

This course is designed for individuals looking to obtain their Dwelling Contractor Qualifier Certification. Here is the breakdown of the chapters in this course.

Chapter 1: Licensing, Certification & Registration

Chapter 1 is based on Wisconsin Chapter Comm. 5. Only information pertaining to licenses, certifications and registrations regarding Dwelling Contractors Qualifiers are mentioned in this chapter. The entire regulations go through requirements for licensing and certification of electricians, inspectors, HVAC contractors, plumbers and fire sprinkler contractors, to name a few. A full copy of the regulations is included as a supplement to the course.

In order to build houses in Wisconsin, or even perform any work on them that requires a building permit you need BOTH the Dwelling Contractor Certification for your business and the Dwelling Contractor Qualifier Certification for at least one owner, partner, or employee of your firm. Each of these credentials will have a different ID number and a different expiration date.

Chapter 2: Administration & Enforcement

Chapter 2 is based on Wisconsin Chapter Comm. 20. The purpose of this code is to establish uniform statewide construction standards and inspection procedures for one- and 2-family dwellings and modular homes.

This is a summary of regulations. A full copy of the regulations is included as a supplement to the course.

Chapter 3: Construction Codes

Chapter 3 is based on Wisconsin Chapter 21. The provisions of this chapter apply to the design and construction of all one- and 2-family dwellings.

This chapter does not include all of the code, but many of the critical components. A full copy of the regulations/code is included as a supplement to the course.

Chapter 4: Wisconsin Home Improvement Trade Practices

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) regulate unfair and deceptive business practices. DATCP has adopted a rule to protect consumers against unfair home improvement practices. This rule is found in Wisconsin Administrative Code chapter ATCP 110. ATCP 110 applies to nearly every kind of home improvement. These are regulations that all Dwelling Contractors should be aware of before soliciting business.

DATCP has also adopted a rule to protect consumers against fraudulent basement waterproofing practices in ATCP 111. Both ATCP 110 and 111 are summarized in Chapter 4.

Chapter 5 – Wisconsin Worker’s Compensation Laws

Chapter 5 is summary of Wisconsin Worker’s Compensation Laws. Most employers in Wisconsin are subject to these laws. Worker’s compensation is a system of no-fault insurance that pays benefits to employees for accidental injuries or diseases related to the employee’s work. In return for prompt and certain payment of benefits to an employee, an employer’s liability is limited.

Chapter 6 – OSHA Safety in Construction

Nearly 6.5 million people work at approximately 252,000 construction sites across the nation on any given day. The fatal injury rate for the construction industry is higher than the national average in this category for all industries. This chapter will highlight some of the most common hazards in the workplace along with solutions to help protect construction workers.

Chapter 7 – Erosion Control & Stormwater management

Land disturbing construction activities, except those activities necessary to implement erosion or sediment control practices, may not begin until the sediment control practices are in place for each area to be disturbed in accordance with the approved plan. Chapter 7 will cover the mandated practices and control standards.

CHAPTER 1 – Licensing, Certification & Registration

Comm 5.001 Purpose.

This chapter is to protect public and employee health, safety and welfare by establishing minimum standards for the qualifications and responsibilities of persons and businesses that are required or permitted to obtain licenses, certifications or registrations under chs. 101, 145 and 167, Stats.

Comm 5.002 Scope. This chapter applies to any person or business engaging or offering to engage in an activity or provide a service for which a license, certification or registration is required or desired under chs. 101, 145 and 167, Stats.

There are many definitions in the code but we have included ones that are the most common to the industry.

Comm 5.003 Definitions. In this chapter:

(1) “Approved” means accepted by the department.

(7) “Building permit” means an official document or certificate granting permission to perform construction or erosion control work, except for electrical, plumbing or HVAC, on a one- or 2-family dwelling.

(8) “Business establishment” means any industrial or commercial organization or enterprise, including but not limited to a proprietorship, partnership, firm, business trust, joint venture, syndicate, corporation or association.

(13) “Department” means the department of commerce.

(15) “Dwelling contractor” means any person, firm or corporation engaged in the business of performing construction or erosion control work on a one- or 2- family dwelling.

Note: Pursuant to s. 101.654 (1) (b), Stats, “dwelling contractor” does not include an owner of a dwelling who resides or will reside in the dwelling.

(32) “Negligence” means the failure to exercise the degree of care and judgment to protect public health and safety normally expected of an individual performing activities within the scope of a license, certification or registration category.

(32e) “Net worth” means the difference between the asset and liability values on a financial statement. Negative net worth is the excess of liabilities over assets.

(48m) “UDC” means chs. Comm 20 to 25, the Wisconsin uniform dwelling code.

(52) “Year” means 12 consecutive months.

Subchapter I — General Requirements

Comm 5.01 Application.

(1) Application for a license, certification or registration or a license, certification or registration examination covered under this chapter shall be submitted on a form prescribed by the department.

(2) An application for a license, certification or registration which either requires or recognizes the attendance at or completion of educational courses as a qualification for the license, certification or registration shall be accompanied by such evidence, including but not limited to transcripts, that verifies fulfillment of the prerequisite.

Comm 5.02 Fees.

(1) (a) Fees required for the various licenses, certifications or registrations and their processing under this chapter shall be determined in accordance with Table 5.02.

Comm 5.03 Petitions for variance.

An individual may submit a petition for variance to any rule in this chapter in accordance with ch. Comm 3.

Note: Many of the rules relating to credentials reflect specific statutory requirements; in such cases the department is not able to grant a petition for variance if it would supersede a statutory requirement.

