not in place, the GFCI devices were not properly installed or did not operate properly, any evidence of arcing or excessive heat, and where the receptacle was not grounded or was not secured to the wall.
And the inspector shall report as a need of correction the absence of smoke and or carbon monoxide detectors.
Here's an inspection image above here of an inspector touching the service entrance conductor and checking its condition.
You can also see the grounding wires.
Overhead wires.
Overhead wires from the street should be higher than ten feet above the ground, not in contact with tree branches or other obstacles, and not reachable from nearby windows or other accessible areas.
The wires should be securely attached to the building and have drip loops where they enter the weather head. Wires should not be located over swimming pools.
Solid conductor aluminum branch wires.
Well, they were installed in houses primarily in the nineteen sixties and early seventies, and they are a potential fire hazard. According to the US Consumer Product Safety Commission, fires have been caused by the use of aluminum wiring in homes.
Now what are you not required to inspect?
Well, according to the standards of practice, there's a lot. The inspector is not required to insert any tool, probe, or device into the main panel board, sub panels, or any fixtures at all.
You're not required to operate electrical systems that are shut down.
Not required to remove panel front, cabinet covers or dead fronts.
Not required to operate or reset overcurrent protection devices and overload devices. Not required to do it and you really shouldn't. It should never do that.
Not required to operate or test smoke or carbon monoxide detectors or alarm.
Just required to inspect for their presence or absence, reporting on their absence.
Not required to inspect, operate, test any security fire alarm, systems or components or other wiring or signaling systems.
Not required to measure or determine the amperage or voltage of the main service equipment if not readily labeled. Not required to inspect ancillary wiring or remote control devices.
Not required to activate any electrical system or branch circuits that are not already energized.
Not required to inspect low voltage systems.
I I do the doorbell.
After many years of doing home inspections, people call me up for missing the doorbell. I just inspect the doorbell anyways, but you're actually not required.
The inspector is not required to verify the service ground, inspect private or emergency electrical supply sources, like windmills or solar panels, not required to inspect spark or lightning arrestors, Inspect or test the icing equipment. Not required to conduct voltage drop calculations.
Not required to determine the accuracy of labeling. All the breakers should be specifically labeled.
Not required to inspect exterior lighting.

I tend to inspect the the front lamp if it's out there. And certainly not any decorative lighting or landscaping lighting.
So in all cases, the electrical inspection is a visual one. And the inspector should not put him or herself or the client in any danger while inspecting the house. So to that end, the inspector is not required to insert any tools or measuring devices into any panels.
Systems or circuits that are turned off at the time of the inspection should not be re energized as they may have been shut down due to existing faults and problems.
Operating breakers, disconnects, or removing fuses is not recommended as this can disrupt operation of the homeowner's electrical devices, including clocks, alarm systems, and computer equipment.
Low voltage systems need not be inspected and are excluded from the standards of practice. Such systems are alarm equipments, intercoms, some lighting circuits, doorbells, and irrigation systems.
Similarly, lightning arrestors, power generators, and any electrical storage devices like battery packs are excluded from these standards, as are swimming pools and exterior spa systems. Some inspectors have received special training to evaluate these systems, and they charge accordingly for those ancillary systems that are beyond the scope of a home inspection.
While the inspector should report obvious deficiencies in labeling of fuses and breakers, you are not required to evaluate every circuit and its labeling for accuracy, nor is it possible to fully evaluate hidden systems, such as grounding rods, and their continuity.
It is also well beyond the scope of a home inspection to give an opinion as to the adequacy of the electrical systems to support future usage.
And that is the electrical section of the InterNACHI Home Inspections Standards Practice.

Section 3.7, Electrical

The evaluation of the electrical supply and systems is fairly complicated because it covers so many areas. It also poses potential hazards to the home inspector and often highlights defects that could endanger the home's occupants. Please take InterNACHI's free, online How to Perform Residential Electrical Inspections Course and the free, online Advanced Electrical Inspection Training Course.
Always keep safety in mind. Stay safe. Protect yourself and your clients by getting the proper training on electrical inspection, and equip yourself with the appropriate safety gear. Please take InterNACHI's free, online Safe Practices for the Home Inspector Course.
A home inspector is NOT required to remove the dead front cover from the electrical panel. It is fatally dangerous to do so. We do not recommend removing the front cover to view the distribution wiring or components inside the panel. The InterNACHI® Standards of Practice do not require it.
Audio

According to the Standards of Practice
I. The inspector shall inspect:

- the service drop;
- the overhead service conductors and attachment point;

- the service head, gooseneck, and drip loops;
- the service mast, service conduit, and raceway;
- the electric meter and base;
- service-entrance conductors;
- the main service disconnect;
- panelboards and over-current protection devices (circuit breakers and fuses);
- service grounding and bonding;
- a representative number of switches, lighting fixtures, and receptacles, including receptacles observed and deemed to be arc-fault circuit interrupter (AFCI)-protected using the AFCI test button, where possible;
- all ground-fault circuit interrupter receptacles and circuit breakers observed and deemed to be GFCIs using a GFCI tester, where possible; and
- for the presence of smoke and carbon monoxide detectors.

Service

"Service" is a term used to describe the conductors and equipment for delivering electricity from the utility company to the wiring system of the building served. Only one is typically installed for a dwelling. A minimum of 100-amp service is needed for a single residence.

The service-entrance cable SEC (blue arrow) is a line of service conductors (white arrows) located between the terminals of the service equipment (main disconnect) and a point usually outside the building, clear of building walls, where they are joined by a tap or splice (orange arrows) to the service drop or overhead service conductors (red arrows).

The blue arrow is pointing to a protected or sheathed SE (service entrance) cable.
The service point is the point of connection (orange arrows) between the facilities of the service utility and the premises wiring.
The overhead service conductors (white arrows) are also the overhead conductors between the service point (orange arrows) and the first point of connection to the service-entrance conductor (blue arrow) at the structure.
The service equipment is the necessary equipment, usually consisting of a circuit breaker(s) or switch(es) and fuse(s) and their accessories, connected to the load-end of service conductors to a building or designated area, and intended to constitute the main control and cutoff of the supply.
It is understood that raceways, fittings, and enclosures housing service conductors are also part of the service equipment. Meter socket enclosures are not considered service equipment. Meter enclosures do not have interrupting ratings, disconnecting means, or overcurrent protection.

Grounding and Bonding
Generally speaking, the difference between grounding and bonding is: Grounding is a direct connection to the earth to aid in removing damaging transient over-voltages due to lightning. The purpose of bonding is to ensure the electrical continuity of the fault current path, to provide the capacity and ability to conduct safely any fault current likely to be imposed and to aid in the operation of the over-current protection device. Properly bonding all metal parts within an electrical system helps ensure a low-impedance fault current path.
The issue of grounding and bonding confuses many inspectors. Due to its complexity, we highly recommend taking the free, online How to Perform Residential Electrical Inspections Course.

AFCI
AFCIs were developed in response to a need for equipment to sense when an arc fault was occurring. A combination type arc-fault circuit interrupter should be installed to provide protection at all branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways, and similar rooms or areas.

GFCI
GFCIs are designed to sense any difference in current between the supply on the ungrounded (hot) conductor in a circuit, and the grounded (neutral) conductor. Since the early 1970s, GFCIs have been required in an increasing number of damp and wet locations, and, more recently, this requirement has been extended to all receptacles in garages. Because they are safety devices, the home inspector should check every installed GFCI circuit and may advise the client of areas where they should also be fitted.

According to the Standards of Practice
II. The inspector shall describe:

- the main service disconnect's amperage rating, if labeled; and

- the type of wiring observed.

The inspection image above is of a 150-amp main service disconnect. The amperage rating was observed. The inspector described the rating in the inspection report.

The inspection image above is of the type of wiring observed during the inspection. The home inspector described the type of wiring in the inspection report as non-metallic cable. Most circuits in the modern North American home and light commercial construction are wired with non-metallic sheathed (NM) cable designated type (often referred to by the brand name "Romex"). This type of cable is the least expensive for a given size and is appropriate for dry indoor applications. Many people use the name Romex® when referring to type-NM cable. Romex® is a trademarked name that has come into common usage for referring to plastic-covered wires, but type NM just means "non-metallic" and also applies to other cable styles.

Type NM-B (non-metallic sheathed cable) may be used for both exposed and concealed work in normally dry locations at temperatures not to exceed 90°C (with ampacity limited to that for 60°C conductors) as specified in the National Electrical Code. NM-B cable is primarily used in residential wiring as branch circuits for outlets, switches, and other loads. NM-B cable may be run in air voids of masonry block or tile walls where such walls are not subject to excessive moisture or dampness.

Home Inspectors are Not Code Inspectors

Again, electrical inspections can be fairly complicated, especially in the case of older properties where there may be a variety of systems and wiring types, some of which would not meet current codes. However, home inspectors do not perform code inspections. They are only required to evaluate the condition of the systems and report observed deficiencies that pose a danger to the property or its occupants. Home inspectors should inspect the house without direct reference to the age of the house.

For example, GFCIs and AFCIs were required by construction standards and residential code in various times in the past. Because a home inspector is not a code enforcement officer or code inspector, the home inspector need not be concerned with when the GFCI should have been installed or not in the house. If a home inspector observes a lack of GFCIs in the house, that is a defect that should be reported by the home inspector. Another example would be smoke detectors. Code requirements for smoke detectors have changed over the years. Years ago, only a few detectors were required in a house. Presently, there are many areas in a house that smoke detectors should exist, regardless of whether the home is newly built or 50 years old. Smoke detectors, just like GFCIs, saves lives. Pay no attention to "grandfathering" excuses provided by homeowners, contractors, or real estate agents.

Inspection Process

It's ultimately up to the home inspector to develop their own inspection process. The initial steps of the inspection sometimes start outside with an inspection of the service supply from the utility company's equipment. The inspection then may follow the attachment to the house structure, the service entrance cables, the electric meter, the main disconnect, and the connection to the main distribution panel. The objective of the home inspector is to check everything that is readily accessible and observable and to document indications of observed deficiencies in the components.

Visual inspection of the service panel or panels may come next in the process. The home inspector is not required to remove the electrical panel's cover (called the "dead front") from the accessible main panel and any sub-panels. If the inspector decides to exceed the Standards of Practice and removes the cover, the inspector might look at the condition of the

panel, breakers or fuses, panel interior, and the attachment of branch circuit wiring, and determine what the materials are that are used in the electrical system.
In some cases, the inspector may find solid branch aluminum circuit wiring that may require further evaluation by a qualified electrician. You may find that there were renovations at the house and newer wiring installed by homeowners, which would result in a condition that may be unsafe. All electrical wiring should be conducted by an electrician and inspected to meet code requirements, and that is far beyond the scope of a home inspector.

According to the Standards of Practice
III. The inspector shall report as in need of correction:

- deficiencies in the integrity of the service-entrance conductors' insulation, drip loop, and vertical clearances from grade and roofs;
- any unused circuit-breaker panel opening that was not filled;
- the presence of solid conductor aluminum branch-circuit wiring, if readily visible;
- any tested receptacle in which power was not present, polarity was incorrect, the cover was not in place, the GFCI devices were not properly installed or did not operate properly, evidence of arcing or excessive heat, and where the receptacle was not grounded or was not secured to the wall; and
- the absence of smoke and/or carbon monoxide detectors.

The inspection image above is of an inspector touching the service entrance conductor and checking its condition.

Overhead Wires

Overhead wires from the street should be higher than 10 feet above the ground, not in contact with tree branches or other obstacles, and not reachable from nearby windows or other accessible areas. The wires should be securely attached to the building and have drip loops where they enter the weatherhead. Wires should not be located over swimming pools.
Aluminum
Solid conductor aluminum branch wire was installed in houses primarily during the 1960s and early 1970s and is a potential fire hazard. According to the U.S. Consumer Product Safety Commission, fires have been caused by the use of aluminum wiring in homes.

According to the Standards of Practice
IV. The inspector is not required to:

- insert any tool, probe, or device into the main panelboard, sub-panels, distribution panelboards, or electrical fixtures.
- operate electrical systems that are shut down.
- remove panelboard cabinet covers or dead fronts.
- operate or re-set over-current protection devices or overload devices.
- operate or test smoke or carbon-monoxide detectors or alarms.
- inspect, operate or test any security, fire or alarm systems or components, or other warning or signaling systems.
- measure or determine the amperage or voltage of the main service equipment, if not visibly labeled.
- inspect ancillary wiring or remote-control devices.
- activate any electrical systems or branch circuits that are not energized.
- inspect low-voltage systems, electrical de-icing tapes, swimming pool wiring, or any time-controlled devices.
- verify the service ground.
- inspect private or emergency electrical supply sources, including, but not limited to: generators, windmills, photovoltaic solar collectors, or battery or electrical storage facility.
- inspect spark or lightning arrestors.
- inspect or test de-icing equipment.
- conduct voltage-drop calculations.
- determine the accuracy of labeling.
- inspect exterior lighting.

Additional Notes
In all cases, the electrical inspection is a visual one, and the inspector should not put themselves or the client in any danger while inspecting the house. To that end, the inspector is not required to insert any tools or measuring devices into electrical panels. Systems or circuits that are turned off at the time of inspection should not be re-energized, as they may have been shut down due to existing faults.
Operating breakers, disconnects, or removing fuses is also not recommended, as this can disrupt the operation of the homeowner's electronic devices, including clocks, alarm systems, or computer equipment.

Low-voltage systems need not be inspected and are excluded from the Standards of Practice. Such systems include alarm equipment, intercoms, some lighting circuits, doorbells, and irrigation systems.
Similarly, lightning arrestors, power generators, and any electrical storage devices are excluded from these Standards, as are swimming pools and exterior spa systems. Some inspectors have received specialist training to evaluate these systems and charge accordingly. While the inspector should report obvious deficiencies in the labeling of fuses and breakers, the inspector is not required to evaluate every circuit and its labeling for accuracy, nor is it possible to fully evaluate hidden systems, such as grounding rods, and their continuity. It is also well beyond the scope of most inspections to give an opinion as to the adequacy of the systems to support future usage.

Quiz #9: Electrical

The inspector is not required to inspect the _____.

- fire alarm (correct)
- main disconnect
- type of wiring observed
- presence of smoke and carbon-monoxide detectors
- service grounding

Question Rationale

Fire alarms are excluded.

The home inspector is required to inspect _____ ground-fault circuit interrupter receptacles and circuit breakers observed and deemed to be GFCIs.

- all (correct)
- some
- most
- hidden
- a representative number of

Question Rationale

All GFCIs should be inspected.

The overhead service conductors are _____ the scope of a home inspection.

- within (correct)
- beyond
- not included in
- excluded from

Question Rationale

Overhead service conductors are part of a home inspection.

T/F: The home inspector may be required to insert a tool into the main panelboard.

- False (correct)
- True

Question Rationale

Inserting a tool into a panel is never required.

The home inspector must inspect _____.

- the electric meter and base (correct)

- ancillary wiring
- remote-control devices
- swimming pool wiring

Question Rationale

The electric meter and base are within the scope of a home inspection.

The main service disconnect is _____ the scope of a home inspection.

- within (correct)
- beyond
- excluded from
- not within
- not part of

Question Rationale

The disconnect is part of a home inspection.

Which is not within the scope of a home inspection?

- remove panelboard cabinet covers (correct)
- the type of wiring observed
- the presence of solid conductor aluminum branch-circuit wiring
- the absence of smoke and/or carbon monoxide detectors

Question Rationale

Removing the cover of a panel is not required.

Which of the following tool may be used during the electrical inspection?

- GFCI tester (correct)
- voltmeter
- wire calipers
- hammer
- wire splicer

Question Rationale

GFCI testers are used by home inspectors.

If a breaker is found in the "off" position, the home inspector should _____.

- leave it as is and report upon that breaker's position (correct)
- turn it back "on"
- switch it back on and then back off
- put tape on top of it so that it's not used
- identify it as a material defect

Question Rationale

Don't touch a turned off breaker, and then report upon its position.

Breakers _____ be operated to check that they re-set properly.

- should not (correct)
- should

Question Rationale

Don't operate breakers.

The following is not within the scope of a home inspection:

- verifying the service ground (correct)

- GFCIs
- using the AFCI test button
- a representative number of switches
- drip loops

Question Rationale

A home inspector is not required to verify the service ground.

The main service disconnect's amperage rating, _____, should be reported.

- if labeled (correct)
- no matter what
- even if you have to guess
- including the voltage and wattage
- including the operation of the disconnect itself

Question Rationale

Only if it's labeled must a rating be reported.

Deficiencies in the integrity of the service-entrance conductors' insulation must be reported as _____.

- in need of correction (correct)
- in need of monitoring
- a minor thing
- a cosmetic defect

Question Rationale

It's a correction that's needed.

Any unused circuit-breaker panel opening that was not filled should be reported as in need of _____.

- correction (correct)
- monitoring
- improvement
- leaving alone
- a plumber

Question Rationale

Correction is needed with this defect.

If solid conductor aluminum branch-circuit wiring is observed during a home inspection, the inspector should report that as a defect that needs to be _____.

- corrected (correct)
- monitored
- switched for copper
- ignored

Question Rationale

Observed solid aluminum circuit-branch wiring is a defect that requires correction.

If a home inspector tests/inspects a receptacle, and it has reversed polarity, the inspector should _____

- report it as in need of correction (correct)
- report it as in need of monitoring

- report it as in need of improvement
- report it as a material defect
- don't say anything

Question Rationale

It's in need of correction according to the standards.

T/F: The home inspector is required to determine the accuracy of the breaker labeling and identification.

- False (correct)
- True

Question Rationale

This is not required according to the standards.

Video: Section 3.8 Fireplace

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.

Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.

This is the fireplace section of the Internet G Home Inspection Standards Practice course. Now, again, use this video as supplementary to going through the course. We recommend opening it up in a new window, playing it as you go along through the course content.

Now I know what you're asking. Fireplaces?

I live in Florida. There are no fireplaces. Well, there are some. Not all houses have fireplaces, but many do. In certain climates and geographical areas, fireplaces are very common. If a fireplace exists in a house, there are a few things a home inspector is required to inspect. There are many things that a home inspection does not include, such as the interior chimney flu liner.

Each fireplace and flu in a house should be inspected by a certified chimney sweep every year, and that recommendation should be made by a home inspector to their client. And we actually have a how to inspect fireplaces, stoves, and chimneys course, which is a good course for all home inspectors to take because we we talk about many other things like the connection pipes, the vent connection pipes.

According to the standards of practice, what are you required to inspect? There are a few things.

The inspector shall inspect readily accessible and visible portions of the fireplaces and chimneys.

You shall inspect lintels of the fireplace openings, damper doors by opening and closing them, if readily accessible and manually operable.

And the inspector is required to inspect clean outdoors and frames.

The non combustible clean outdoors and frames.

So if you're inspecting a chimney, chimneys should project at least two feet above the highest part of a pitched roof and anything else that is within ten feet.

A chimney should project at least three feet from its penetration from the roof, and that's a required minimum height that may vary slightly.

And unlined chimneys, chimneys with no interior flue liner, are hazardous, and they should be further evaluated by a chimney sweep. That's a major defect.
In this inspection image taken during a home inspection of a chimney, this is a concrete cap on top of a masonry chimney that is in poor condition, as you can see. The cap is a defect. It's deteriorated and cracked into many pieces.
And this condition is prone to water penetration into the chimney structure, which could cause more damage.
Correction and further evaluation from a certified chimney sweep is recommended.
Chimney cap. Masonry chimneys should have a cap made of stone, metal, or concrete with a drip edge. And the cap should be sloped to shed water away from the top.
Lintel. The lintel is located over the fireplace opening and supports the masonry above. It must be made of non combustible material.
The damper.
It's located above the fire and is used to control the combustion and prevent conditioned room air from escaping up the flue.
Fireplaces really aren't energy efficient. They're nice to have and look at, but terrible with energy.
The damper must be made of a ferrous material.
The damper must be operable from the room containing the fireplace.
You can have a damper at the top of the chimney near the cap.
But there should be a chain, a wire, and some kind of handle at the bottom.
The inspection image here is of a damper door that was open and closed manually by the home inspector during the home inspection. The inspector recommended a chimney sweep to clean and inspect further the fireplace and chimney sys system. As you can tell, there's, a lot of soot and a bit of creosote built up.
In this illustration, you can see there there is a, a concrete slab for the fireplace hearth inside the fireplace. And with inside the fireplace, there's a an ash dump. That's a metal cast iron, door. You open it up and you dump the ashes in there. It goes into the ash pit.
Now to clean that out, it's usually from the outside.
Sometimes it's in the basement. Usually from the outside, you can find a clean out door.
The clean out for an ash dump must be made of ferrous metal or a masonry door and frame built to stay tightly closed, non combustible.
An An access for the clean outdoors should be provided and made readily available available so that the removal of ashes does not create a hazard, a fire hazard within the house.
According to the standards of practice, the inspector shall describe the type of fireplace.
Home inspectors may describe the type of fireplace to be either commonly a masonry fireplace or a factory built fireplace, which is basically made out of metal.
Factory built or prefabricated fireplaces are found in many homes because they are less expensive to install than masonry fireplaces, and they come in a wide range of styles.
Some factory built fireplaces have zero clearance requirements to combustibles, which means that the house wooden framing can come in contact or be very close to being in contact with the fireplace components.
The this inspection image taken during a home inspection is of a wood burning factory built fireplace.

A masonry chimney has its own footing and is built in a way such that the chimney provides no support to nor receive support from the house structure. Sometimes you'll find that the two are integrated with each other, even strapped to each other.
If you find that, sometimes someone has come by and tried to support a leaning chimney because the chimney's foundation, the masonry foundation has settled. That's not a good condition.
So they really should be next to each other, but not supporting each other in any way. The chimney footer may be connected to the house foundation and footing, and you can inspect that while a home is being built.
According to the standards of practice, the inspector shall report as a need of correction, evidence of joint separation, damage or deteriorated deterioration of the hearth, hearth extension, or chambers.
The inspector shall report as in need of correction manually operated dampers that did not open and close.
A lack of smoke detectors in the same room as the fireplace, a lack of carbon monoxide detectors in the same room as the fireplace, and clean outs not made of metal, precast cement, or other non combustible materials.
This inspection image is of a masonry wood burning fireplace in a house with a hearth and surround. Very good.
To look for evidence of joint separation, damage, or deterioration of the hearth, the home inspector in this inspection image above takes a close look at the components of the fireplace. The inspector touches the components while taking an inspection image.
The inspection image here is of the hearth extension in front of the fireplace opening.
So the hearth is used a lot. That's a term. The hearth is actually inside and outside. So the hearth extension is the part outside the fireplace opening.
The width of a brick could be, in this picture, three and a half to three and five eighths inches. The inspector may multiply the width by the number of rows of bricks in order to estimate the size of the hearth and hearth extension.
According to standards, if the fireplace opening is large, six square feet or bigger, the hearth extension in front of the opening should be at least twenty inches in length, and that's from the two thousand eighteen International Residential Code, section one zero zero one.
According to these standards, if the fireplace opening is large, six square feet and bigger, the hearth extension on each side of the opening should be at least twelve inches in length. And that's in the same IRC section two thousand eighteen, section one zero zero one.
Here's an inspection image of the fireplace damper door, which is manually opened and closed by the inspector. If the damper does not open or close properly, that's a defect that must be corrected and further evaluated.
A lack of a smoke detector and carbon monoxide detector, a lack of them, an absence of them in the same room as the fireplace is a defect.
And this inspection image is of an old smoke detector. Any smoke detector that's yellow in color is probably in need of correction, replacement.
Cleanouts and ash dumps should be inspected. They should be made of metal or non combustible materials. The inspection image above has the ashes and debris inside the fireplace, and, it was documented in the inspection report as an inspection restriction.

According to the standards of practice, the inspector is not required to inspect the flue or vent system, inspect the interior chimneys or flues, fire doors or screens, seals or gaskets, or mantles.
Determine the need for a chimney sweep, although many home inspectors just make that recommendation automatically within their software.
The inspector is not required to operate gas fireplace inserts or light pilot flames. I was asked to do that once. I'll never do that again.
The inspector is not required to determine the appropriateness of any inspect automatic fuel fed devices like, a pellet stove. I had a pellet stove once. That's not part of a home inspection. A home inspector is not required to inspect combustion and or makeup air devices.
Inspect heat distribution assists, whether gravity controlled or fan assisted. Ignite or extinguish fires.
Determine the adequacy of drafts or draft characteristics.
Not required to move fireplace inserts, stoves, or firebox contents, not required to perform a smoke test, dismantle or remove any components, perform some type of, National Fire Protection Association NFPA style inspection, or perform a phase one fireplace or chimney inspection. You're just a home inspector.
This inspection image here is of the interior flue of the heating system's chimney stack. The interior flue is not within the scope of a home inspection.
A home inspector is not required to inspect the interior flue, flue components, flue opening, the vent connection pipe, and the interior chimney system at all. It's up to the homeowner to have that interior flu and chimney and connection or connector piping maintained and inspected by a qualified professional. The interior flue and vent system are not within the scope of a home inspection.
Many inspectors may recommend a chimney sweep, but the home inspector is not required to determine the need for a chimney sweep.
Many inspectors will automatically recommend that the chimney be cleaned, inspected further, and swept by a certified chimney sweep during a home inspection as a routine recommend recommendation.
Gas fireplaces.
Do not operate any gas fireplace or fuel burning appliance, insert, or device. Not required to. It's not required by the standards of practice. A home inspector may recommend that the homeowner demonstrate how these devices and appliances work.
Pilot flame. Never ignite, turn on, light a pilot flame.
Never ignite or extinguish a fire in a fireplace.
Combustion air. A home inspector is not required to inspect the combustion air or makeup air appliances device or make calculations or measurements of such conditions. Home inspector a home inspector is not required to inspect, measure, test or determine draft, drafts, or draft characteristics.
A home inspection is restricted by wood, soot, and ashes observed at a fireplace during a home inspection.
The inspection image here is of the fireplace hearth. That's the interior floor surface of the fireplace, which this Home Inspector here is touching.

That's the hearth. And the fireplace hearth extension is the outside part in front of the fireplace opening, and that's the red brick. So the dark and the black brick that the home inspector is touching is the hearth, fireplace hearth.
And the fireplace hearth extension is the bricks that are red or cleaner.
The National Fire Protection Association is an industry leader for more information and knowledge related to fire, fireplaces, and related hazards. A home inspector is not. A home inspection does not include a NFPA or phase one inspection of a fireplace.
Determining the overall soundness, performance, safety, or efficiency of a fireplace is beyond the scope of a home inspection, a home inspection report should recommend annual fireplace and chimney inspections and sweeps just as a courtesy.
And that is the fireplace section of the Internet g home inspection standards practice course. Let's go to the next section.

Section 3.8, Fireplace

Audio
Not all houses have fireplaces, but many do. In certain climates and geographical areas, fireplaces are common. If a fireplace exists in a house, there are a few things a home inspector is required to inspect. There are many things that a home inspection does not include, such as the interior chimney flue liner. Each fireplace and flue in a house should be inspected by a certified chimney sweep every year, and that recommendation should be made by a home inspector to their client.
You may be interested in taking the free, online How to Inspect Fireplaces, Stoves, and Chimneys Course.

According to the Standards of Practice
I. The inspector shall inspect:

- readily accessible and visible portions of the fireplaces and chimneys;
- lintels above the fireplace openings;
- damper doors by opening and closing them, if readily accessible and manually operable; and
- cleanout doors and frames.

Chimney
If you're inspecting a chimney, chimneys should project at least 2 feet above the highest part of a pitched roof and anything else that is within 10 feet. A chimney should project at least 3 feet from its penetration from the roof (required minimum heights may vary slightly). Unlined chimneys are hazardous and they should be further evaluated by a chimney sweep.

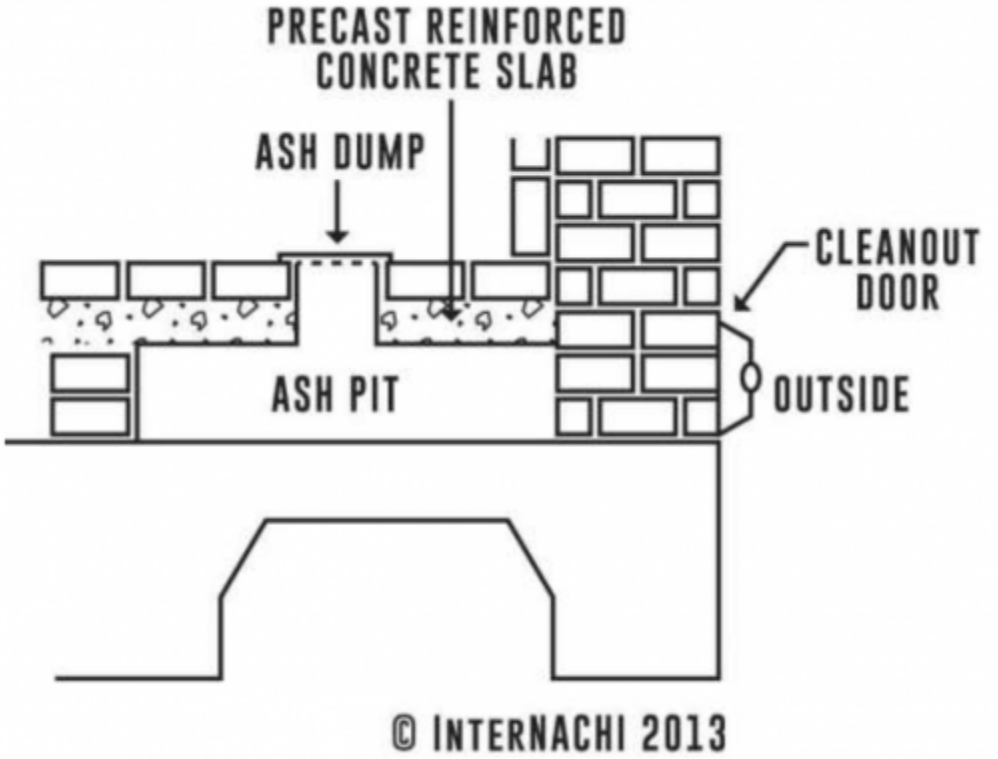
The inspection image above is of a concrete cap on top of a masonry chimney that is in poor condition. The cap is a defect. It is deteriorated and cracked into pieces. This is prone to water penetration into the chimney structure, which could cause damage. Correction and further evaluation by a certified chimney sweep is recommended.

Chimney Cap
Masonry chimneys should have a cap made of stone, metal, or concrete with a drip edge. The cap should be sloped to shed water away.
Lintel
The lintel is located over the fireplace opening and supports the masonry above. It must be made of non-combustible material.

Damper

The damper is located above the fire and is used to control the combustion and prevent conditioned room air from escaping up the flue. The damper must be made of a ferrous metal. The damper must be operable from the room containing the fireplace. In the inspection image above, the damper door opened and closed manually by the inspector. The inspector recommended a chimney sweep to clean and inspect further the fireplace and chimney system.

Cleanout



The cleanout for an ash dump must be made of ferrous metal, or a masonry door and frame built to stay tightly closed. An access for the cleanout door should be provided and made readily available so that the removal of ashes does not create a hazard.
According to the Standards of Practice
II. The inspector shall describe:

- the type of fireplace.

Masonry and Factory-Built
Home inspectors may describe the type of fireplace to be either a masonry fireplace or a factory-built fireplace.

Factory-built or pre-fabricated fireplaces are found in many homes because they are less expensive to install than masonry fireplaces, and they come in a wide range of styles. Some factory-built fireplaces have a zero clearance requirement to combustibles, which means that the house's wooden framing can come into contact with the fireplace's components. The inspection image above is of a wood-burning factory-built fireplace.

A masonry chimney has its own footing and is built in a way such that the chimney provides no support to, nor receives support from, the house structure. The chimney footer may be connected with the house foundation and footing.

According to the Standards of Practice

III. The inspector shall report as in need of correction:

- evidence of joint separation, damage or deterioration of the hearth, hearth extension or chambers;
- manually operated dampers that did not open and close;
- the lack of a smoke detector in the same room as the fireplace;
- the lack of a carbon-monoxide detector in the same room as the fireplace; and
- cleanouts not made of metal, pre-cast cement, or other non-combustible material.

The inspection image above is of a masonry wood-burning fireplace in a house.

To look for evidence of joint separation, damage or deterioration of the hearth, the inspector in the inspection image above takes a close look at those components of the fireplace. The inspector touches the components while taking an inspection image.

The inspection image above is of the hearth extension in front of the fireplace opening. The width of a brick could be 3 and 1/2 to 3 and 5/8 inches. The inspector may multiply the width by the number of rows of bricks in order to estimate the size of the hearth. According to standards, if the fireplace opening is large (6 square feet and bigger), the hearth extension in front of the opening should be at least 20 inches in length (2018 IRC Section 1001). According to standards, if the fireplace opening is large (6 square feet and bigger), the hearth extension on each side of the opening should be at least 12 inches in length (2018 IRC Section 1001).