Comm 5.04 Processing times. (1) An application for a license, certification or registration covered under this chapter shall be granted or denied by the department within 21 calendar days after the department receives all of the application materials necessary to obtain the license, certification or registration.

Comm 5.07 Renewal. (1) A notice of renewal shall be mailed by the department to a license, certification or registration holder at least 30 calendar days prior to the expiration of the license, certification or registration.

(b) Failure to receive a notice for renewal of a license, certification or registration shall not be considered as an excuse or good cause for failure to renew a license, certification or registration prior to the expiration of the license, certification or registration.

Comm 5.08 Continuing education.

(1) PROGRAM SPECIFICATIONS. (a) Only courses, programs and seminars approved in writing by the department shall be used for credit to fulfill continuing education requirements.

Comm 5.09 Examinations.

(1) For those license, certification or registration categories which require examination, the department shall conduct at least 4 license, certification or registration examinations annually for each license, certification or registration category at times and locations specified by the department.

Comm 5.10 Denial, suspension and revocation.

(1) The department may deny, suspend or revoke a license, certification or registration under this chapter in accordance with this subsection.

Comm 5.11 Responsibilities.

1. A person who holds a license, certification or registration under this chapter shall carry on his or her person the license, certification or registration issued by the department while performing or conducting the activity or activities permitted under the license, certification or registration.
2. A person who holds a license, certification or registration under this chapter shall upon request of the department or its representative present the license, certification or registration for identification.
3. The requirements of this section apply to licenses, certifications or registrations issued to an individual and not to a business.

Comm 5.12 Penalties. In addition to the forfeitures provided for in s. Comm 5.125, penalties for violations of the provisions of this chapter may be assessed in accordance with the respective penalty provisions in the statutes, depending upon the license, certification or registration category or activity involved.

Subchapter III — Dwellings, Structures and Sites

Comm 5.30 Building contractor.

(1) GENERAL.

(a) Except as provided in par. (b), no person or entity may engage in a construction business or offer to engage in a construction business that affects public buildings, places of employment, one- and 2- family dwellings, public swimming pools and water attractions, unless the person or entity holds a registration issued by the department as a registered building contractor.

(1m) Under this section:

(a) 1. “Construction business” means a trade that constructs, installs, or alters any element, component, material or device within or serving a building or structure where the element, component, material or device is regulated under one of the following codes:

- a. Chapter Comm 16, Electrical.
- b. Chapters Comm 20 to 25, Uniform Dwelling.
- c. Chapter Comm 28, Smoke Detectors.
- d. Chapter Comm 33, Passenger Ropeways.
- e. Chapter Comm 40, Gas Systems.
- f. Chapter Comm 41, Boilers and Pressure Vessels.
- g. Chapter Comm 43, Anhydrous Ammonia.
- h. Chapter Comm 45, Mechanical Refrigeration.
- i. Chapters Comm 61 to 66, Commercial Buildings.
- j. Chapters Comm 81 to 84, Plumbing.
- k. Chapter Comm 90, Public Swimming Pools and Water Attractions.

(3) QUALIFICATIONS FOR REGISTRATION. The person applying for a building contractor registration shall be the owner of the construction business, a partner in the construction business applying on behalf of a partnership, or the chairman of the board or chief executive officer applying on behalf of the construction corporation.

(4) RESPONSIBILITIES.

A person or entity that holds a building contractor registration shall do all of the following:

(a) Include his or her registration number on all construction bids and contracts.

(b) Not contract with another person or entity to engage in construction business activities unless the person or entity holds a credential under sub. (1) (a) or (b).

(c) Not commence a construction business activity until a permit is issued for the construction for any project that requires a uniform building permit under s. Comm 20.08.

(d) Not commence a construction business activity until a permit is issued for the construction for any project that requires a municipal building permit involving a public building, a place of employment or a one- or 2- family dwelling.

(e) Not commence a construction business activity until plan approval is required under s. Comm 61.30, 82.20, 83.22, or 90.04.

(5) RENEWAL

(b) The building contractor registration expires every 4 years from the date of issuance.

SUMMARY:

Who should have this credential? No person or entity may engage in a construction business or offer to engage in a construction business that affects public buildings, places of employment, one- and 2- family dwellings, public swimming pools and water attractions, unless the person or entity holds a registration issued by the department as a registered building contractor.

How does the credential vary from others in the field? You **do not** need to register as a building contractor if you already have one of the following credentials: dwelling contractor certification, dwelling contractor – restricted certification, manufactured home manufacturer license, manufactured home dealer license, manufactured home installer license, electrical contractor certification, electrical contractor – restricted certification, HVAC contractor registration, or an elevator contractor license. A person or entity that works only on real estate or property they own or lease also does not need to register as a building contractor. However, you must have a Dwelling Contractor or Dwelling Contractor Qualifier license to pull building permits.

What are the responsibilities of this credential? A person or entity that holds a building contractor registration shall do all of the following: Include their registration number on all construction bids and contracts; Not contract with another person or entity to engage in construction business activities unless the person or entity holds a credential under sub. (1) (a)

or (b) 1. Not commence a construction business activity until a permit is issued for the construction for any project that requires a uniform building permit under s. Comm 20.08. Not commence a construction business activity until a permit is issued for the construction for any project that requires a municipal building permit involving a public building, a place of employment or a one- or 2- family dwelling. Not commence a construction business activity until plan approval has been obtained as required under ss. Comm 61.30, 82.20, 83.22, or 90.04.

What are the prerequisites for obtaining the credential? The person applying for a building contractor registration shall be the owner of the construction business, a partner in the construction business applying on behalf of a partnership, or the chairman of the board or chief executive officer applying on behalf of the construction corporation.