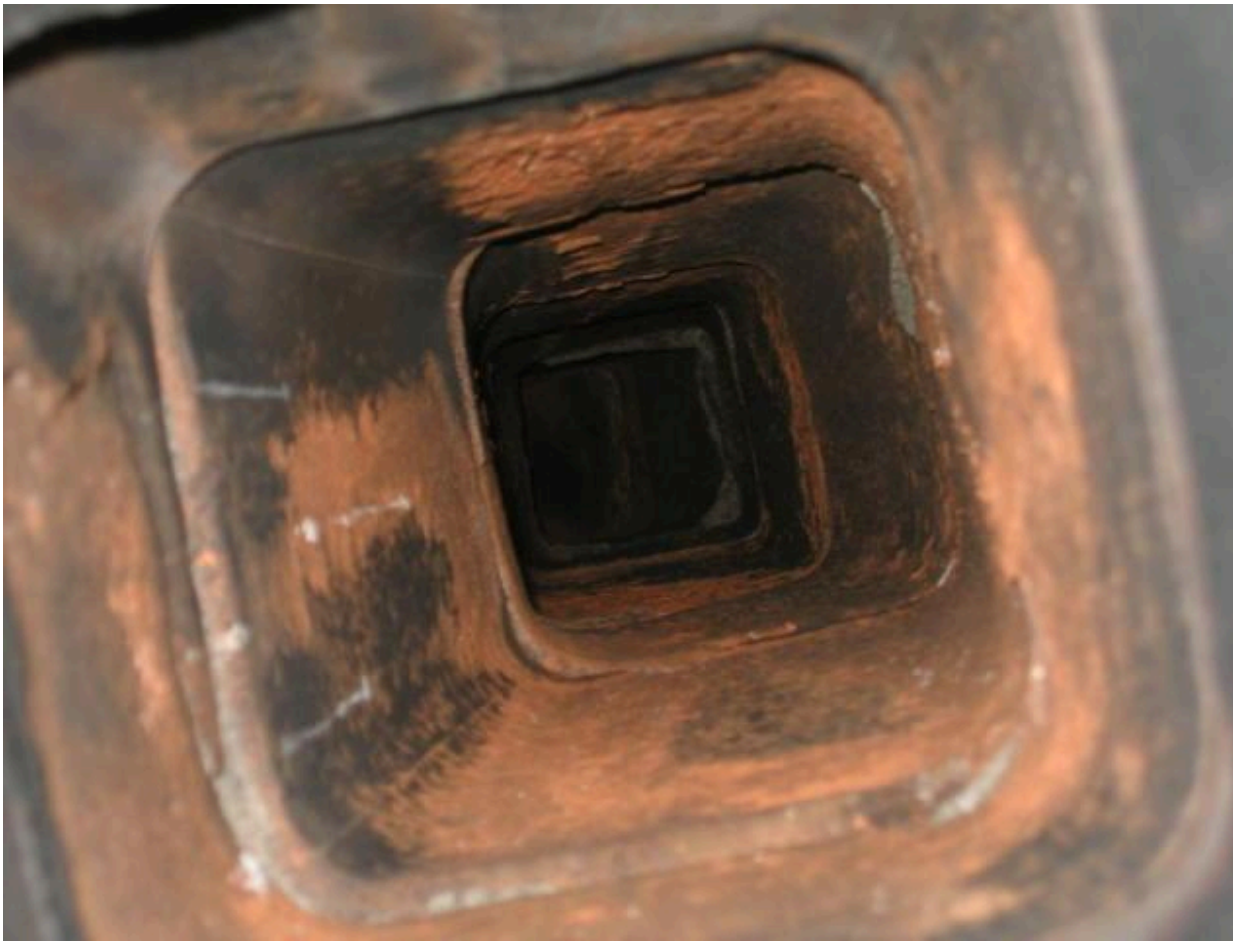
The inspection image above is of the fireplace damper door, which was manually opened and closed by the inspector. If the damper does not open or close properly, that is a defect that must be corrected.

The lack of a smoke detector and carbon-monoxide detector in the same room as the fireplace is a defect. The inspection image above is of an old smoke detector.

Cleanouts and ash dumps should be inspected. They should be made of metal or non-combustible materials. In the inspection image above, the ashes and debris inside the fireplace was documented as an inspection restriction.

According to the Standards of Practice
IV. The inspector is not required to:

A. inspect the flue or vent system.
B. inspect the interior of chimneys or flues, fire doors or screens, seals or gaskets, or mantels.
C. determine the need for a chimney sweep.
D. operate gas fireplace inserts.
E. light pilot flames.
F. determine the appropriateness of any installation.
G. inspect automatic fuel-fed devices.
H. inspect combustion and/or make-up air devices.
I. inspect heat-distribution assists, whether gravity-controlled or fan-assisted.
J. ignite or extinguish fires.
K. determine the adequacy of drafts or draft characteristics.
L. move fireplace inserts, stoves or firebox contents.
M. perform a smoke test.
N. dismantle or remove any component.
O. perform a National Fire Protection Association (NFPA)-style inspection.
P. perform a Phase I fireplace and chimney inspection.



The inspection image above is of the interior flue of the heating system's chimney stack. The interior flue is not within the scope of a home inspection.

Flue, Interior, and Sweep

A home inspector is not required to inspect the interior flue, flue components, flue opening, the vent connector pipe, and the interior chimney system at all. It is up to the homeowner to have that interior flue and chimney and connection/connector piping maintained and inspected by a qualified professional. The interior flue and vent system are not within the scope of a home inspection.

Many inspectors may recommend a chimney sweep, but the home inspector is not required to determine the need for a chimney sweep. Many inspectors will automatically recommend that the chimney be cleaned, inspected further, and swept by a certified chimney sweep during a home inspection as a routine recommendation.

Gas Fireplace

Do not operate any gas fireplace or fuel-burning appliance, insert, or device. It's not required. A home inspector may recommend that the homeowner demonstrate how those items work.

Pilot Flame
Never ignite a pilot flame. Never turn on or ignite a flame. Never ignite or extinguish a fire in a fireplace.

Combustion Air
A home inspector is not required to inspect the combustion air or make-up air, appliances, devices, or make calculations or measurements of such conditions. A home inspector is not required to inspect, measure, test or determine draft, drafts, or draft characteristics.

Fireplace Wood and Ashes
A home inspection is restricted by wood, soot and ashes at a fireplace.

The inspection image above is of the fireplace hearth (interior floor of the fireplace), which the home inspector is touching, and the fireplace hearth extension (outside part in front of the fireplace opening).

NFPA and Safety
The National Fire Protection Association is an industry leader in information and knowledge related to fire, fireplaces, and related hazards. A home inspector is not. A home inspection does not include a NFPA or Phase 1 inspection of a fireplace. Determining the overall soundness, performance, safety, or efficiency of a fireplace is beyond the scope of a home inspection. A home inspection report should recommend annual fireplace and chimney inspections and sweeps.

Quiz #10: Fireplace

Which of the following types of fireplaces should be turned on by the inspector?

- none (correct)
- gas inserts
- coal fires
- wood fires
- wood pellet feeder

Question Rationale

Home inspector should not ignite anything at a fireplace.

The inspector _____ open and close the damper.

- should (correct)
- should not

Question Rationale

It's within the scope.

Inspectors _____ required to inspect hearth extensions.

- are (correct)
- are not

Question Rationale

It's within the scope.

Cleanout doors and frames are _____ the scope of a home inspection.

- within (correct)
- not within
- excluded from
- without

Question Rationale

It's within the scope.

The inspector _____ report a damaged lintel above the fireplace.

- should (correct)
- need not

Question Rationale

It's within the scope.

Masonry chimneys should have a cap made of stone, metal, or concrete with a _____.

- drip edge (correct)
- flag
- painted surface
- 10-year warranty
- easy removal portal

Question Rationale

Drip edge is needed at a cap.

The fireplace damper must be made of _____.

- a ferrous metal (correct)
- really nice wood
- oak

- cardboard
- aluminum

Question Rationale
Ferrous metal is required.
Home inspectors may describe the type of fireplace to be either a masonry fireplace or a _____ fireplace.

- factory-built (correct)
- really nice
- energy efficient
- combustion drafted
- very safe and sound

Question Rationale
The home inspector is required to describe the type of fireplace.
T/F: A lack of a smoke detector in the same room as the fireplace is a defect in need of correction.

- True (correct)
- False

Question Rationale
They go together.

Video: Section 3.9, Attic, Insulation, and Ventilation

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
And this is the attic insulation and ventilation section of the InterNACHI Home Inspection Standards and Practice course.
And, again, this is a supplemental video that you can watch while you go through the course content yourself.
And before we get to the content, the house is a system of interdependent parts. You should inspect the house as a system, where one part affects many other parts.
And I found this to be true when inspecting the attic insulation and ventilation.
Because you'll find that, any inspection of the attic and insulation is inherently tied to other systems and components such as the roof framing, the chimney, the electrical system, energy efficiency.
So, when you go up in the attic, for example, the amount of insulation in the attic, observed in the attic, let's say, on the attic floor, is tied to the heating and cooling system.
Because if there's a lack of insulation, the heating system could not be, maybe the occupants are complaining about the second floor being too cold in the wintertime because there's just a different climate zone on the second floor because of the lack of insulation.
And so the heating system will wear out sooner than later.
So those two can be tied to each other. So two systems can be interrelated, and it just happens to be that, the attic has a lot of good stuff, that you can check, especially the electrical wiring.

Electrical wiring can tell you a lot about the electrical panel downstairs. If the wiring in the attic is old, but the panel is brand new, with newer wiring, there's a bit of a renovation disconnect. Right? Something has been renovated, and you should, take a look for old components and new components.
So it's kind of interesting to go up into the attic. But you have to enter the attic space or any unfinished space when you're looking for insulation, ventilation, only if it's safe to do so.
And a lot of attics that you can crawl into have no platform, no walkway, no work area, no light.
So they they're dangerous.
And you don't want to slip and fall through a ceiling.
I have. It's not fun. So, please take InterNACHI safe practices for home inspectors course, and stay safe when entering these areas.
According to the standards of practice, the inspector shall inspect the insulation in unfinished spaces, including attics, crawl spaces, and foundation areas. Again, be safe and decide whether or not to enter those spaces.
The inspector shall inspect ventilation of unfinished spaces, including attics, crawl spaces, and foundation areas.
And you're required to inspect mechanical exhaust systems in the kitchen, bathrooms, and laundry area.
You are required, as a home inspector, to describe in your inspection report the type of insulation observed, the approximate average depth of insulation observed at the unfinished attic floor area or roof structure, And the inspector shall report as a need of correction, the general absence of insulation or ventilation in unfinished spaces.
Attic spaces.
The inspection of unfinished spaces includes attic spaces.
An attic is defined here as an unconditioned space between the roof and the ceiling or walls of the house's inhabited rooms.
In houses with pitched roofs, attics are usually partially or fully accessible.
In houses with low sloped roofs, you can barely get into them or not into them at all.
This inspection image is of an attic access panel in the ceiling of a bedroom closet.
The attic access panel was not insulated at all. The inspector recommended that the panel be insulated and weather stripping installed to help with preventing energy loss.
Ventilation.
Signs of inadequate ventilation could be rusting nails, wet or rotted roof sheathing, or excessive heat buildup in attics.
Adequate ventilation can be measured by calculating the ratio of the free area of all vents to the floor area, but a home inspection does not include this type of measurement or calculation.
Frankly, I just look for, on a pitched roof, soffit and ridge vents. That's the best.
If there is some other kind of mechanical vent, I'll try to turn it on. If it doesn't turn on, defect, it'll be in the report.
Ideally, soften and ridge is really the best for a pitched roof.
The inspection image here is of fiberglass insulation on the attic floor area and other things.

There was a lack of insulation installed with only several inches of thickness approximated by the home inspector.
The inadequate insulation thickness were was reported as a defect by the home inspector. The inspector also commented upon the observed defects at the insulated ducts. The ins insulation of the ducts were not installed properly at the connections. The ducts were damaged, and the duct was poorly supported, as you can see in that inspection image.
A sprayed foam insulation was observed by this inspector at the band rim joist areas located above the basement foundation wall.
There are types of insulation.
Every homeowner should know the type and the amount of insulation materials installed in their house.
And there are various types of insulation. The most common is fiberglass insulation.
For cold climate zones, the insulation faced with a vapor barrier should be installed face side down with the vapor barrier closest to the condition space.
Depth of insulation.
Insulation levels are specified by r value. R value is a measure of the insulation's ability to resist heat flow.
The higher the r value, the better the thermal performance of the insulation.
A recommended level for cold climate attic floors could be r forty, let's say, or about thirteen to fourteen inches, but it it depends on the type of insulation and the climate zone.
Home inspector is not required to determine the r value of the insulation observed.
Here's an inspection image, a blown in cellulose insulation, blown in and installed over fiberglass batt insulation.
At the eaves, there were baffles installed to help prevent insulation blocking the soffit vents.
There was a ridge vent installed at the top of this sloped roof built with engineered trusses.
And there wasn't a floor installed in the a floor installed in the attic space, so that was an inspection restriction.
Whenever there's no flooring installed in an attic space, I document that with a picture.
And I make sure I disclaim my inspection because that is a major safety issue.
Mechanical exhaust.
There's an article about inspecting the bathroom exhaust, the dryer exhaust, and the kitchen exhaust, and we recommend going through those articles. Remember, this course is all about teaching you the standards of practice. It isn't, to teach you how to perform a home inspection. So go to those three articles about how to inspect the bathroom exhaust, the dryer exhaust, and the kitchen exhaust.
Regardless of what kind of ventilation system may be installed for the rest of the house, exhaust fans are recommended in the bathrooms to remove excess moisture, cleaning, chemical fumes, etcetera.
The fan should be ducted to the outside of the home.
The clothes dryer must vent directly to the outdoors unless it is a ventless dryer equipped with a condensate drain, and it has to be listed and labeled as a ductless condensing dryer.
And regardless of what kind of ventilation system is installed for the rest of the house, an exhaust fan should be installed in the kitchen to exhaust moisture and odors associated with cooking.

According to the standards of practice, the inspector is not required to enter the attic or any unfinished spaces that are not readily accessible or where entry could cause damage or, in the inspector's opinion, pose a safety hazard.
You're not required to move, touch, or disturb insulation. You're not required to move, touch, or disturb vapor retarders.
You're not required to break or otherwise damage the surface finish or weather seal on or around access panels and covers.
You're not required to identify the composition or r value of insulation material.
You're not required to activate thermostatically operated or controlled fans, ventilation fans.
You're not required to determine the types of materials used in insulation, or wrapping of docks, pipes, jackets, or there is a wiring.
And you're not required to determine the adequacy of ventilation.
There are inaccessible areas.
Whether by accident or by design, many attic spaces are not accessible for inspection. For example, in finished attics, there may be areas where there is no attic access at all.
These should be reported as not accessible for your visual only inspection.
There may also be situations when, despite the presence of hatches and access panels, you you won't be able to proceed with your inspection, such as when the attic is full of stored items, panels are sealed and decorated over, the access is too small for the inspector to get through, or the area has no available flooring for working or walking.
The important issue here is to report how the area was inspected and what the limitations were.
The inspector is not required to remove insulation or insulation components to evaluate systems, as these are considered fixed materials, the insulation properties, the material type, and r value cannot always be accurately determined.
And that is the section for attic insulation and ventilation. And there is a quiz right after.
Enjoy the quiz.

Section 3.9: Attic, Insulation & Ventilation
Section 3.9, Attic, Insulation & Ventilation

Any inspection of the attic and insulation is inherently tied to other systems, such as the roof framing, the chimney, and the electrical system. The inspector should enter the attic space only if it is safe to do so. A lot of unfinished attics have no flooring, and many inspectors have, at some time, slipped and damaged a ceiling. Take InterNACHI's Safe Practices for the Home Inspector course.
Audio

According to the Standards of Practice
I. The inspector shall inspect:

A. insulation in unfinished spaces, including attics, crawlspaces and foundation areas;
B. ventilation of unfinished spaces, including attics, crawlspaces and foundation areas; and

C. mechanical exhaust systems in the kitchen, bathrooms and laundry area.

II. The inspector shall describe:

A. the type of insulation observed; and

B. the approximate average depth of insulation observed at the unfinished attic floor area or roof structure.

III. The inspector shall report as in need of correction:

A. the general absence of insulation or ventilation in unfinished spaces.

Attic Spaces

The inspection of unfinished spaces includes attics. An attic is defined here as an unconditioned space between the roof and the ceiling or walls of the house's inhabited rooms. In houses with pitched roofs, attics are usually partially or fully accessible. In houses with low-slope roofs, they may be inaccessible or virtually nonexistent.

The inspection image above is of an attic access panel in the ceiling of a bedroom closet. The attic access panel was not insulated. The inspector recommended that the panel be insulated and weather stripping installed to help with preventing energy loss.

Ventilation

Signs of inadequate ventilation are rusting nails (in roof sheathing, soffits, and drywall ceilings), wet or rotted roof sheathing, and excessive heat buildup in attics. Adequate attic ventilation can be measured by calculating the ratio of the free area of all vents to the floor area, but a home inspection does not include this type of measurement and calculation.

The inspection image above is of the fiberglass insulation on the attic floor area. There was a lack of insulation installed with only several inches of thickness approximated. The inadequate insulation thickness was reported as a defect by the inspector. The inspector also commented upon the observed defects at the insulated ducts. The insulation of the ducts were not installed properly at the connections, the ducts were damaged, and the duct were poorly supported.

A sprayed foam insulation was observed by the inspector at the band/rim joist areas located above the basement foundation wall.

Types of Insulation

Every homeowner should know the amount and type of insulating material installed in the house. There are various types of insulation. The most common is fiberglass insulation. For cold climate zones, the insulation faced with a vapor barrier should be installed face-side down with the vapor barrier closest to the conditioned space.

Depth of Insulation

Insulation levels are specified by R-value. R-value is a measure of insulation's ability to resist heat flow. The higher the R-value, the better the thermal performance of the insulation. A recommended level for cold-climate attic floors could be R-40 or about 13 to 14 inches, but it depends on the type of insulation and the climate zone. A home inspector is not required to determine the R-value of the insulation observed.

The inspection image above is of blown-in cellulose insulation over fiberglass batt insulation. At the eaves, there were baffles installed to help prevent insulation blocking the soffit vents. There was a ridge vent installed at the top of this sloped roof built with engineered trusses. There wasn't a floor installed in the attic space, so the inspection was restricted.

Mechanical Exhaust

Inspecting the Bathroom Exhaust is a good inspection article. Regardless of what kind of ventilation system may be installed for the rest of the house, exhaust fans are recommended in the bathrooms to remove excess moisture, cleaning chemical fumes, etc. The fan should be ducted to exhaust outside of the home.

Inspecting the Dryer Exhaust is a good inspection article. The clothes dryer must vent directly to the outdoors, unless it is a ventless dryer equipped with a condensate drain (a listed and labeled ductless condensing dryer).

Inspecting the Kitchen Exhaust is a good inspection article. Regardless of what kind of ventilation system is installed for the rest of the house, an exhaust fan should be installed in the kitchen to exhaust moisture and odors associated with cooking.

Please refer to InterNACHI's free, online library of inspection articles.

According to the Standards of Practice

IV. The inspector is not required to:

A. enter the attic or any unfinished spaces that are not readily accessible, or where entry could cause damage or, in the inspector's opinion, pose a safety hazard.
B. move, touch or disturb insulation.
C. move, touch or disturb vapor retarders.

D. break or otherwise damage the surface finish or weather seal on or around access panels or covers.
E. identify the composition or R-value of insulation material.
F. activate thermostatically operated fans.
G. determine the types of materials used in insulation or wrapping of pipes, ducts, jackets, boilers or wiring.
H. determine the adequacy of ventilation.

Inaccessible Areas
Whether by accident or design, many attic spaces are not accessible for inspection. For example, in finished attics, there may be areas where there is no access at all. These should be reported as not accessible for visible inspection.
There may also be situations when, despite the presence of hatches and access panels, the inspector will not able to proceed with his inspection, such as when the attic is full of stored items, panels are decorated over, the access is too small for the inspector to get through, or the area has no available flooring. The important issue here is to report how the area was inspected and what the limitations were.
The inspector is not required to remove insulation or insulation components to evaluate systems, as these are considered fixed materials. The insulation properties (material type and R-value) cannot always be accurately determined.

Quiz #11: Attic, Insulation & Ventilation

The inspector should inspect insulation in unfinished spaces, including _____.

- attics (correct)
- wall cavities
- carpeting
- inaccessible attic spaces
- windowpanes

Question Rationale
The attic spaces, if accessible, are part of the standards.
The inspector should inspect insulation in unfinished spaces, including attics, _____ and foundation areas.

- crawlspaces (correct)
- underground areas
- inaccessible attic spaces
- windowpanes

Question Rationale
The crawlspace has to be accessible and safe for the inspector.
T/F: The home inspector is required to inspect the ventilation of unfinished spaces.

- True (correct)
- False

Question Rationale
Unfinished spaces are part of a home inspection.
Signs of inadequate ventilation are _____ nails.

- rusting (correct)
- long
- short
- painted

Question Rationale

Rusting nails is an indication of inadequate ventilation.

Insulation levels are specified by _____-value.

- R (correct)
- PR
- INV
- U

Question Rationale

R-value is related to insulation thickness.

The higher the R-value, the _____ the thermal performance of the insulation.

- better (correct)
- worse

Question Rationale

More insulation thickness, the more R-value.

The clothes dryer must vent directly to the _____.

- outdoors (correct)
- interior
- indoors
- attic spaces
- unfinished attic spaces

Question Rationale

Mechanical exahusts must terminate outside.

The type of insulation observed must be _____.

- described (correct)
- illustrated
- photographed
- sampled
- tested

Question Rationale

The home inspection report must include a description of the insulation type.

The inspector should describe the _____ of insulation observed at the unfinished attic floor.

- approximate average depth (correct)
- exact depth
- measured exact depth
- measured average depth
- approximate weighted depth

Question Rationale

The home inspector can simply approximate the average depth.

The general absence of insulation or ventilation in unfinished spaces should be reported as in need of _____.

- correction (correct)
- monitoring
- improvement
- replacement

Question Rationale

The defect should be reported as in need of correction.

The home inspector _____ to move, touch or disturb insulation, if needed.

- is not required (correct)
- is required

T/F: If there is a roof vent fan installed, the home inspector is required to activate the thermostatically operated fan.

- False (correct)
- True

Question Rationale

It is not required.

The home inspector _____ to determine the adequacy of ventilation.

- is not required (correct)
- is required

Question Rationale

It is not required.

T/F: The home inspector must enter all attic spaces.

- False (correct)
- True

Question Rationale

Not required.

Video: Section 3.10, Doors, Windows, and Interior

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.

Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.

And this is the section about doors, windows, and the interior of the Interaction Home Inspection Standards of Practice course. The course is designed to teach you about the standards of practice. If you want to learn how to perform an inspection, we have courses in a certificate program that's nationally accredited by the US Department of Education, for that purpose. So we're in the doors, windows, and interior section. And again, this is a video, a supplementary video that you can play, while you're going through the course content yourself.

The most common problem that homeowners experience is water intrusion in the form of outside water penetration and plumbing leaks.

So when you're doing the interior section of the home inspection, that's what I'm looking for. The interior doors and windows really takes me about ten to fifteen minutes for the whole house, because it's basically a representative number of everything.
And I'm looking at the floor, walls, and ceilings, and I'm really looking for watermarks, observed indications of water intrusion.
So inside the house, home inspectors should look for signs of water intrusion or material deterioration that may indicate underlying problems in the structural, electrical, plumbing, or HVAC system. Consider getting trained and certified in the application of infrared thermography.
Why?
Because it helps you perform a better inspection.
Thermal imaging is an excellent tool to use in the search for water intrusion and also insulation inspections.
Fortunately, InterNACHI has a nationally accredited course and training and certification program and logo that you can get, when you become infrared certified. And it's a free online program for members. Let me take you there, see how it looks. And there's the logo.
So you become infrared certified, and you get a really nice certificate, and we have other resources for you as well.
According to the standards of practice, the inspector shall inspect a representative number. All the windows and doors? No. A representative number of doors and windows.
How? By opening and closing them. Do you have to tilt them? No. Sometimes I do.
But you have to open and close them.
The inspector shall inspect the floors, walls, and ceilings.
The inspector shall inspect stairs, steps, landing, stairways, and ramps.
You have to inspect the railings, guards, and handrails.
And garage vehicle doors and the operation of garage vehicle door openers using normal operating controls.
The inspectors shall describe a garage vehicle door as manually operated or installed with a garage door opener. It's pretty easy to do.
And the inspector shall report as a need of correction, improper spacing between intermediate balusters, spindles, and rails for steps, stairways, guards, and railings.
The inspector shall report as a need of correction, photoelectric safety sensors that did not operate properly. And any window that was obviously fogged or displayed other evidence of a broken seal.
Windows and doors. Home inspectors open and close windows and doors, but not all of them. Only a representative number of windows and doors are required to be open and closed. So, it's possible that a window has a defect, but it won't appear in the inspection report. How's that possible?
It's because a defect must be both observed and deemed to be or considered to be a defect in order for it to be documented.
If a home inspector doesn't see a defect, it's not going to be in the inspection report.
Home inspector is required to report as a need of correction when a window is fogged. Some home inspectors will open one window in each bedroom, including some window features such as, tilt in sash features like this one, in the inspection image.

Floors, walls, and ceilings.
Check the general condition of all surfaces, and remember that cosmetic imperfections are not part of a home inspection. Stains, flaws, blemishes, a a a door, a bedroom door bumping into a drywall without the bumper there, causing a bump in the drywall, is a cosmetic defect. It's not really part of a home inspection.
In this inspection image, there are some indications that, observed indications of wood destroying insects at the baseboard in the corner of the carpeted living room, and this damage was caused by subterranean termites.
The home inspector reported the defect, observed damage, and indications of infestation.
The type of insect was not identified by the home inspector on purpose. The home inspector recommended correct and further of correction and further evaluation by a licensed pesticide application and inspection company.
And the home inspection is not a wood destroying organism inspection.
This is not a WDO or WDI inspection. But many home inspectors will report upon observed damage, even if it's apparently damaged by an insect.
The inspection image here is of a home inspector using a moisture probe and contacting the ceiling that has indications of prior water intrusion and water marks. The home inspector observed indications of water intrusion and made a recommendation for correction and further evaluation by a qualified contractor. The home inspection is a visual only inspection.
And the home inspector is not required to use a moisture probe, a meter, or a tool.
A home inspector may take inspection images, such as this one, in order to help document the observed conditions of the interior at the time of the inspection.
Let's go to stairs, since the inspection image was of a staircase.
Stairways are one of the most hazardous areas of a home, and stair falls are often fatal.
We recommend that you go over the standards and requirements of a stairway and ramp in detail, so that prior to an inspection, you understand what the standards are. You should be trained enough to be able to recognize defects and report them concisely.
To help you gain knowledge in inspecting stairs, steps, landings, stairways, and ramps, railings, guards, and handrails, take InterNACHI's free online how to inspect the attic insulation, ventilation, and interior course, particularly the section on egress and stairs.
A few common things to look for during a home inspection are the minimum riser height being four inches and the maximum being seven and three quarter inches, and the minimum tread depth is ten inches.
Open risers should not allow the passage of a four inch diameter sphere.
On stairs with a total rise of thirty inches or less, the size of the open riser is not limited.
The triangular area formed by the tread, riser, and guard should not allow the passage of a sphere six and six inches in diameter.
The opening at guards on the sides of stair treads should not allow the passage of a sphere four and three eighths inches in diameter.
And those illustrations in the course here can be actually downloaded into your inspection report software, so that the inspection report can help you, describe your observations.
It's a bit complicated, those measurements.

Garage doors. If you find or observe a problematic situation with the door, a garage door, you should notify the homeowner and occupants immediately and recommend them to contact a trained door system technician for consultation and repair.
Why? Because the garage door is typically the largest moving object in a house. And many of its components are high under high tension.
Improper installation and maintenance of a garage door and its opener can create hazardous conditions that can cause serious injury or even death.
Fortunately, InterNACHI has a step by step inspection checklist for inspecting a garage door opener, and it's located within that attic insulation ventilation interior course.
Standing inside the garage, but safely away from the path of the garage door, Use the remote control or wall button to close the door. As the door is closing, wave an object in the path of the photoelectric I beam, such as a two by four. The door should automatically reverse. Some inspectors wave their foot in the path. But be careful.
Stay safe.
Structural.
Wall and ceiling cracks are usually caused by building settlement, deflection, warping of wood structural elements, or small seasonal movements of building components due due to temperature and humidity variations.
Seasonal movements will make some cracks regularly open and close. These may be filled with a flexible or paintable sealant, but otherwise cannot be effectively repaired.
Cracks due to settlement, deflection, or warping can be repaired if movement has been stopped, as is often the case.
Large wall and ceiling cracks may indicate structural problems.
Homeowners find often find nail pops, joint cracks, and other signs of minor cosmetic issues such as rust stains and at fasteners or corner beads. The inspection image here is of a home inspector touching a hairline crack at the drywall's corner bead. The home inspector did not observe any indications of major structural movement during the including the interior of the entrance doors and storm doors. And including the interior of the entrance doors and storm doors.
Check hardware for finish, wear and proper functioning. Sticking doors or out of square frames may indicate settlements of the house. But remember, a home inspector is not a structural engineer. Home inspector does not provide any engineering or architectural services.
According to the standards of practice, you're not required to inspect paints or wallpaper or window treatments, inspect flooring, floor coverings or carpeting, inspect central vacuum systems, not required to inspect for safety glazing, not required to inspect the security systems, not required to, evaluate the fastening of islands, countertops, cabinets, sink tops, or fixtures, not required to move furniture, stored items, or any other car car, covering such as carpeting or rugs.
Not required to move suspended ceiling tiles. You're not required to inspect or move any household appliances.
Not required to verify proper operation of any auto, reverse feature of the garage door. Not required to, operate any system or appliance or component that requires the use of special keys or codes.

Not required to operate or evaluate self cleaning oven cycles.
Tilt guards or lashes or signal lights, not required to inspect microwave ovens, not required to, inspect elevators, not required to inspect remote controls, not required to inspect appliances, not required to inspect items, not permanently installed, You're not required to discover firewall compromises. You're not required to inspect pools or spas or fountains. You're not required to determine the structural integrity or leakage of pools or spas. There's a lot you're not required to do.
And that is the section of doors, windows, and interior.
And there's a quiz after this. Have fun. See you in the next section.

Section 3.10, Doors, Windows, and Interior
Section 3.10, Doors, Windows & Interior

The most common problem that homeowners experience is water intrusion in the form of outside water penetration and plumbing leaks. Inside the house, a home inspector should look for signs of water intrusion or material deterioration that may indicate underlying problems in the structural, electrical, plumbing, or HVAC system. Consider getting trained and certified in the application of infrared thermography, because thermal imaging is an excellent tool to use in the search for water intrusion. Become Infrared Certified® (free & online for members).
Audio

According to the Standards of Practice
I. The inspector shall inspect:

A. a representative number of doors and windows by opening and closing them;
B. floors, walls and ceilings;
C. stairs, steps, landings, stairways and ramps;
D. railings, guards and handrails; and
E. garage vehicle doors and the operation of garage vehicle door openers, using normal operating controls.

II. The inspector shall describe:

A. a garage vehicle door as manually-operated or installed with a garage door opener.

III. The inspector shall report as in need of correction:

A. improper spacing between intermediate balusters, spindles and rails for steps, stairways, guards and railings;
B. photo-electric safety sensors that did not operate properly; and
C. any window that was obviously fogged or displayed other evidence of broken seals.

Windows and Doors

Home inspectors open and close windows and doors, but not all of them. Only a representative number of windows and doors are required to be opened and closed. So, it's possible that a window has a defect, but it won't appear in the inspection report. Why? It's because a defect must be both observed and deemed (or considered to be) a defect in order for it to be documented. If a home inspector doesn't see a defect, it's not going to be in the report.

A home inspector is required to report as in need of correction when a window is fogged. Some home inspectors will open one window in each bedroom, including some window features such as the tilt-in sash.

Floors, Walls, and Ceilings
Check the general condition of all surfaces and remember that cosmetic imperfections are not part of a home inspection.

The inspection image above is of a home inspector indicating that there were observed indications of wood-destroying insects at the baseboard in the corner of the living room. Subterranean termites caused the damage. The home inspector reported the defect and observed damage and indications of infestation. The home inspector did not identify the type of insect. The home inspector recommended further evaluation by a licensed pesticide application and inspection company. A home inspection is not a wood-destroying organism inspection, but many home inspectors will report upon observed damage, even if it's apparently damaged by an insect.

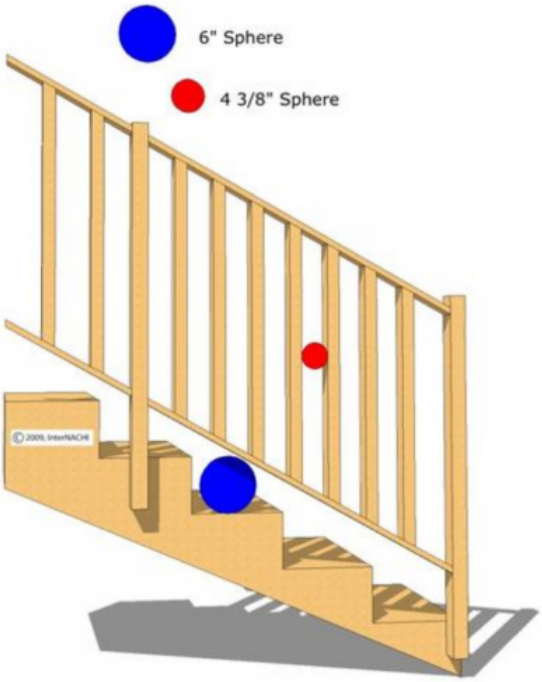
The inspection image above is of a home inspector using a moisture probe and contacting the ceiling that has indications of prior water intrusion and watermarks. The home inspector observed indications of water intrusion and made a recommendation for correction and further evaluation by a qualified contractor. A home inspection is a visual-only inspection, and the home inspector is not required to use a moisture probe, meter, or tool.

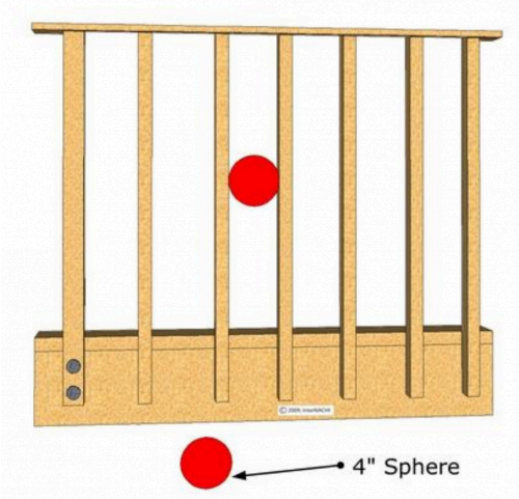
A home inspector may take inspection images, such as the one above, in order to help document the observed conditions of the interior at the time of the inspection.