How does someone apply for the credential? A person applying for a building contractor registration shall submit a completed application, a \$15 application fee if applying by mail (*no fee if application is submitted electronically*), and a \$100 license fee.

What is the term of the credential? Four years

Is there a continuing education requirement? No

How will the credential be renewed? A renewal letter will be sent to the credential holder approximately 45 days before the renewal date.

Comm 5.31 Dwelling contractor.

(1) GENERAL. Pursuant to s. 101.654 (1) (a), Stats., no person may ***obtain a building permit*** for a one- or 2-family dwelling unless the person complies with all of the following, except as provided under s. 101.654 (1) (b) and (c) 2., Stats.:

(a) Holds one of the following credentials issued by the department:

1. A dwelling contractor certification.
2. A dwelling contractor — restricted certification.

(b) Holds or engages, as an employee, a person who holds a certification issued by the department as a dwelling contractor **qualifier**.

(2) APPLICATION. A person applying for a Dwelling Contractor Certification (or Dwelling Contractor –restricted certification) shall submit an application in accordance with Comm 5.01. An application fee (\$15) and a certification fee (\$25) in accordance with Comm 5.02, Table 5.02 is also required.

(3) QUALIFICATIONS. (a) A person applying for a dwelling contractor certification or a dwelling contractor — restricted certification shall provide **all** of the following:

1. A statement certifying that the person complies with the worker’s compensation requirements and unemployment compensation requirements as specified under s. 101.654 (2), Stats.

2. Evidence of compliance with the liability or bond insurance requirements as specified under s. 101.654 (2) and (2m), Stats.

(b) The person applying for a dwelling contractor certification or a dwelling contractor — restricted certification shall be the owner of the contracting business, a partner in the contracting business applying on behalf of a partnership, or the chairman of the board or chief executive officer applying on behalf of the contracting corporation.

(4) RESPONSIBILITIES. (a) A person who holds a dwelling contractor certification or a dwelling contractor — restricted certification shall comply with the responsibilities under s. 101.654 (4), Stats.

Note: See the Appendix for a reprint of the requirements under s. 101.654 (4), Stats.

(b) For any construction project that requires a uniform building permit under s. Comm 20.08, a person who holds a dwelling contractor certification or a dwelling contractor — restricted certification may not commence construction until a permit is issued for the construction.

(c) For any construction project that involves installation or modification of a private onsite wastewater treatment system, a person who holds a dwelling contractor certification or a dwelling contractor — restricted certification may not commence construction until a sanitary permit is issued for the construction in accordance with s. Comm 83.21.

(d) A person who holds a dwelling contractor certification or a dwelling contractor — restricted certification may not contract with another person or entity to engage in construction business activities unless the person or entity holds a credential under s. Comm 5.30 (1) (a) or (b).

(5) RENEWAL. A dwelling contractor certification or a dwelling contractor-restricted certification shall be valid for no longer than one year after the date of issuance.

SUMMARY

Who should have these credentials? A person may obtain a building permit for a one- or two-family dwelling only if the person holds a dwelling contractor certification and/or a dwelling contractor - restricted certification, and a dwelling contractor qualifier certification, except as provided under s. 101.654(1)(b), Stats. There is an exception for an owner of a dwelling who resides or will reside in the dwelling and who applies for the building permit.

To obtain a one- or two-family dwelling building permit as of January 1, 2008, a person must have a dwelling contractor certification (or restricted) and have, or employ someone with, a dwelling contractor qualifier certification. People who obtain a dwelling contractor certification must take a course in order to obtain the qualifier certification or must employ someone with the qualifier certification. (The next section below will describe the qualifier certification, which applies to the individual.)

How does the restricted credential vary? The dwelling contractor-restricted category is for projects under \$25,000, for contractors who provide a surety bond of less than \$25,000. The figure of \$5,000 mentioned in 101.654(2)(a)1, Stats. is the minimum for providing a surety

bond. That minimum only is valid for the restricted category; there should be at least a \$25,000 bond for the "full" or unrestricted dwelling contractor category, if a bond is provided and not the certificate of insurance described in 101.654(2)(a)2, Stats.

What are the prerequisites for obtaining the dwelling contractor? A person applying for a dwelling contractor certification or a restricted certification shall provide evidence that the person complies with worker's compensation requirements, unemployment compensation requirements, and liability or bond insurance requirements as specified under s. 101.654(2) and (2m), Stats. The person applying shall be the owner of the contracting business, a partner in the contracting business applying on behalf of a partnership, or the chairman of the board or chief executive officer applying on behalf of the contracting corporation.

101.654(2) An applicant for a certificate of financial responsibility shall provide to the satisfaction of the department proof of all of the following:

(a) That the applicant has in force **one** of the following:

1. A bond endorsed by a surety company authorized to do business in this state of not less than \$5,000, conditioned upon the applicant complying with all applicable provisions of the one- and 2-family dwelling code and any ordinance enacted under s. 101.65(1)(a). (Note: As noted below in 2m, you must provide at least a \$25,000 bond if you want an unrestricted dwelling contractor license.)
2. A policy of general liability insurance issued by an insurer authorized to do business in this state insuring the applicant in the amount of at least \$250,000 per occurrence because of bodily injury to or death of others or because of damage to the property of others.

(b) If the applicant is required under s. 102.28(2)(a) to have in force a policy of worker's compensation insurance or if the applicant is self-insured in accordance with s. 102.28(2)(b), that the applicant has in force a policy of worker's compensation insurance issued by an insurer authorized to do business in this state or is self-insured in accordance with s. 102.28(2)(b).

(c) If the applicant is required to make state unemployment insurance contributions under ch. 108 or is required to pay federal unemployment compensation taxes under 26 USC 3301 to 3311, that the applicant is making those contributions or paying those taxes as required.