Stairs

Stairways are one of the most hazardous areas of a home, and stair falls are often fatal. We recommend that you go over the standards and requirements of a stairway and ramp in detail so that prior to going on an inspection. You should be trained enough to be able to recognize defects and report them concisely. To help you gain knowledge in inspecting stairs, steps, landings, stairways and ramps, railings, guards, and handrails, take the free, online How to Inspect the Attic, Insulation, Ventilation, and Interior Course, particularly the chapter on egress and stairs.

A few common things to look for during a home inspection are that the minimum riser height is 4 inches, the maximum is 7-3⁄4 inches, and the minimum tread depth is 10 inches.





- Open risers should not allow the passage of a sphere 4 inches in diameter. On stairs with a total rise of 30 inches or less, the size of the open riser is not limited.

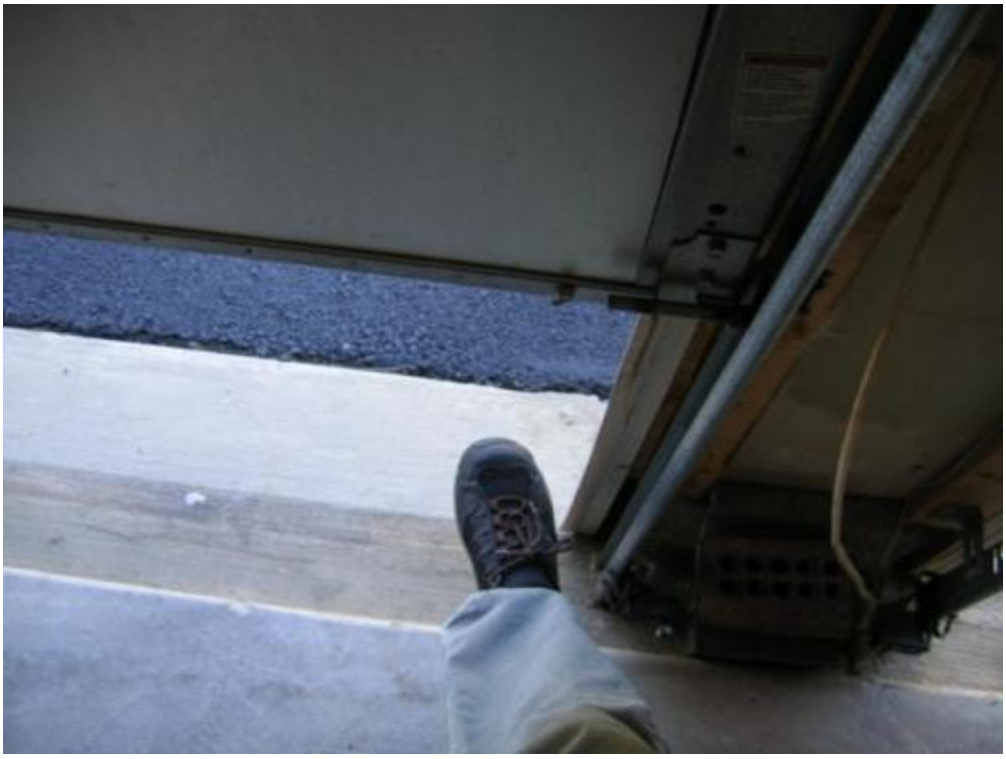
- The triangular area formed by a tread, riser, and guard should not allow passage of a sphere 6 inches in diameter.

- The opening at guards on the sides of stair treads should not allow the passage of a sphere 4-3/8 inches in diameter.

Garage Doors

If you find or observe a problematic situation with the door, you should notify the homeowner and occupants immediately and recommend that they contact a trained door systems technician for a consultation. The garage door is typically the largest moving object in the house, and many of its components are under high tension. Improper installation or maintenance of a garage door can create a hazardous condition that can cause serious injury or even death.

InterNACHI has a step-by-step checklist for inspecting a garage door opener. It's located within the free, online How to Inspect the Attic, Insulation, Ventilation, and Interior Course.



Standing inside the garage but safely away from the path of the door, use the remote control or wall button to close the door. As the door is closing, wave an object in the path of the photoelectric eye beam, such as a 2x4. The door should automatically reverse. Some inspectors wave their foot in the path. Be careful. Be safe.

Structural

Wall and ceiling cracks are usually caused by building settlement, deflection, warping of wood structural elements, or small seasonal movements of building components due to temperature and humidity variations. Seasonal movements will make some cracks regularly open and close; these may be filled with a flexible, paintable sealant, but, otherwise cannot be effectively repaired. Cracks due to settlement, deflection, or warping can be repaired if the movement has stopped, as is often the case. Large wall and ceiling cracks may indicate structural problems.

Homeowners often find nail popping, joint cracks, and other signs of minor cosmetic issues, such as rust stains at fasteners and corner beads. The inspection image above is of a home inspector touching a hairline crack at the drywall's corner bead. The home inspector did not observe any indications of major structural movement during the home inspection.
Home inspectors could check the condition of doors and door frames, including the interior of entrance doors and storm doors. Check hardware for the finish, wear, and proper functioning. Sticking doors or out-of-square frames may indicate house settlement, but remember, a home inspector is not a structural engineer. A home inspector does not provide any engineering or architectural service.

According to the Standards of Practice
IV. The inspector is not required to:

A. inspect paint, wallpaper, window treatments or finish treatments.
B. inspect floor coverings or carpeting.
C. inspect central vacuum systems.
D. inspect for safety glazing.
E. inspect security systems or components.
F. evaluate the fastening of islands, countertops, cabinets, sink tops or fixtures.
G. move furniture, stored items, or any coverings, such as carpets or rugs, in order to inspect the concealed floor structure.
H. move suspended-ceiling tiles.
I. inspect or move any household appliances.
J. inspect or operate equipment housed in the garage, except as otherwise noted.

K. verify or certify the proper operation of any pressure-activated auto-reverse or related safety feature of a garage door.
L. operate or evaluate any security bar release and opening mechanisms, whether interior or exterior, including their compliance with local, state or federal standards.
M. operate any system, appliance or component that requires the use of special keys, codes, combinations or devices.
N. operate or evaluate self-cleaning oven cycles, tilt guards/latches, or signal lights.
O. inspect microwave ovens or test leakage from microwave ovens.
P. operate or examine any sauna, steam-generating equipment, kiln, toaster, ice maker, coffee maker, can opener, bread warmer, blender, instant hot-water dispenser, or other small, ancillary appliances or devices.
Q. inspect elevators.
R. inspect remote controls.
S. inspect appliances.
T. inspect items not permanently installed.
U. discover firewall compromises.
V. inspect pools, spas or fountains.
W. determine the adequacy of whirlpool or spa jets, water force, or bubble effects.
X. determine the structural integrity or leakage of pools or spas.

Quiz #12: Doors, Windows & Interior

The inspector is required to evaluate _____ doors and windows.

- a representative number of (correct)
- no
- all
- all first-floor

Question Rationale

A representative number is required.

T/F: The home inspectors is required to inspect the floors, walls and ceilings.

- True (correct)
- False

Question Rationale

Those items are required by the standards.

_____ are part of a home inspection.

- Ramps (correct)
- Elevators
- Tunnels

Question Rationale

Ramps are included in a home inspection.

Double-glazed windows that appear to have failed seals _____ be reported.

- should (correct)
- should not

Question Rationale

Fogged windows are part of a home inspection.

The inspector is _____ to remove a representative number of drop-ceiling tiles to check for possible leaks from above.

- not required (correct)
- required

Question Rationale

Not required to move anything.

The operation of garage vehicle door openers _____ the scope of a home inspection.

- are within (correct)
- are not within

Question Rationale

Openers are part of a home inspection.

_____ should always be inspected.

- Ceilings (correct)
- Alarm systems
- Carpets

Question Rationale

Ceilings are within the scope of a home inspection.

The home inspector is not required to evaluate _____.

- central vacuum systems (correct)
- garage doors
- stairs
- ramps

Question Rationale

Vacs are not part of a home inspection.

Inspectors are ____ to inspect for safety glazing.

- not required (correct)
- required

Question Rationale

It is NOT required.

The inspection of pools and spas falls _____ these Standards of Practice.

- outside (correct)
- within

Question Rationale

They are NOT required.

These Standards of Practice represent the _____ level of inspection.

- minimum (correct)
- maximum

Question Rationale

The Standards of Practice is the minimum level of what a home inspector is required to inspect.

T/F: A home inspector is required to move carpets or rugs.

- False (correct)
- True

Question Rationale

It is NOT required.
A home inspection _____ the inspection of a household appliance such as a range or oven appliance.

- does not require (correct)
- requires
- sometimes requires

Question Rationale
It is NOT required to inspect kitchen appliances.
T/F: If the microwave oven is not inspected during a home inspection, the home inspector is being negligent.

- False (correct)
- True

Question Rationale
It is NOT required.
Discovering and inspecting firewall compromises _____ during a home inspection.

- is not required (correct)
- is required

Question Rationale
It is NOT required (not within the scope).

Video: Section 4.0, Glossary of Terms

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.
Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.
And this is the glossary section of the Internet G Home Inspections Standards and Practice course. And we're approaching the end of the course itself.
Coming up is the code of ethics, an instructional video of how to perform an inspection. So we get to apply the standards that we just learned about.
And there's some writing assignments that every student must do.
And the glossary of terms is important because we have to be on the same page as home inspectors using the same terminology.
And there's a few things on this page within the course that I like to highlight because I've used them in the past in my inspection reports, and they're kind of important.
Accessible is really important to be, used properly.
And it's in my opinion, I use this. In the opinion of the inspector, this can be approached or entered safely without difficulty, fear, or danger. That's accessible. If it's not accessible, I want my client to understand that some things are accessible and some things are not.
And when there is, let's see, a component, we I use the term component and system a lot. A component is part of a system, and it's a permanently installed attached fixture element or part of a system, and a system is a bunch of components put together. I use those two a lot to describe what I'm inspecting. I'm inspecting the entire system and components within that system.

And then when I, recommend correction, what does that mean correction? It means something that is substituted or proposed for what is incorrect, deficient, unsafe, or defect.
And that is what I recommend. I recommend a lot of corrections and further evaluations, and there's the term evaluate, to assess the system, structures, and or components of our property.
So in my inspection report, I always recommend further evaluation and correction.
And it should take place prior to closing if it's, if my client is buying the home so that someone else after me can come in, a contractor, and further evaluate because I'm only doing a visual inspection. The contractor, hopefully, is gonna get in there with her hands, his hands, and really tear things apart and hopefully find other problems. That's not my job. My job is to report upon defects that I both observe and deem to be material.
And if that happens, I recommend correction and further evaluation prior to closing so that somebody can come in and see things I didn't see.
That's highly possible.
Because conditions can change right after a home inspection is completed.
So when someone else comes in, it could be a whole new ballgame. Something could have changed right after I left. So, I like to use these terms a lot over and over again.
And the term material defect is important as well. It's a specific issue with a system or component of a residential property that may have a significant adverse impact on the value of property or that poses an unreasonable risk to people. And the fact that a system or component is near, at, or beyond the end of its normal useful life is not in itself a material defect. And we talked about that earlier in the previous videos of the course where, if you have a roof in bad condition, that's not necessarily, material defect.
And, report is, important as well. It's the verb form. To report upon something is an action, and it's to express or communicate or provide information in writing to give a written account of.
That's what I do. I report upon what I observe at the time of the inspection, and I write my reports in the past tense, so that when someone is reading it, it's written in the past.
It isn't making any comments upon the present condition of the home. Because the present condition, well, I'm not even there. I may have inspected the home a month ago, and someone's reading my report, and it sounds like I'm commenting on the present condition, and I'm not that's not what I intended to do. I want to communicate in my report. I want to report upon the observed conditions at the time of the inspection in the past.
So a couple things, in the glossary are important. And then the next sections are code of ethics. There's a video. There's an HDTV.
There's two writing assignments, and there's the final exam. So congratulations. You're almost there. Keep going on with the next sections.
This is the last video of the course. And remember, the final exam is at the bottom left corner of the course navigation menu. You have have to pass it within eighty percent or better. As soon as you do, well, if you don't, you can retake the exam over and over again.
And as soon as you pass it, you can immediately download the certificate of completion. And, confident that you will complete the InterNACHI Home Inspection Standards of Practice course. Alright. I'm Ben Garmicko from InterNACHI.
That's the International Association of Certified Home Inspectors. See you in another course. Bye.

Section 4.0, Glossary
Section 4.0, Glossary of Terms

The purpose of a glossary of terms is to make content-specific words accessible to the student. Encountering many unfamiliar industry-specific words may be overwhelming for new inspectors. This is why InterNACHI® provides definitions for words related to home inspections within a glossary.

Audio

- accessible: In the opinion of the inspector, can be approached or entered safely, without difficulty, fear or danger.
- activate: To turn on, supply power, or enable systems, equipment or devices to become active by normal operating controls. Examples include turning on the gas or water supply valves to the fixtures and appliances, and activating electrical breakers or fuses.
- adversely affect: To constitute, or potentially constitute, a negative or destructive impact.
- alarm system: Warning devices, installed or freestanding, including, but not limited to: carbon-monoxide detectors, flue gas and other spillage detectors, security equipment, ejector pumps, and smoke alarms.
- appliance: A household device operated by the use of electricity or gas. Not included in this definition are components covered under central heating, central cooling or plumbing.
- architectural service: Any practice involving the art and science of building design for construction of any structure or grouping of structures, and the use of space within and surrounding the structures or the design, design development, preparation of construction contract documents, and administration of the construction contract.
- component: A permanently installed or attached fixture, element or part of a system.
- condition: The visible and conspicuous state of being of an object.
- correction: Something that is substituted or proposed for what is incorrect, deficient, unsafe, or a defect.
- crawlspace: The area within the confines of the foundation and between the ground and the underside of the lowest floor's structural component.
- decorative: Ornamental; not required for the operation of essential systems or components of a home.
- describe: To report in writing a system or component by its type or other observed characteristics in order to distinguish it from other components used for the same purpose.
- determine: To arrive at an opinion or conclusion pursuant to examination.
- dismantle: To open, take apart or remove any component, device or piece that would not typically be opened, taken apart or removed by an ordinary occupant.
- engineering service: Any professional service or creative work requiring engineering education, training and experience, and the application of special knowledge of the

mathematical, physical and engineering sciences to such professional service or creative work as consultation, investigation, evaluation, planning, design, and supervision of construction for the purpose of assuring compliance with the specifications and design, in conjunction with structures, buildings, machines, equipment, works and/or processes.

- enter: To go into an area to observe visible components.
- evaluate: To assess the systems, structures and/or components of a property.
- examine: To visually look (see inspect).
- foundation: The base upon which the structure or wall rests, usually masonry, concrete or stone, and generally partially underground.
- function: The action for which an item, component or system is specially fitted or used, or for which an item, component or system exists; to be in action or perform a task.
- functional: Performing, or able to perform, a function.
- general home inspection: The process by which an inspector visually examines the readily accessible systems and components of a home and operates those systems and components utilizing these Standards of Practice as a guideline.
- home inspection: See general home inspection.
- household appliances: Kitchen and laundry appliances, room air conditioners, and similar appliances.
- identify: To notice and report.
- indication (noun form): That which serves to point out, show or make known the present existence of something under certain conditions.
- inspect: To examine readily accessible systems and components safely, using normal operating controls, and accessing readily accessible areas, in accordance with these Standards of Practice.
- inspected property: The readily accessible areas of the buildings, site, items, components, and systems included in the inspection.
- inspection report: A written communication (possibly including images) of any material defects observed during the inspection.
- inspector: One who performs a real estate inspection.
- installed: Attached or connected such that the installed item requires a tool for removal.
- material defect: A specific issue with a system or component of a residential property that may have a significant, adverse impact on the value of the property, or that poses an unreasonable risk to people. The fact that a system or component is near, at or beyond the end of its normal useful life is not, in itself, a material defect.
- normal operating controls: Describes the method by which certain devices (such as thermostats) can be operated by ordinary occupants, as they require no specialized skill or knowledge.
- observe: To visually notice.
- operate: To cause systems to function or turn on with normal operating controls.

- readily accessible: A system or component that, in the judgment of the inspector, is capable of being safely observed without the removal of obstacles, detachment or disengagement of connecting or securing devices, or other unsafe or difficult procedures to gain access.
- recreational facilities: Spas, saunas, steam baths, swimming pools, tennis courts, playground equipment, and other exercise, entertainment, and athletic facilities.
- report: (verb form) To express, communicate or provide information in writing; give a written account of. (See also inspection report.)
- representative number: A number sufficient to serve as a typical or characteristic example of the item(s) inspected.
- residential property: Four or fewer residential units.
- residential unit: A home; a single unit providing complete and independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking and sanitation.
- safety glazing: Tempered glass, laminated glass, or rigid plastic.
- shut down: Turned off, unplugged, inactive, not in service, not operational, etc.
- structural component: A component that supports non-variable forces or weights (dead loads) and variable forces or weights (live loads).
- system: An assembly of various components that function as a whole.
- technically exhaustive: A comprehensive and detailed examination beyond the scope of a real estate home inspection that would involve or include, but would not be limited to: dismantling, specialized knowledge or training, special equipment, measurements, calculations, testing, research, analysis, or other means.
- unsafe: In the inspector's opinion, a condition of an area, system, component or procedure that is judged to be a significant risk of injury during normal, day-to-day use. The risk may be due to damage, deterioration, improper installation, or a change in accepted residential construction standards.
- verify: To confirm or substantiate.