(2m) If an applicant wishes to use a bond under sub. (2)(a)1. of less than \$25,000 to comply with sub. (2) (a), the applicant shall agree not to perform any work on a dwelling for which the estimated cost of completion is greater than the amount of the bond. The department shall indicate any restriction under this subsection on the certificate of financial responsibility issued.

How does someone apply for the credentials? For a new Dwelling Contractor (and Restricted) Certification, a person shall provide an application form, a \$15 application fee, the information described above in "prerequisites," and a \$25 one-year certification fee.

What are the terms of the credential? The Dwelling Contractor (and Restricted) Certification is for one year from date of issuance.

Is there a continuing education requirement? There is not an education requirement for the Dwelling Contractor (and Restricted) Certification.

How will the credential be renewed? A renewal letter will be sent to the credential holder approximately 45 days before the renewal date.

Comm 5.315 Dwelling contractor qualifier.

(1) GENERAL.

The purpose of the dwelling contractor qualifier certification is to provide proof of fulfilling the continuing education obligations to the issuers of building permits as required under s.101.654 (1) (a), Stats.

Note: In order to build houses in Wisconsin, or even perform any work on them that requires a building permit you need BOTH the Dwelling Contractor Certification for you business AND the Dwelling Contractor Qualifier Certification for at least one owner, partner, or employee of your firm. Each of these credentials will have a different ID number and a different expiration date.

(2) APPLICATION. A person applying for a dwelling contractor qualifier certification shall submit all of the following:

- (a) An application in accordance with s. Comm 5.01.
- (b) An application fee and a certification fee in accordance with s. Comm 5.02, Table 5.02.
- (c) One of the following:

1. Evidence that the person has completed at least 12 hours in an approved course in dwelling construction within one year prior to the date of application. The course shall include instruction in at least the following subject matter and one or more tests on at least the following subject matter:

- a. Construction laws
- b. Construction codes.
- c. Construction business practices.

(3) RENEWAL.

The Dwelling Contractor Qualifier certification must be renewed every 2 years from the date of issuance and it shall be contingent upon the individual obtaining at least 12 hours of acceptable continuing education. The continuing education must be completed 3 months prior to the date of expiration.

SUMMARY

Who should have these credentials? A person may obtain a building permit for a one- or two-family dwelling only if the person holds a dwelling contractor certification and/or a

dwelling contractor - restricted certification, **and** a dwelling contractor qualifier certification, except as provided under s. 101.654(1)(b), Stats. There is an exception for an owner of a dwelling who resides or will reside in the dwelling and who applies for the building permit.

To obtain a one- or two-family dwelling building permit as of January 1, 2008, a person must have a dwelling contractor certification (or restricted) **and** have, or employ someone with, a dwelling contractor qualifier certification.

What are the prerequisites for obtaining the dwelling contractor qualifier certification?

A person wishing to obtain a dwelling contractor qualifier certification must attend 12 hours of approved qualifier training education and pass an exam given with that education. Proof of training attendance will need to be provided with the qualifier application.

How does someone apply for the credentials? For the Dwelling Contractor Qualifier Certification, a person shall provide an application form, a \$15 application fee, the information described above in "prerequisites," and a \$30 two-year certification fee.

What are the terms of the credential? The Dwelling Contractor Qualifier term is two years from the date of issuance.

Is there a continuing education requirement? Anyone wishing to renew their Dwelling Contractor Qualifier Certification will need to obtain 12 credit hours of continuing education over the two-year educational cycle.

How will the credential be renewed? A renewal letter will be sent to the credential holder approximately 45 days before the renewal date.

Chapter 2 – Comm 20: Administration and Enforcement

Subchapter I — Purpose and Scope

Comm 20.01 Purpose.

- (1) The purpose of this code is to establish uniform statewide construction standards and inspection procedures for one- and 2-family dwellings and modular homes in accordance with the requirements of ss. 101.60 and 101.70, Stats
- (2) The purpose of this code is to establish uniform installation and inspection procedures for manufactured homes in accordance with the requirements of s. 101.96, Stats.

Comm 20.02 Scope.

- (1) The provisions of this code apply to all of the following:
 - (a) **All one- and 2-family dwellings** built on or after the effective dates under s. Comm 20.03.
 - (b) **Adult family homes** providing care, treatment and services for 3 or 4 unrelated adults on or after the effective dates under Comm 20.03.
 - (c) **Community-based residential facilities** providing care, treatment and services for 5 to 8 unrelated adults built on or after the effective dates under s. Comm 20.03.
 - (d) **The onsite installation of a mobile home or manufactured home on piers**, regardless of the date of production of the home.
 - (e) **The onsite installation of a manufactured home, regardless of the type of foundation**, where the manufactured home has a production date on or after April 1, 2007.
 - (f) **The design and construction of a crawlspace, basement or foundation, other than piers, under a manufactured home** where the manufactured home has a production date on or after the effective dates under s. Comm 20.03.
 - (g) **All garages, carports, porches, stoops, decks, balconies, stairways and similar structures that are attached to any building** covered under this section that was constructed or had a production date on or after the effective dates under s. Comm 20.03.
 - (h) **Adjacent, unattached structures** listed under par. (g) that serve an exit from a dwelling.

Comm 20.03 Effective date.

The effective date of ch. Comm 22 is December 1, 1978. The effective date of chs. Comm 20, 21, 23, 24 and 25 is June 1, 1980.

Comm 20.04 Applications.

(1) NEW DWELLINGS.

- a) This code applies to all dwellings, dwelling units and foundations for dwelling units, for which the building permit application was made or construction commenced on or after the effective date of this code.

Comm 20.05 Exemptions.

(1) EXISTING DWELLINGS.

The provisions of this code shall not apply to dwellings and dwelling units, the construction of which was commenced prior to the effective date of this code, or to additions or alterations to such dwellings.

Subchapter II — Jurisdiction

Comm 20.06 Procedure for municipalities.

MUNICIPAL JURISDICTION.

- (a) *General.* 1. Except as provided in ss. 101.651 (1) and (2m), Stats., cities, villages and towns shall exercise jurisdiction over the construction and inspection of new dwellings.

Subchapter III — Definitions

There are many definitions in the code but we have included ones that are the most common to the industry.

- (2) “Addition” means new construction performed on a dwelling which increases the outside dimensions of the dwelling.
- (4) “Alteration” means an enhancement, upgrading or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a dwelling.
- (5) “Approved” means an approval by the department or its authorized representative. (Approval is not to be construed as an assumption of any legal responsibility for the design or construction of the dwelling or building component.)
- (5m) “Attached,” defining the relationship between another building and a dwelling, means at least one of the following conditions is present:
 - (a) There is a continuous, weatherproof roof between the two structures.
Note: The sides are not required to be enclosed with walls.
 - (b) There is a continuous, structural floor system between the two structures.
 - (c) There is a continuous foundation system between the two structures.
- (10) “Building system” means plans, specifications and documentation for a system of manufactured building or for a type or a system of building components, which may include structural, electrical, mechanical, plumbing and variations which are submitted as part of the building system.

(16) “Code” means chs. Comm 20 to 25, the Wisconsin uniform dwelling code.

(25) “Dwelling” means any building, the initial construction of which is commenced on or after the effective date of this code, which contains one or 2 dwelling units.

(34s) “Foundation” means the structural system used to transfer the weight of the building to the earth.

(52m) “Manufactured home” has the meaning as given in s. 101.91 (2), Stats.

Note: Under s. 101.91 (2), Stats., “manufactured home” means any of the following:

(am) A structure that is designed to be used as a dwelling with or without a permanent foundation and that is certified by the federal department of housing and urban development as complying with the standards established under 42 USC 5401 to 5425.

(c) A mobile home, unless a mobile home is specifically excluded under the applicable statute.

(60m) “Registered UDC inspection agency” means a person, business or entity that is registered with the department for the purpose of facilitating plan review, issuance of Wisconsin uniform building permits, and inspection of one- and 2-family dwellings in municipalities where the department has jurisdiction pursuant to s. 101.651 (3) (b), Stats.

(61) “Repair” means the act or process of restoring to original soundness, including redecorating, refinishing, nonstructural repairs or maintenance, or the replacement of existing fixtures, systems or equipment with the equivalent fixture, system or equipment.

(75m) “UDC” means chs. Comm 20 to 25, the Wisconsin uniform dwelling code.

Subchapter IV — Approval and Inspection of One- and 2-Family Dwellings.

Comm 20.08 Wisconsin uniform building permit.

(1) WHERE REQUIRED. Except as provided under s. Comm 20.09n(9) (b), a Wisconsin uniform building permit shall be obtained from the municipality administering and enforcing this code or from a registered UDC inspection agency administering and enforcing this code in a municipality where the department has jurisdiction pursuant to s. 101.651 (3) (b), Stats., before any on-site construction, including excavation for a structure, may begin.

(2) INSPECTIONS. A person who obtains a Wisconsin uniform building permit from a registered UDC inspection agency shall retain the same agency to conduct the inspections for the project under s. Comm 20.10.

Comm 20.09 Procedure for obtaining uniform building permit.

(1) APPLICATION. Application for a Wisconsin uniform building permit shall be on forms obtained from the department, the municipality or the authorized UDC inspection agency administering and enforcing this code. No application shall be accepted that does not contain all the information requested on the form.

(2) FILING OF PERMIT APPLICATIONS. (a) *Construction or installation of a dwelling.* 1. A

Wisconsin uniform building permit application for the construction or installation of a dwelling shall be filed with the municipality or the authorized UDC inspection agency administering and enforcing this code.

2. The municipality or authorized UDC inspection agency shall forward a copy of all applications for new dwellings to the department within 30 business days after permit issuance.

Note: The department requires copies of permits that are issued for new dwelling construction or installation, only. Permits issued for additions, alterations, garage construction, etc., should not be filed with the department.

(b) *Additions, alterations and repairs.* 1. When required by local ordinance, permit applications for additions, alterations and repairs shall be filed with municipalities and counties in accordance with their adopted ordinances.

(4) **PLAN SUBMITTALS.** At least 2 sets of plans for all one- and 2-family dwellings shall be submitted to the municipality or authorized UDC inspection agency administering and enforcing this code, for examination and approval at the time the Wisconsin uniform building permit application is filed.

(11) **TIME-SPAN FOR APPROVAL OR DENIAL.** Action to approve or deny a uniform building permit application shall be completed within 10 business days of receipt of all forms, fees, plans and documents required to process the application, and completion of other local prerequisite permitting requirements.

Comm 20.10 Inspections.

(1) INSPECTOR CERTIFICATION.

All inspections, for the purpose of administering and enforcing this code, shall be performed by an inspector certified in accordance with ch. Comm 5 who holds the respective credential for the inspection performed.

(2) GENERAL INSPECTION REQUIREMENTS.

(a) *General.* Inspections shall be conducted by the municipality or authorized UDC inspection agency administering and enforcing this code to determine if the construction or installations conform to the conditionally approved plans, the Wisconsin uniform building permit application and the provisions of this code.