These terms are found within the Standards of Practice. Visit InterNACHI's full Glossary.

Code of Ethics

The International Association of Certified Home Inspectors (InterNACHI®) promotes a high standard of professionalism, business ethics, and inspection procedures. InterNACHI® members subscribe to the InterNACHI® Code of Ethics in the course of their business.

I. Duty to the Public

1. The InterNACHI® member shall abide by the Code of Ethics and substantially follow the InterNACHI® Standards of Practice.
2. The InterNACHI® member shall not engage in any practices that could be damaging to the public or bring discredit to the home inspection industry.
3. The InterNACHI® member shall be fair, honest, impartial, and act in good faith in dealing with the public.
4. The InterNACHI® member shall not discriminate in any business activities on the basis of race, color, religion, sex, national origin, familial status, sexual orientation or

handicap, and shall comply with all federal, state and local laws concerning discrimination.

5. The InterNACHI® member shall be truthful regarding the member services and qualifications.
6. The InterNACHI® member shall not:
    a. have any disclosed or undisclosed conflict of interest with the client;
    b. accept or offer any disclosed or undisclosed commissions, rebates, profits, or other benefit from real estate agents, brokers, or any third parties having financial interest in the sale of the property; or
    c. offer or provide any disclosed or undisclosed financial compensation directly or indirectly to any real estate agent, real estate broker, or real estate company for referrals or for inclusion on lists of preferred and/or affiliated inspectors or inspection companies.

7. The InterNACHI® member shall not release any information about an inspection or the client to a third party unless it may affect the safety of others, violates a law or statute, or all of the following conditions are met:
    a. the client has been made explicitly aware of what information will be released, to whom, and for what purpose; and
    b. the client has provided explicit, prior written consent for the release of the client's information.

8. The InterNACHI® member shall always act in the interests of the client, unless doing so violates a law, statute or this Code of Ethics.

9. The InterNACHI® member shall use a written contract that specifies the services to be performed, limitations of services, and fees.

10. The InterNACHI® member shall comply with all government rules and licensing requirements of the jurisdiction where the member conducts business.

11. The InterNACHI® member shall not perform or offer to perform, for an additional fee, any repairs or associated services to the structure for which the member or member's company has prepared a home inspection report for a period of 12 months. This provision shall not include services to components and/or systems that are not included in the InterNACHI Standards of Practice.

II. Duty to Continue Education

1. The InterNACHI® member shall comply with InterNACHI's current Continuing Education requirements.
2. The InterNACHI® member shall pass InterNACHI's Online Inspector Exam once every three years.

III. Duty to the Profession and InterNACHI®

1. The InterNACHI® member shall strive to improve the home inspection industry by sharing the member's lessons and/or experiences for the benefit of all. This does not preclude the member from copyrighting or marketing the member's expertise to other Inspectors or the public in any manner permitted by law.

2. The InterNACHI® member shall assist the InterNACHI leadership in disseminating and publicizing the benefits of InterNACHI membership.
3. The InterNACHI® member shall not engage in any act or practice that could be deemed damaging, seditious or destructive to InterNACHI, fellow InterNACHI® members, InterNACHI® employees, leadership, or directors. Accusations of a member acting or deemed in violation of such rules shall trigger a review by the Ethics committee for possible sanctions and/or expulsion from InterNACHI®.
4. The InterNACHI® member shall abide by InterNACHI's current membership requirements.
5. The InterNACHI® member shall abide by InterNACHI's current message board rules.

Members of other associations are welcome to join InterNACHI®, but a requirement of membership is that InterNACHI® must be given equal prominence in their marketing materials (brochures and websites) compared to other associations of membership.

Quiz #13: Ethics

The InterNACHI inspector should _____ follow the SOP and COE.

- substantially (correct)
- without exception

The InterNACHI inspector shall _____ on the basis of race, color, religion, sex, national origin, familial status, sexual orientation or handicap.

- not discriminate (correct)
- make choices
- discriminate

The InterNACHI inspector is _____ to be truthful about his or her qualifications.

- required (correct)
- not required

The InterNACHI inspector _____ accept any disclosed or undisclosed commissions, rebates, profits or other benefit related to a property to be inspected.

- shall not (correct)
- shall

The InterNACHI inspector is not allowed to offer to perform repair services on an inspected home for a period of _____ months from the date of inspection.

- 12 (correct)
- three
- six

Video: Home Inspection According to the Standards of Practice

To complete the course, you must play instructional videos. You will be assessed on the video content. You are required to watch all of the videos entirely.

Feel free to read the video transcripts and repeat any parts of the video. To read the video transcript while watching the video, click the "CC" button on the video player.

So, we're gonna perform a home inspection according to the standards of practice. Where are the standards? That's at nachi nachi dot org s o p. N a c h I dot org slash s o p. Go there because we're going to refer to it a lot through this class.
And there you'll find the home inspection standards of practice, and it's chunked into different sections. So there's the roof section, the exterior section, basement, foundation, crawl space, structure, heating, cooling, plumbing, electrical, fire place, etcetera. So if you go to the first section, roof, that's the first section in the standards of practice, and you'll see what a home inspector is required to do, what home inspector is required to inspect and not required to inspect, what a home inspector is required to describe and report in the inspection report. So, for example, under roof, in the roof section, the inspector shall inspect from the ground level or eaves.
That's important. You're not required to walk upon any roof surface, but you are you are required to walk, you are required to inspect the roof. So you're required to inspect the roof from the ground level or eaves and what are you required to inspect? What components of the roof system? Well, the roof covering materials, the gutters, the downspouts, the vents, flashing, skylights, chimney, and other roof penetrations, the general structure from the roof of the roof from the readily accessible panels doors and stairs.
The inspector is also required to describe the type of roof covering materials, so asphalt shingle or tile.
The inspector is required to report as in need of correction any observed indications of active roof leaks.
How important the standards of practice is. It is the foundation upon which to build your inspection process for any home.
And also, you can use it as an outline for your inspection report.
So let's inspect this house according to the standards of practice.
The first section of the standards of practice is the roof like we just saw.
You're not required to walk upon any roof surface.
Now, you could exceed the standards of practice by doing a few things like bringing a tall ladder and getting up to the gutter edge or the eaves or walking upon the roof surface, but you're not required to walk upon any roof surface even if it's a flat roof ten feet above the above the ground. It's a dangerous situation when you are are walking up, leaving the earth, and going on a ladder. If you fall and slip, it could be very dangerous, fatal.
So we do not require anyone to walk upon any roof surface or use any ladders. It's not required. So the question is, do you exceed or not exceed the standards of practice?
Fortunately, InterNACHI asked our legal counsel to write a letter on an opinion, and it's at that URL. Sorry, it's such a long URL, but it's natia dot org slash exceed hyphen or hyphen not hyphen exceed. Exceed or not exceed?
So when in doubt about what the SOP standards of practice requires in a particular situation, you should on the side of caution and exceed what the standards require.
It's better to do a little more than what may be required than to do less and risk a potential claim and harm to your reputation.
So it's okay if you exceed the standards of practice. Remember, the home inspection standards of practice are the absolute minimum of what you are required to do and not required to do.

So in this inspection that I performed, we're going to review, oh, a couple hundred inspection images of an everything that I inspected on the roof.
So what are you required to inspect on a roof?
Well, if you don't know how to inspect a house roof, fortunately, InterNACHI has free online training at the URL nachi dot org slash education. So if you go there, it's straightforward.
You scroll down and you type in into the search field roof. So we have many roof courses, and they're free and online to InterNACHI members. There's a roof data technician course. There's a general roof inspection training video course.
There's an advanced residential roof inspection course. There's a course for South Africa home inspectors. They're inspecting slate roofs, so it goes on and on. We have many courses free and online to help you gain the knowledge, skills, and abilities you need to inspect a roof.
According to the home inspection standards of practice, the inspector shall inspect from ground level or the eaves, the roof covering materials, the gutters, the downspouts, the vents, flashing, skylights, chimney, and other roof penetrations, and the general structure of the roof from the readily accessible panels, doors, and stairs.
So what are the roof covering materials? Well, it's pretty easy. It's what you see on the roof surface.
That's the roof covering materials, and we call it the roof covering materials because we're not actually inspecting the roof system. The roof system includes, oh, just about everything in relation to the, components that are assembled together for the roof system. So code in the IRC International Residential Code, Chapter nine, it talks about roof assemblies. A roof assembly includes the roof deck, sub straight or thermal barrier, insulation vapor retarder, and roof covering.
The types of roof covering materials, though, are asphalt shingles, clay and concrete tile, metal roof shingles, roll roofing, slates, etcetera.
So what a home inspector should be using, what terminology a home inspector should be using is very important.
You are actually observing the roof covering materials. You're not actually inspecting the roof assembly or the roof system, because you can't see everything that is assembled together, all the components. You can't see, for example, the fasteners or, the underlayment. Right? Or the roof deck.
So only observe and comment upon what you see. So So a home inspection is a visual only inspection. So it's essentially like getting both hands, tie them behind your back, and perform a visual only inspection. So, in relation to the roof system, I'm required to inspect the roof, but I'm not going to comment upon the fastening, the underlayment, the sealants, or anything like that anything that I can't see.
So we refer to the roof covering materials.
And on this roof, we have some major defects.
So the it's a three tab shingle, and then there are a lot of cracks. And someone has been up there trying to seal up the cracks with some roof cement, and that's a, a bad patch. That's a temporary problem.
So here's one shingle tab that is cracked off, and it has exposed the shingle material underneath and also a fastener.
And any fastener with an exposed head is a potential water entry point.

So that's no good.
There's another one and more defects.
So this roof is a major defect and need of replacement.
So I as a home inspector, I'm gonna look for signs of or indications of active roof leaks.
Here's the front porch roof that too is in bad shape.
So according to the Home Inspection Standards practice, a home inspection report is that thing that I produce for my clients so that they can read about my observations and my recommendations.
The inspection report shall identify, in written format, defects within specific systems and components defined by the standards.
Okay. So in the standards, we're required to inspect the roof covering materials, and I just observed a lot of defects in that component or in that roof covering system.
So I am required to report upon those things that are both observed, I saw them, and deemed to be material by the inspector.
And a material defect is defined in the standards of practice as something very serious, something that's going to, have an adverse impact on the value of the home or is going to hurt somebody.
So the the systems and components that I'm required to inspect according to the standards of practice, I'm going to gauge on whether, one, I have to both observe and deem it to be material. Right? If I don't observe a defect, it won't appear in my report. It's beyond the scope of my inspection.
I didn't see it.
And if I didn't deem it to be material, according defect and I deem it to be material and I see it during my inspection, it ought to appear in my inspection report. All other types of defects are not required according to the standards practice to be in the inspection report.
However, the reality is your client is going to ask you to find all the problems that you can find.
So, a cosmetic defect, which is like a a flaw or a blemish, a discoloration. Let's say it's a stain in the carpeting.
It's not required to be in the inspection report. However, if my clients wants me to comment upon it, take a picture, and put it in the report, I can choose to do that or not.
But according to the standards of practice, inspection report shall written shall be, shall identify in written format defects specified in the standards of practice that are both observed by me, the inspector, and are deemed by me as a material defect.
Okay. Inspection reports may include additional comments and recommendations, and that's where, if you'd like to identify other types of defects, you can.
So are there other types of defects that I may observe during an inspection?
Yep. Well, what kind are there? Well, in the InterNACHI glossary of terms, if we go there now, go to the glossary and enter defect into the search field and click search and scroll down a little bit.
You'll see that in the glossary there are four different types of defects defined.
The cosmetic defect that we just mentioned is that blemish on the on the carpeting. It's a superficial flaw or blemish in the appearance of a system or component that does not interfere with its safety or functionality.

A minor defect is something like, a problem that a homeowner could fix, maybe a dirty air filter.
A major defect is a problem, where we need a professional contractor to come in and fix it. Let's say, that roof with all those cracks that may be contributing to moisture intrusion, roof leaks, we need a professional to fix that. And a material defect, well, we haven't come across one yet, but it's something that's going to maybe hurt somebody. So that would be, maybe a deck, deck that's attached to the house poorly, and it's about to fall, and a collapse, a deck collapse is imminent.
So that would be an example of a material defect.
So here's a major defect. We need a a professional roofing contractor to come in and replace the entire roof.
What else am I required to inspect according to the home inspection standards of practice that's related to the roof? Well, we inspected the roof covering materials, major defect. The gutters.
Well, there are gutters on this house. I inspected them.
They're dirty and filled with debris and, rocks and there's a tennis ball there, so they need to be cleaned. That recommendation will be in my report.
What else? Downspouts.
Well, there's only a couple. There's one there, and it goes underground. It doesn't go on a surface drainage tray or discharge tray. So, it goes underground. Remember, this is a visual only inspection.
A home inspector is not required to comment upon anything that's buried, essentially. So I don't know where that goes.
And there's the other downspout in the front of the house. What else? Well, the vents flashing skylights, chimney, and other roof penetrations.
The vents. Well, there's a ridge vent at the top of the roof, and there's a soffit vent at the eaves there. So that's a even that's a ideal way of ventilating roof.
And from within the attic, I could see the baffles that allow air to, not be blocked by the insulation in the attic space at the soffit.
Flashing.
Well, flashing is, typically metal, pieces of metal that are installed in a way to divert water away from a particular area, and to control that, and to prevent moisture intrusion.
So there's, a parapet wall in between the two townhomes, and I see step flashing installed. And counter flashing is the large piece of metal flashing that's bent over and fastened, and then the step flashing you can see just a little bit here and there.
There's the step flashing stepped along with the rows of shingles.
There's flashing there and this is exposed step flashing because one shingle is actually missing.
And there's flashing where the roof intersects anything And there's some flashing here where the the roof shingles and the And there's some flashing here where the the roof shingles and the plane of the roof intersect the the masonry.
And this is improperly installed.
So you could see that the step flashing was installed underneath the shingle, but the top edge of the flashing is open. There is no counter flashing like we saw previously at the parapet wall. So this is prone to water penetration. This needs to be fixed.

This is a, a fix that a homeowner can't do, so it's a major defect.
Skylights are required to be inspected, and we don't have any skylights.
Chimney.
Chimneys are required to be inspected, and we, have not a fireplace chimney, but another type of chimney. It's a it's a gas vent for the furnace, it seems like, or maybe the hot water tank or both. I haven't been in the house yet, so I'm not sure. But, there's the termination cap and the pipe coming up. A bit of a hail dent on it, that's okay. There's the collar and flashing around the vent pipe. So if you don't know how to inspect chimneys or vent pipes, we have an actual online course free online to Internetgy members on how to inspect these systems and components.
Everything looks okay there.
And other roof penetrations, I'm required to inspect other roof penetrant. What could that be? The plumbing vent pipe that comes through the roof.
And that's in need of a fix because, the rubber flashing membrane around the pipe itself has deteriorated, and it's been coated with some black asphalt sealant, which is just really a band aid repair.
So according to the home inspection standards of practice, still inside the roof section of the Standards of Practice, a home inspector shall describe the type of roof covering materials.
And it's a three tab asphalt shingle.
According to home inspection standards of practice, the inspector shall report as in need of correction observed indications of active roof leaks. Okay.
In the attic, I find observed indications of active roof leaks. Now it may be dry.
It may be, not registering with my hands or moisture meter, but I'm going to identify it as an active roof leak unless the homeowner can tell my client that the existing homeowner or occupant, can tell my client that it has been fixed. Well, we know it hasn't been fixed because, of the condition of the roof covering materials that we saw previously. So all of these watermarks are going to be written up as observed indications of active roof leaks, for sure.
The next section is exterior. According to Home Inspection Standards of Practice, we have to inspect the exterior. If you don't know how to inspect the exterior, that's okay.
We have online accredited courses accredited by the US Department of Education at internaci dot edu. And if you go to our curriculum web page and type in exterior, you'll find all of our exterior courses. So right there, there's search for courses, and I'll type exterior.
And we have several. Here's exterior safety for inspectors and contractors, how to inspect the exterior course, I like that one, fundamentals of inspecting the exterior course, my buddy teaches that one. Advanced Stucco and EAVES Inspection Training. So it goes on and on and on.
According to the Home Inspection Standards of Practice, the home inspector shall inspect.
So I don't know if you've caught on the pattern of the home inspection standards of practice, but it's kind of grouped in three things.
For each section of the standards of practice, you're required to inspect, describe, and report.
Inspect, describe, report. So here's what the the inspection section. So the inspector shall inspect the exterior wall covering materials, the eaves, soffit, and fascia, a representative number of windows, all exterior doors flashing and trim, adjacent walkways and driveways, stairs, steps, stoops, stairways, and ramps, porches, patios, decks, balconies, and carports

railings, guards, and handrails and vegetation, surface drainage, retaining walls, and grading of the property where they may adversely affect the structure due to moisture intrusion. That's a lot to inspect.
So let's go over each item line by line, step by step.
We are required to inspect the exterior wall covering materials. What's that? Well, according to code, the International Residential Code, wall coverings is in chapter seven of the two thousand eighteen IRC.
And this section talks about various types of materials and methods of applying the exterior materials in relation to the interior and the exterior wall coverings. And the interior wall coverings include the drywall, the plaster, the gypsum board, ceramic tile, wood veneer, on and on. The exterior wall coverings include aluminum, stone, masonry veneer, wood, hardboard, particle board, and on and on and on. So again, just like previously, what terminology you use would be very helpful in your inspection report. So what we want to talk about are the exterior wall coverings.
We're not code inspectors, we're home inspectors, but often we use code to help guide us.
And the exterior wall coverings, well, there's brick in some small areas, but it's mostly plastic vinyl siding.
There's vinyl siding there, vinyl siding there.
There's a repaired piece of vinyl siding.
This section is different from this section. Different color, actually different style, different size.
And another different section here.
So maybe was damaged and they replaced it, and there's a a hole there and a crack.
And there's some masonry, there's some stucco application to the stone foundation or poured concrete foundation. Sorry.
I think it's poured concrete. Could be CMU, concrete masonry units.
We'll take a look on the inside. There's a loose piece of vinyl flash, vinyl siding, exterior wall covering. There it is there.
And you see the stucco application along the foundation. I think it's a poured concrete foundation now that I can see this window here.
What else do we have to inspect? Eaves, soffit, and fascia.
Well, the eaves there's the eaves and the soffit are the soffit vents we previously talked about in the roof section, right there.
Representative number of windows, okay, because we can't inspect the second floor windows without a ladder, and we're not required to have ladders. It's a representative number. So we'll take a look at the second floor windows, but we won't actually be able to get close to them. So we'll look at a representative number of windows that we can actually reach, and they seem to be okay.
There's the door, the sliding door, and the flashing around the window and the door, it's actually missing. So there's nothing here. It's just sealant. So they they have an opening in the masonry foundation, and the there's there's a there was a hole, an opening here, a gap, and they slid the door assembly in there. And then they just filled it with goopy silicone.
I wouldn't worry too much about the settlement crack of the header.
What else are we required to inspect?