(b) *Inspection notice.*

1. The applicant or an authorized representative shall request inspections from the municipality or authorized UDC inspection agency administering and enforcing this code.

2. Except as provided under subd. 3., construction may not proceed beyond the point of inspection until the inspection has been completed.

3. Construction may proceed if the inspection has not taken place by the end of the second business day following the day of notification or as otherwise agreed between the applicant and the municipality or authorized UDC inspection agency.

3) INSPECTION TYPES. (a) *General.* The inspections described in pars. (b) to (i) shall be performed to determine if the work complies with this code.

(b) *Erosion control inspection.* Erosion control inspections shall be performed concurrently with all other required construction inspections. Additional inspections for erosion control may be performed by the delegated authority.

(c) *Foundation excavation inspection.*

1. The excavation for the foundation shall be inspected after the placement of any forms or required reinforcement and prior to the placement of the permanent foundation material.

2. If a drain tile system is required, by the local inspector or by groundwater levels in the excavation, the presence and location of bleeders used to connect the interior and exterior drain tile shall be inspected at the same time as the excavation.

Note: This excavation inspection may be used to determine the need for drain tile under s. Comm 21.17.

(d) *Foundation reinforcement inspection.* The placement of reinforcement shall be inspected where the reinforcement is required for code compliance.

(e) *Foundation inspection.* The foundation shall be inspected after completion. Where dampproofing, exterior insulation or drain tile are required for code compliance, the foundation shall be inspected prior to backfilling.

(f) *Rough inspection.*

1. A rough inspection shall be performed for each inspection category listed under subd. 1. a. to e. after the rough work is constructed but before it is concealed.

a. The basement floor area.

Note: The inspection of the basement floor area should include the following: any under floor plumbing, electrical, or HVAC; any interior drain tile with base course required under s. Comm 21.17; the structural base course for the floor slab if required under s. Comm 21.20; and the underfloor vapor retarder as required under s. Comm 22.38.

b. General construction, including framing.

c. Rough electrical.

d. Rough plumbing.

e. Rough heating, ventilating and air conditioning.

2. All categories of work for rough inspections may be completed before the notice for inspection is given, provided the work has not been covered.

3. The applicant may request one rough inspection or individual rough inspections.

4. A separate fee may be charged for each individual inspection.

(g) *Insulation inspection.* An inspection shall be made of the insulation and vapor retarders after they are installed but before they are concealed.

(h) *Final inspection.* 1. Except as provided under subd. 2., the dwelling may not be occupied until a final inspection has been made that finds no critical violations of this code that could reasonably be expected to affect the health or safety of a person using the dwelling.

2. Occupancy may proceed in accordance with local ordinances if the inspection has not been completed by the end of the fifth business day following the day of notification or as otherwise agreed between the applicant and the department or municipality.

(i) *Installation inspection.* An inspection shall be performed on the installation of a manufactured home or modular home.

Note: The design and construction of manufactured homes is regulated by the federal Department of Housing and Urban Development under Title 24 CFR Part 3280.

(4) NOTICE OF COMPLIANCE OR NONCOMPLIANCE. (a) *General.* 1. Notice of compliance or noncompliance with this code shall be written on the building permit or another readily visible means and posted at the job site.

Comm 20.11 Suspension or revocation of Wisconsin uniform building permit.

(1) (a) The municipality or the registered UDC inspection agency administering and enforcing this code may suspend or revoke any Wisconsin uniform building permit where it appears that the permit or approval was obtained through fraud or deceit, where the applicant has willfully refused to correct a violation order or where the inspector is denied access to the premises.

(b) No construction may take place on the dwelling after suspension or revocation of the permit.

Comm 20.14 Approval procedures.

(1) APPLICATION FOR APPROVAL. (a) An application for approval of any modular home, building system or component shall be submitted to the department in the form required by the department, along with the appropriate fees in accordance with s. Comm 2.34.

(b) The department shall review and make a determination on an application for approval of a modular home, building system or component within 3 months.

Subchapter V — Approval and Inspection of Modular Homes and Their Components

Comm 20.12 Scope.

This part shall govern the design, manufacture, installation and inspection of modular homes, manufactured building systems and the components of the building systems displaying the Wisconsin insignia.

Comm 20.13 Manufacture, sale and installation of homes.

(1) MANUFACTURE AND SALE. No modular home, manufactured building system or component of the building system subject to this part shall be manufactured for use, sold for initial use or installed in this state unless it is approved by the department and it bears the Wisconsin insignia issued or a state seal or an insignia reciprocally recognized by the department.

Subchapter VI — Approval of Products

Comm 20.18 Building product approvals.

(1) VOLUNTARY APPROVAL. (a) Materials, equipment and products regulated by this code may receive a written approval from the department indicating code compliance.

(b) 1. Approval of materials, equipment and products shall be based on sufficient data, tests and other evidence that prove the material, equipment or product is in compliance with the standards specified in this code.

2. Tests, compilation of data, and calculations for materials, equipment and products shall be conducted by a qualified independent third party.

The only difference between Voluntary Approval And Alternate Approval is the word “intent”.

(2) ALTERNATE APPROVAL. (a) Materials, equipment and products which meet the intent of this code and which are not approved under sub. (1) shall be permitted if approved in writing by the department.

Subchapter VII — Variances, Appeals, Violations and Penalties

Comm 20.20 Municipal variance from the code.

Any municipality exercising or intending to exercise jurisdiction under this code may apply to the department for a variance permitting the municipality to adopt an ordinance not in conformance with this code. The department shall review and make a determination on a municipal request to adopt an ordinance not in conformance with this code within 60 business days of receipt of the request.

Comm 20.22 Penalties and violations.