All of the exterior doors, all of them.
Not a representative number, but all and I'm looking for a trip hazard there's not one here and maybe some handrail issues there's the steel lintel above the entry door to hold up the brick masonry veneer.
And at the bottom left corner, that looks okay, and the doorbell, I'll take a look at that. And there's the rear sliding door at the basement area.
Adjacent walkways and driveways, so there's the front front public walk and there's a walkway to the parking area in the back.
The inspector shall inspect stairs, steps, stoops, stairways, and ramps. Well, there's only one step.
Porches, patios, decks, balconies, and carports, well, we really don't have any.
Railings, guards, and handrails, we don't have any of those either.
Vegetation, surface drainage, retaining walls, and grating of the property where it may adversely affect it due to moisture intrusion. And I think that's okay. That looks pretty good. That grading is okay. There's some, you know, there's a retaining wall with some moisture up against there.
There's a retaining wall here. It's starting to separate a little bit. I don't see any major problems.
The grading is okay here.
According to the Home Inspection Standards of Practice, the inspector shall describe first inspect, describe, then report, describe the type of exterior wall covering materials. And so we went over this. There's vinyl, there's brick, and there's some stucco masonry.
And we're required to report as a need of correction any improper spacing between immediate balusters, spindles, and rails, and we just don't have any.
Now on the outside, you can inspect other components as well. So all the water faucets, I'll inspect all the water faucets, see if it's frost free hose bibs and for a cold climate and see if there's running water and see if the handle is functional.
The next section is the basement, foundation, crawl space, and structure.
According to the home inspection standards of practice, the inspector shall inspect the foundation, the basement, the crawl space, and structural components.
So down in the basement, I'm gonna look for what was it? Foundation, basement, I don't have a crawl space, and structural components. Foundation, basement, structural components. If it's hard to remember what to inspect, well, I would suggest putting the Standards of Practice as a checklist within your software and use it on a mobile device so that you can use the Standards of practice to guide your inspection process while you're inspecting. And your inspection software, if you use it on a mobile device, you you can actually then write the reports while you're inspecting.
And it helps speed up your process and also helps you reduce making mistakes because you have the standards of practice right in front of you. So, the basement is finished. We have some gypsum board drywall, some drop ceiling tiles, a lot of personal storage items that are in the way. And I wanna take pictures so that I can document what was the condition of the interior, very restrictive with personal items all over the place. So I can't see everything. The door's a concern. It's very close to the, patio here.

There isn't a whole lot of sealant. We saw the sealant problem on the outside. I'm not sure about water penetration.
Sometimes they're splashing during a heavy rainstorm. And if the gutters are filled, right, and they're spilling over, then water can splash at this area here and splash inside the house. So I'm concerned about this area.
And if you're wondering about how to inspect a home in relation to water intrusion, we have a free online course about that that particular issue.
You're not required to move any, personal items. And also, you're not required to move drop ceiling tiles.
But I do. I see the standards of practice for all of my clients, and I try to see structural components because that's what's required of the the standards of practice. And I stick my camera up there and I take pictures and I'm looking for things, anything that might be a problem one of the defect types.
So I'm looking around, going around the unfinished parts, the finished parts.
There's a floor joist those are two by ten floor joists and plywood flooring sheathing.
There's insulation installed on the band rim joists.
I don't see any major problems with the structure. And then I get out my moisture meter. You don't you're not required to have equipment like a moisture meter. The standards of practice actually doesn't even mention a flashlight, but every home inspector has a flashlight, maybe a screwdriver, a GFCI tester, and I have a moisture meter, on a stick.
It has pins and it if it finds moisture, it'll light up just like this. It's lighting up. That means it has detected some kind of moisture. I'm not measuring the moisture content. It's basically a very, rudimentary way of seeing if something's wet. And it's wet here, and this is the interior inside corner trim area by the slider door.
And the carpet is wet. So this is a wet area.
I don't have to diagnose problems, but if I observe them, I have to put them in the inspection report.
I take out my infrared camera. Again, this is standards practice. You're not required to have an infrared camera, but it helps me describe what I'm seeing. There's the image of the infrared camera, and there's the image of the infrared camera on top of the the actual inspection image that I took with my regular camera. And so that dark area is wet. I've confirmed it with my moisture meter. And if you're unable if you're wondering how to perform an inspection using infrared camera and a moisture meter, we have those free online courses for you as well.
According to the Home Inspection Standards of Practice, the inspector shall describe the foundation type and the location of the access to the underfloor space. There are no underfloor spaces, but the foundation type is poured concrete foundation.
So we have a few courses on, structure, structural design, foundations, foundation foundation walls, describing about what to how to build a foundation, what it's built out of, how to inspect it, and what are possible defects.
According to the Home Inspection Standards of Practice, the inspector shall report as need of a correction, observe indications of wood in contact with or near soil, observe indications of active water penetration, observe observed indications of possible foundation movements such as drywall cracks, brick cracks, out of square door frames on level floors, and any observed cutting, notching, and boring of framing members that may, in the inspector's

opinion, present a structural or safety concern. Well, we really only have right now observed indications of active water penetration.
So, I'll put that in report as in need of correction.
Next section is heating according to the standards of practice.
The inspectors shall inspect the heating system using normal operating controls. What does that mean?
Thermostat.
So there's the thermostat for the heating system, and this is actually a natural draft heating system. So from about ten feet away, you should every home inspector who's trained by energy should be able to describe the type of heating system, particularly in relation to its category or efficiency type.
So this is a category one natural draft, very inefficient, and needs to be replaced simply because of its age. It's about forty years old.
We have, a free gas furnace inspection checklist available, and that's at that unfortunately long URL nachi dot org slash home inspection checklist.
Natchez dot org home inspection checklist with hyphens. Let me show it to you real quick. So if you're wondering what to inspect, which I inspected inspected of gas furnace that's a little bit more detailed than the standards of practice, well, we have it. Here's the gas furnace inspection checklist.
List. You click it. You can download it as a Word document to edit or a PDF.
And it goes through just about everything we can can come up with about what to look at. Look at the switch, look at the cabinet, look at the required clearance, on and on. Look at the fan belt, look at the free rotation, look at the connection. So it goes on and even talks about the burners and manifold, the igniter and flames, light switches, talks about combustion air and air distribution, and then we talk about the sequence of operation.
The sequence of operation is very simple. When you're inspecting, gas furnace like this one, we'll leave that to you. Let's take a look. According to the Home Inspection Standards of practice, the inspector shall describe the location of the thermostat, the energy source and heating method, and we have to report as a need of correction any system that didn't operate or I couldn't access.
That's pretty easy.
So the location of the thermostat system there it is location of the thermostat of the heating system is there, first floor dining room. The energy source, well, I see a gas valve and I saw a gas meter on the outside.
In the heating method, well, there's the air filter so I know it's forced air with ductwork.
The inspector shall report as a need of correction any heating system that didn't operate or if it was inaccessible.
Well, it was accessible and it did operate.
There's the thermostat and there's the furnace there's is the service switch.
I turned it on for safety while I inspect it. There's a natural draft. There's a lot of rust and corrosion all over the place, so it's not venting properly. Could be hazardous, actually.
There's the manifold, the burner ports, a lot of rust and corrosion.
Trying to get pictures of detailed components there, detailed pictures.

There's the blower, there's the gas shutoff valve, and there's a problem with the air filter. The air filter has duct tape on top of it, so the the opening slot for the air filter is is not efficient. It needs to be sealed up.
There's the air filter there, and the ductwork has actual duct tape on it. So it's leaking air.
And on top of the, natural draft gas furnace appliance or unit is the air conditioner unit, the indoor coil.
Behind that is the vent pipe for the exhaust gases, the chimney for the furnace and hot water tank. It's behind the I can't see it very well. So I stick my camera behind and turn on a flash, try to grab a couple pictures, and I'm concerned about the looks like glue around one of the vent pipes.
And this is a type b vent pipe, and it goes all the way up through. Remember the chimney on top of the roof that we saw with the termination cap metal with the hail dent? Yep. This is the same chimney stack.
So I'm concerned about this as well as the age of the heating system is very very old. While I'm back there I also looked up and I saw that the dryer exhaust is open, so the dryer is actually venting a lot of moisture, heat, lint behind the furnace.
So that's a defect.
Cooling.
According to the Home Inspection Standards practice, the shall inspect the cooling system using normal operating controls, and there's the thermostat.
The inspector shall describe the location of the thermostat for the cooling system and the cooling method. Inspector shall report and is in need of correction any cooling system that did not operate, and the cool if the cooling system was deemed to be inaccessible.
Well, location of the thermostat. Where was it? Same location. Same thermostat.
The cooling method? Well, we have a split system where there's an air conditioner unit on the outside the compressor and the, condenser on the inside there with the coil or a coil.
And it's, forced air, so there's air flowing through the system.
Any cooling system that didn't operate, well, it operated and it was accessible, so I inspected it.
And on the outside, there's the manufacturing plate or label and it's barely legible because it's such an old system.
The unit seems stable, but the the fins are really damaged and clogged.
The suction line has insulation around it, and it's in poor shape.
There's the electrical disconnect, that's good.
There's a condensate discharge tube, that's okay. Ideally, it would be discharging a little bit further away from the foundation. There's a condensate pump, and that looks pretty old too.
You can see all the the dryer lint resting on the condensate pump.
It's a very old unit.
The next section, according to the Sam's practice, is plumbing.
The inspector shall inspect the main water supply shutoff valve, main fuel supply shutoff valve, water heating equipment including the TPR valve, interior water supply including all the fixtures and faucets by running the water, all the toilets for proper operation by flushing them, all the sinks, tubs, showers for functional drainage, the drain waste vent system, and drainage sump pumps with with accessible floats if they're installed. So the main water shutoff valve is there in the basement. There it is, shutoff valve, the meter itself.

It's not leaking. I put my hand underneath the meter. There's another shutoff valve in case the meter needs to be replaced, and the jumper cable.
Main water, main fuel supply shutoff valve. So the fuel supply to the house is natural gas there's the meter on the outside.
I'll note the the minor surface rest and there's the shutoff valve above the ground.
Water heating equipment polluting the valves. There's the hot water tank. It's forty gallons. I took a picture of the manufacturing label.
There's the shutoff of the cold water going into the tank, and there's the heating controls.
There's a bag there, so I'm gonna move the bag away because I know this is a fuel burning appliance.
And when I did that, I see that there's a problem. We have a a safety issue.
It's a material defect because it could hurt somebody.
There's scorching on the outside of the opening of the burner chamber.
Why? I don't know. You're not required to diagnose these problems, but it could be that there's a drafting problem. And the remember the, the connection of the pipes of the chimney stack, the type b vent connector pipes behind the furnace I couldn't get to. There could be a problem there, and it's back drafting and heat, really high excessive exhaust heat is coming out of the burner chamber instead of up the flue pipe. And so, that could be a problem.
I don't know why, but it's not supposed to look like this.
And there could be a carbon monoxide problem as well. So we don't want anybody hurt.
There's the flute pipe, and it's not installed very well.
It's not connected with a thimble very well, and it's on hot and I'm gonna leave it right there.
The gas is on, the cold water shutoff valve there, and there's the temperature pressure relief valve TPR valve that extends to the floor.
What else are we supposed to inspect according to the standards or practice? Well, the interior water supply including all fixtures and faucets by running the water, and looking at all the toilets for for flushing and drainage of the sinks, tubs, and showers. So in every bathroom, in the kitchen, and other areas, maybe a laundry sink, I'll run all the hot and cold water and make sure that the faucet, the fixture towards the left or on the left is hot and towards the right and on the right is cold and look for any kind of problems with drainage.
So I'll flush the toilet, I'll run the sink, and look at the flow of the shower and see if there's functional flow and look at the drainage of the tub and the toilet and the sink and see if it's functional there and includes that sink fixture.
And the drain waste vent system, while we didn't see a whole lot in the basement, There wasn't much of the piping, the main drain waste vent piping.
We saw the if you recall the roof penetration that had the problem around the vent stack, and the sinks themselves that have traps.
There's the roof penetration pipe And sump pumps, there aren't any sump pumps in the basement.
The inspector shall describe whether the water supply is public or private, while it's public.
The location of the main water supply shutoff valve, and that's in the basement.
The location of the main fuel supply shutoff valve, and we saw that that's on the outside of the house.
The location of any observed fuel storage system, we don't have any, it's natural gas.

And the capacity of the water heating equipment if labeled and it is labeled and it's forty gallons.
The inspector shall report inspect describe, report, as a need of correction deficiencies in the water supply by viewing the functional flow and two fixtures operated simultaneously.
So I'll flush the toilet, run the sink, and do the shower and see how well that works.
Deficiencies in the installation of hot and cold water faucets. So I'll turn something towards the left, it should be hot. Towards the right, it should be cold. Active plumbing water leaks that were observed during the inspection, I didn't see any. Toilets that were damaged or had loose connections to the floor or were leaking or had tank components that didn't operate, all the toilets flushed well.
Now, here's a recommendation to help you write a report that's easy to read and understand. You could group the bathrooms together in your inspection report. So this is the first floor half bath, that's the toilet, sink, GFCI.
Second floor bathroom, sink, GFCI. Tub, there's a little damage to the floor there, GFCI. Plumbing access panel. Basement full bath, toilet, sink, GFCI, shower.
That's just a recommendation. You don't have to. You have to think about using the standard as a guide for your inspection report and as a a way to group systems and components and possibly rooms within your report. So you could think about inspecting systems like the heating system, and then you could group rooms like all the interior rooms together. Or maybe all the bedrooms are grouped in your report under bedrooms or all the bathrooms are grouped in your report under bathrooms. It's really up to you.
According to the standards of practice, the electrical is next. There's a lot to inspect. According to the home inspection Standards of Practice, the inspectors shall inspect the service drop, overhead service conductors and attachment point, service head, gooseneck and and drip loops, service masts, service conduit and raceway, the electric meter and base, the service entrance conductors.
The main service disconnect, panel boards and overcurrent protection devices, fancy way of saying circuit breakers or fuses, service grounding and bonding, a representative number of switches, light fixtures, receptacles, including AFCIs, all the GFCIs, and the presence of smoke and carbon monoxide detectors. That's a lot to inspect. How do you remember what to inspect and how do you do well, remember, if you have a mobile device and your inspection report software is on your mobile device, you can use it as a a checklist, a step by step checklist, a guide so that you can, you don't have to remember what to inspect. It's right there for you. So the service drop. What the heck is a service drop?
Well, there are terminology.
There's terms and definitions for the electric system and components.
And terminology related to the electrical service components is available in InterNACHI's free online How to Perform Residential Electrical Inspections course. So let's go there. Let's take a look at one section called Service Terminology and it's under the the chapter Service Entrance. And here's a picture of a service entrance cable.
And let's go over these components here. And that will actually help us understand what we're supposed to inspect according to the standards of practice. So in this inspection picture, we have a blue arrow, three white arrows, three orange arrows, three red arrows, and the service entrance cable, the SEC, is that blue arrow. And that's that, in this picture, on this house, is

that gray, thick gray line that goes down the house, from the overhead conductors, down the house, and into the meter box on this house.
And it's a line of service conductors, which are those white arrows. They're those three black wires located between the terminals of the service equipment. Well, that's the main disconnect at the maybe at the panel or the equipment somewhere. And a point usually outside the building, clear of any of the walls where they are joined by a tap, a splice, a connection, and that's the orange arrows, to the service drop or overhead service conductors, and that's the red arrows pointing at the overhead service conductors coming from the utility pole.
The blue arrow arrow is pointing to a protected or sheathed service entrance SE cable. Sometimes that protection is deteriorated on old cloth sheathing.
The service point is the point of connection, that's the orange arrows, between the facilities of the service utility and the house's wiring.
So the utility from the telephone pole, a couple few wires coming over overhead.
It could be underground as well. But at this house, overhead, and it's tapped or spliced or connected to the service entrance conductors that goes to the house, to the equipment, maybe the meter disconnect and and panel boards.
The overhead service conductors, the white arrows, are the are also the overhead conductors between the service point, that's where they're connected at the orange arrows, and the first point of connection to the service entrance conductor, that's that cable that runs down the house at the structure.
The service equipment is the necessary equipment usually consisting of a circuit breaker or breakers switch or switches, fuses, and their accessories connected to the load end of the service conductors to a building or designated area and intended to constitute the main control and cutoff of the supply.
So let's go back to what we are required to inspect.
According to the Home Inspection Standards of Practice, the inspector shall inspect the service drop.
And the service drop are the red arrows.
That's the service drop.
And these overhead service conductors from the utility should be ten feet above sidewalks and final grade from the bottom of the drip loop and twelve feet above yards or driveways and eighteen feet above the street.
And on this house there it is there attached to the vinyl siding, is the service entrance cable. It's sheathed. It has a weather head, a mast up there, a weather head, and the service entrance entrance conductor is there, and there's the connection points at the bottom of the drip loop, and there's the overhead conductors from the utility.
This is phone and and cable on the other sides.
Okay.
So that's the, the service drop is right there, right at that point.
We're required to inspect the overhead service conductors and attachment point. That's pretty easy. The overhead conductors are the white arrows and red arrows. Those are the main cables that are overhead. Right? And they then go into the service entrance conductor into the equipment.

The attachment point is the orange arrows, orange arrows, the connection between the two, the utility overhead conductors and the conductors that are coming to the equipment. The point of attachment, the tap or splice for the service drop, should be below the weather head if installed. And there is no weather head or cap or anything like that installed on this service entrance.
You can see it here.
Service head gooseneck and drip loops. Well, we kind of already talked about it.
The service head gooseneck and drip loops, there's no service cap or weather head component in this inspection So this is a gooseneck here with some drip loops. So this is a gooseneck here with some drip loops.
And on this house it's right there.
There's the weather head service entrance, weather head overhead conductors, splice or connection point, and that's the drip.
And the gooseneck is on the other one, calling that a gooseneck, and that's the weatherhead.
The service mast, service conduit, and raceway, well, there's no service mast or raceway. It's like a pipe or conduit in this inspection picture. But there is a service entrance cable right there.
So the SEC, the service entrance cable with the conductors inside. The electric meter and base, that's pretty easy. On this house, that's what that is. The main service disconnect, there it is, the main service disconnect must be clearly marked. The main disconnect must be either inside or outside the house, as close to the service conductor where, they enter the house.
And it can't be in the bathroom, so we can't have a a main disconnect in a bathroom.
And no more than six breakers the disconnect that turns off the service conductors that disconnects them.
We are required to inspect the panel boards and overcurrent protection devices, which are the circuit breakers.
And there it is there. That's the main panel board.
Main disconnect and the other breakers.
Service grounding and bonding.
And on the outside, we'll see the grounding electrode conductor, and that's that exposed, unsheathed copper wire with a little patina there in the inspection image. It's connected to the grounding electrode. That's that rod that's pounded into to the ground. It's the buried rod in the inspection image there and it's there's a clamp.
Clamp has to be properly connected. And bonding, well, bonding is required where needed to ensure the electro continuity and the ability to carry a fault, current to a path to grounding.
The metal water pipe here, is bonded to the service equipment enclosure.
That's by code.
Electrical bonding and grounding training for home inspectors is available through InterNACHI in an online course, how to perform residential and electrical inspections course.
So if you go there, I'll show you. We have a chapter on grounding and bonding. Everything you wanted to know. It starts off with, what is grounding?
And we talk about grounding and grounding electrodes, grounding rods, driven rods, water metal pipes, the jumper at the water meter, well casings, ufers, grounding plates, still framing, grounding rings, electric, it goes on and on about grounding and also bonding.

So on the chapter of bonding, there's the bonding components.
So you don't have to be concerned about following the home inspection standards of practice after you take InterNACHI's free online courses on how to inspect the home.
We are also required to inspect a representative number of switches, light fixtures, and receptacles, including AFCIs.
Well, there's light fixtures. There's a switch. Also, there's a light fixture in the dining room and a representative number of wall receptacles like this one with my little tester, and, well, there are no AFCIs.
Now I took the dead front cover off of this panel, and you're not required to remove a dead front cover according to the InterNACHI Home Inspection Standards or Practice. I believe currently Oklahoma Home Inspection Standards of Practice requires this, very, unsafe practice, it's not safe to remove the dead front, you're not required to.
And according to the standards of practice, you are required to inspect all ground fault circuit interrupters receptacles.
So they're often located in the garage, basement, electrical panel, bathrooms, kitchens, things like that.
There's a couple inspection images.
And the presence of smoke and carbon monoxide detectors. Smoke alarms must be powered, hardwired, and have a battery backup. They should be interconnected too, so that if one alarm goes off, the other ones go off. They should be in each bedroom, outside each bedroom sleeping area, and on each story, of the house including the basement. Carbon monoxide detectors, they're required for houses that have fuel fired appliances or an attached garage with an opening to the house. They should be outside of each bedroom and inside each bedroom if that bedroom has a fuel burning fireplace or fuel burning appliance, and they should also should be interconnected.
The inspector shall describe the main service disconnects amperage rating, if labeled, and the type of wiring observed. And so there's the amperage rating there on the main disconnect and the type of wiring observed type NMB.
Inspector shall report as a need of correction any deficiencies in the integrity of the service entrance conductor's insulation, drip loop and vertical clearances from grade and roofs, any unused circuit breaker panel opening that was not filled, the presence of solid conductor aluminum branch circuit wiring, any tested receptacle that had problems, or the absence of smoke and carbon monoxide detectors.
So the integrity of the service entrance conductors, while the service entrance cable, SEC, looks really good.
Any unused opening, there actually was one right here at the panel dead front cover at the bottom.
So that's a major safety hazard there. And he tested receptacle that wasn't present or the polarity or the grounding was wrong. So there's receptacle there and that's properly wired indicator. And the absence of smoke and carbon monoxide detectors, and we actually did have, absent smoke and carbon monoxide detectors.
Fireplace.
No fireplace at this house.
Attic insulation and ventilation.

The inspector shall inspect, according to the home inspection standards of practice, insulation in unfinished spaces, including attics, crawl spaces, and foundation areas.
Ventilation in those areas, unfinished spaces, attics, crawl spaces, and foundation areas, and mechanical exhaust systems in the kitchen, bathrooms, and laundry area.
So the insulation ventilation, it's pretty easy. If you go up in the attic or crawl space, we don't have a crawl space here, but if you go up in the attic, you can take a look at the insulation and the ventilation. We talked about the ridge vent and the soffit vent and the baffles.
And there's the attic there with the roof leaks, and the trusses.
Mechanical exhaust systems for the kitchen, bathrooms, and laundry area. Every exhaust should go outside for the kitchen, bathrooms, and laundry.
The kitchen has a has a hood, but it doesn't exhaust outside.
The bathroom has an exhaust that goes outside, and there's the vent there. There's the dryer, and that should be fixed as well. Remember, we have a disconnect the dryer vent, behind the furnace, above and behind.
The inspector shall describe the type of insulation observed and the approximate depth. So the insulation is loose fiberglass and the depth is about ten inches.
The inspector shall report as a need of correction the general absence of insulation or ventilation in unfinished spaces and we don't have any problems.
Doors, windows, and interior.
The inspector shall inspect a representative number of doors and windows by opening and closing them.
Well, and also, sorry, the floors, walls, and ceilings, stairs, steps, landing, stairways, and ramps, railings, guards, and handrails, garage vehicle doors, and the operation of garage vehicle door openers using controls.
Well, you can group the interior in, again, all in one thing called the interior, or maybe group the laundry, like we did here, as part of this interior part. Right? So here's the laundry area. It's a room within the system of the interior.
And we have, rubber hoses that are not pressure tested, so they need to be replaced.
There's the outlets, GFCI, no water catch pan underneath the second floor laundry.
Bathrooms, we grouped all the bathrooms together. It's really optional for you. So there's the full bath in the basement, sink, GFCI, shower.
There's the full bathroom for the second floor, shared bathroom.
We have that damaged flooring by the bathroom tub, GFCI panel, and there's the half bath downstairs, first floor, toilet, sink, and GFCI.
The inspector shall describe a garage door vehicle as manual or automatic, and we don't have any garages. The inspector shall report as need of correction improper spacing between the intermediate balusters, spindles, rails for steps, stairways, guards, and railings, the photoelectric safety eyes on the garage door opener that did not operate properly in any window that was obviously fogged or displayed other evidence of broken seals. And we actually have a few windows that are cracked. That's a hole in that one, and there's two window panes that have fogged window panes or seals broken.
And there's some receptacles. There's doors, more receptacles, light switches, more receptacles, windows opening and closing the windows. Sometimes they you can't access them because there's so much stuff in the middle, in between. There's a lot of inspection

restrictions. And there's a watermark, in the ceiling of the first floor, and it could be a plumbing leak. I didn't see any plumbing leaks or it could be a roof leak coming all the way down. I'm not sure.
But let's say it's a roof leak. So from the roof section of the standards of practice that inspector shall report as a need of correction any observed indications of active roof leaks. If it's an active plumbing leak, you ought to observe that as well and put in the report.
Kitchen was grouped.
There's the kitchen sink, hot on the left, cold on the right. No plumbing leaks, except the tailpiece is a little loose and may have leaked in the past. Turn on the dishwasher, GFCIs, the stove, electric stove, electric oven, needs to be attached to the wall for safety, and there's the exhaust.
And that is how you perform a home inspection according to the standards of practice. Thank you very much. My name is Ben Gramiko. I'm from InterNACHI, and we just performed a home inspection according to the Home Inspection Standards of Practice.
Bye, everybody.

InterNACHI® Webinars

Live, online classes are available to every InterNACHI® member. All of the classes are video-recorded so that you can access and watch them at any time.
Students may use the video recordings as an unlimited-access resource to conduct self-directed research and study activities. You can follow a certified home inspector performing a home inspection according to the InterNACHI® Home Inspection Standards of Practice.
Visit InterNACHI® Webinars.

Inspection & Writing Assignment

To successfully complete this course, you must write two short essays.

On this course page are instructions for the first essay, which involves performing a home inspection and taking inspection images.
This assignment may take 8 hours to complete.
The second essay is described on the next course page.

In relation to this inspection and writing assignment:

1. Inspect any system or component covered within the Home Inspection Standards of Practice. For example, inspect the front door.
2. Take inspection imaegs of that system or component. It can either be in good condition or have a defect.
3. Make observations and take a lot of notes. Use your inspection software or InterNACHI's checklist.
4. Write and submit a short essay describing your observations. Upload an inspection image with the essay.

For example, you may inspect the bathroom toilet, the air conditioner, or a GFCI and its tester. Make observations. Take inspection images while performing the inspection. Take lots of notes. Then prepare to communicate your observations in written form. This will be your essay.
This inspection and writing assignment is very similar to what a home inspector does during a home inspection--performing an inspection, taking inspection images, making observations, evaluating, writing notes, formulating opinions, and communicating observations in written form.
Your essay must meet the following criteria:

- It must be written in English.
- It must be at least 80 words in length.
- It must be written at a minimum 4th-grade level.
- It must sufficiently comment upon the system or component inspected.
- It must be submitted with an inspection photo.

You will submit your essay in the box that is titled “Your Essay.” You will also upload your inspection image. Once you submit your essay, it will reviewed and marked by staff.
Please continue with the course after submitting your essay. If the essay does not meet the criteria, you'll be notified by email to rewrite the essay.

Academic Activities for an Inspection

Academic Activities for an Inspection: The student receives credit for the participation in studying and preparing for the on-site inspection and report writing process according to a Standards of Practice that is required in an "inspection & writing assignment," including studying, learning, preparing, and practicing how to: (a) to capture, transfer, save, label, size, and archive digital images with a camera or device; (b) make observations in an inspection process; (c) evaluate conditions observed; (d) deduce, draw conclusions, and formulate opinions; (e) communicate observations in written form; (f) follow and abide by a Standards of Practice (g) use an inspection checklist or software and other inspection tools while performing an inspection; and (h) publish an inspection report. The clock hour credit for the learning inspection activities is a maximum of 8.0 hours for each inspection assignment.

Performing an Inspection

Performing an Inspection. The student receives credit for participating in a directed and independent inspection study performed according to a Standards of Practice, including but not limited to performing an actual inspection on a dwelling, using visual-only inspection techniques, taking digital inspection images with a device or camera, uploading an inspection image, and developing and writing an inspection report using a checklist. The clock hour credit for performing an inspection is a maximum of 8.0 hours for each inspection.

Research & Writing Assignment

Research & Writing Essay Instructions

1. Choose one inspection article from the Library of Inspection Articles OR choose one illustration from the Illustration Gallery that directly relates to the areas covered within the Home Inspection Standards of Practice.
2. Study the article or illustration.
3. In the box below titled “Your Essay," write an essay that describes what you’ve learned from reading the article or studying the image.

Your essay must meet the following criteria:

- It must be written in English.
- It must be at least 80 words in length.
- It must be written at a minimum 4th-grade level.
- It must sufficiently comment upon the chosen article or illustration that is covered within the Home Inspection Standards of Practice.
- It must include a screenshot, an illustration, or an inspection image.

This research and writing assignment is very similar to what a home inspector does during a home inspection--researching and studying inspection images and illustrations, studying and referring to and applying a Standards of Practice, taking inspection images, making observations, describing components, determining the condition of those components, formulating opinions, making recommendations to correct (if needed), proposing the implication of not making corrections to a defect (if observed), writing notes, and communicating observations in written form.

You will submit your essay in the box that is titled “Your Essay.”

Please continue with the course after submitting your essay. If the essay does not meet the criteria, you'll be notified by email to rewrite the essay.

Writing Assignment of the Research

Writing Assignment of the Research. The student receives credit for the student's work on researching a course topic related to a house system or component chosen by the student and meeting the writing assignment criteria. The clock hour credit for the research writing assignment is a maximum of 4.0 hours per assignment.

Student Participation in Learning Activities

Student Participation in Learning Activities: Students are required to participate or actively engage in all learning activities. Student participation is required and monitored through the learning management system. Students demonstrate substantive participation through frequent and active interaction with reading and writing assignments, writing essays, submitting essays, uploading images, taking review quizzes and final exams, and engagement in other academic activities. The learning management system provides a time-out default mechanism for inactivity and, thereby, will not mark, calculate, and award clock minutes or clock hours for the time when students are not actively participating. The clock hour credit for student participation is the number of minutes of online student participation / 50.

Student Academic Engagement

Student Academic Engagement: The student receives credit for the student's work in reviewing and studying the instructional course material in addition to reading the text. This includes additional technical information and text, tables and charts, technical illustrations, and inspection images with captions or alternative text. This clock hour credit for academic engagement is the number of words in the course / 100 / 50.

Student Direct Communication

Student Direct Communication: The student receives credit for direct academic-oriented communication with other students, the instructor, a mentor, or an Education Team Member with questions, feedback, or requests related to an academic task, assignment, or topic of a course, if it is timed and documented by the learning management system. The clock hour credit for timed communication is the number of minutes / 50.

Reinforcement Questions and Answers

Reinforcement Questions and Answers: The student receives credit for participating in review reinforcement question and answer sessions placed throughout the course at sufficient intervals to allow the student to evaluate the material that needs to be studied more. The clock hour credit for reinforcement review is the number of quiz questions X 1.85 mpq / 50.

Final Exam

Thank You

You have now completed this training portion of the course.
Please ensure you've visited every page of the course, read every word in the course and textbook, watched every video, studied every inspection image and illustration, and completed each quiz.
Remember that you can retake this course and its corresponding final exam without limit.
If you have any questions, don't hesitate to contact the Education Team at www.nachi.org/contact.

Proceed to the Final Exam

You will now proceed to the final exam.
When you pass the exam, you will be awarded a certificate of completion. You can download the certificate from your InterNACHI® Education Records.