(1) VIOLATIONS.

No person shall construct or alter any dwelling in violation of any of the provisions of this code.

(a) *Injunction.* When violations occur, the department may bring legal action to enjoin any violations.

(b) *Ordinances.* This code shall not affect the enforcement of any ordinance or regulation, the violation of which occurred prior to the effective date of this code.

(2) PENALTIES. (a) Pursuant to ss. 101.66 and 101.77, Stats., whoever violates this code shall forfeit to the state not less than \$25 nor more than \$500 for each violation. Each day that the violation continues, after notice, shall constitute a separate offense.

(b) Any person violating any rule of this code applying to manufactured homes is subject to the penalties prescribed in s. 101.94 (8), Stats.

(3) MUNICIPAL ENFORCEMENT. Any municipality which administers and enforces this code may provide, by ordinance, remedies and penalties for violation of that jurisdiction exercised under s. 101.65, Stats. These remedies and penalties shall be in addition to those which the state may impose under subs. (1) and (2).

Subchapter IX — Adoption of Standards

Comm 20.24 Adoption of standards.

(1) CONSENT. Pursuant to s. 227.21 (2), Stats., the attorney general has consented to the incorporation by reference of the standards listed in Tables 20.24–1 to 20.14–14.

(2) ADOPTION OF STANDARDS. The standards referenced in Tables 20.24–1 to 20.14–14 are incorporated by reference into this chapter.

Note: Copies of the adopted standards are on file in the offices of the department and the legislative reference bureau. Copies of the standards may be purchased through the respective organizations listed in Tables 20.24–1 to 20.14–14.

(3) ALTERNATE STANDARDS. (a) Alternate standards that are equivalent to or more stringent than the standards incorporated by reference in this chapter may be used in lieu of incorporated standards when approved by the department or if written approval is issued by the department in accordance with par. (b).

(b) 1. a. Upon receipt of a fee and a written request, the department may issue an approval for the use of the alternate standard.

b. The department shall review and make a determination on an application for approval within 40 business days of receipt of all forms, fees, and documents required to complete the review.

Chapter 3 - Construction Codes

Subchapter I — Scope

Comm 21.01 Scope.

The provisions of this chapter shall apply to the design and construction of all one- and 2-family dwellings.

Subchapter II — Design Criteria

Comm 21.02 Loads and materials.

Every dwelling shall be designed and constructed in accordance with the requirements of this section.

(1) DESIGN LOAD.

Every dwelling shall be designed and constructed to support the actual dead load, live loads and wind loads acting upon it without exceeding the allowable stresses of the material. The construction of buildings and structures shall result in a system that provides a complete load path capable of transferring all loads from point of origin through the load-resisting elements to the foundation.

(a) *Dead loads.* Every dwelling shall be designed and constructed to support the actual weight of all components and materials. Earth-sheltered dwellings shall be designed and constructed to support the actual weight of all soil loads.

(b) *Live loads.* 1. 'Floors and ceilings.' Floors and ceilings shall be designed and constructed to support the minimum live loads listed in Table 21.02. The design load shall be applied uniformly over the component area.

TABLE 21.02

Component	Live Load (pounds per sq. ft.)
Floors	40
Garage floors	50
Exterior balconies, decks, porches	40
Ceilings (with storage)	20
Ceilings (without storage)	5

2. 'Snow loads.' Roofs shall be designed and constructed to support the minimum snow loads listed on the zone map. The loads shall be assumed to act vertically over the roof area projected upon a horizontal plane.

(c) *Wind loads.* Dwellings shall be designed and constructed to withstand a horizontal and uplift pressure of 20 pounds per square foot acting over the surface area.

(d) *Fasteners.* All building components shall be fastened to withstand the dead load, live load and wind load.

(3) STRUCTURAL STANDARDS.

(a) *General.* Design, construction, installation, practice and structural analysis shall conform to

the following nationally recognized standards.

(b) *Wood*. 1. Except as provided in subd. 1. a. and b., structural lumber, glue-laminated timber, timber pilings and fastenings shall be designed in accordance with the “National Design Specification for Wood Construction” and the “Design Values for Wood Construction,” a supplement to the National Design Specification for Wood Construction.

a. Section 2.2.5.3. The cumulative effects of short-time loads, such as snow, shall be considered in determining duration of load. For snow load, no greater duration of load factor than 1.15 shall be used.

b. Section 4.1.7. The provisions of this section shall also apply to reused lumber. Reused lumber shall be considered to have a duration of load factor of 0.90.

2. Span tables for joists and rafters printed in the appendix or approved by the department may be used in lieu of designing by structural analysis.

3. Sawn lumber that is not graded in accordance with the standards under subd. 1., shall use the NDS published allowable design stresses for the lumber species using grade number 3 when used for studs, stringers, rafters or joists and may use grade number 1 when used for beams, posts or timbers.

(c) *Structural steel*. The design, fabrication and erection of structural steel for buildings shall conform to Specification for Structural Steel Buildings, Allowable Stress Design and Plastic Design and the provisions of the accompanying commentary as adopted under Table 20.24-3.

(d) *Concrete*. Plain, reinforced or pre-stressed concrete construction shall conform to the following standards:

1. ACI Standard 318, “Building Code Requirements for Reinforced Concrete”.
2. ACI Standard 318.1, “Building Code Requirements for Structural Plain Concrete”.

(e) *Masonry*. The design and construction of masonry shall conform to the following standards: 1. ACI 530, Building Code Requirements for Masonry Structures.

(f) *Engineered structural components*. Engineered structural components shall be used in accordance with structural analysis or with load tables supplied by the manufacturer, provided those load tables were developed using structural analysis or load testing.

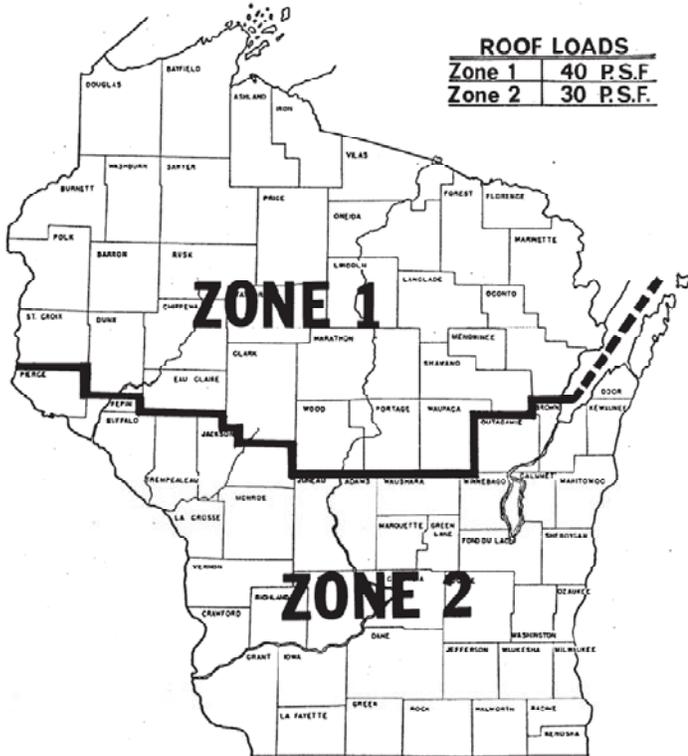
(g) *Whole logs*. Dwellings constructed of whole logs shall conform to the following standards:

1. ILBA Log Building Standards for Residential, Handcrafted, Interlocking, Scribe-fit Construction.

Note: This standard requires the minimum log diameter to be 8 inches.

2. ICC/ANSI 400, Standard on the Design and Construction of Log Structures.

Figure 21.02
ZONE MAP FOR ROOF LOADS



Comm 21.03 Exits.

Exits, doors and hallways shall be constructed as specified in this section.

(1) EXITS FROM THE FIRST FLOOR. (a) Except as allowed under par. (h), every dwelling unit shall be provided with at least 2 exit doors accessible from the first floor.

(b) At least one of the exits shall discharge to grade and may not go through a garage. This exit may include interior or exterior stairs.

(c) An additional exit may discharge to an outside balcony that complies with sub. (8).

(d) An additional exit may discharge into an attached garage provided the garage has an exit door that discharges to grade. An overhead garage door may not be used as an exit door.

(e) Except as allowed under pars. (f) and (h), the 2 required exit doors shall be separated by at least the greater of the following distances:

1. One-third the length of the longest diagonal of the floor in plan view, exclusive of an attached garage.

2. 20 feet.

(f) 1. First floor levels that do not meet the separation requirements under par. (e), shall have at

least one egress window complying with sub. (6) on that floor level.

2. An egress window to comply with subd. 1. shall be separated from at least one door on the first floor by one of the distances under par. (e).

3. If first floor levels that do not meet the separation requirements under par. (e) contain one or more sleeping rooms, each sleeping room shall have at least one egress window complying with sub. (6).

(g) 1. The exit separation distance required under par. (e) shall be calculated or measured as a straight line from the midpoint of one doorway to the midpoint of the other doorway.

2. For exiting through an attached garage, the separation distance shall be measured using the door connecting the garage and the dwelling. Distance within the garage shall be ignored.

(h) 1. Dwellings consisting of no more than a first floor with a maximum floor area of 400 square feet and a loft area not exceeding half of the first floor area, shall be provided with at least one exit door leading directly to the exterior and at least one egress window that complies with sub. (6).

2. a. Dwellings that meet the size restrictions under subd. 1., are not required to meet the exit separation requirements under par. (e) or (f).

b. If a dwelling that meets the size restrictions under subd. 1., has more than one room on the first floor, the door and the egress window shall be located in different rooms.

(2) EXITS FROM THE SECOND FLOOR. (a) At least 2 exits shall be provided from the second floor. One of the exits shall be a stairway or ramp and lead to the first floor or discharge to grade. The second exit may be via a stairway or ramp which discharges to grade or may discharge to a balcony which complies with sub. (8).

(b) Except as provided in par. (c), windows which comply with sub. (6) may be provided in each second floor bedroom in lieu of the second exit from the floor.

(c) Where the second floor is the lowest floor level in a dwelling unit, as in an up-and-down duplex, windows may not be provided as the second exit from the floor.

(3) EXITS ABOVE THE SECOND FLOOR. (a) Except as provided under pars. (b) and (c), each habitable floor above the second floor shall be provided with at least 2 exits that meet all of the following requirements:

1. The exits shall be stairways or ramps that lead to the second floor or discharge to grade.

2. The exits shall be located such that an exit is accessible to the second floor if another exit is blocked.

1. The dwelling is fully sprinklered in accordance with NFPA13R or NFPA 13D.

2. If a required exit includes an attached garage, the garage shall be sprinklered.

(4) EXITS FROM LOFTS. (a) At least one stairway exit shall be provided, to the floor below, for a loft exceeding 400 square feet in area.

(b) At least one stairway or ladder exit shall be provided to the floor below for a loft, 400 square feet or less, in area.

(5) EXITS FROM BASEMENTS AND GROUND FLOORS.

(a) *General.*

Except as provided in par. (b), all basements and ground floors shall be provided with at least one exit of the following types:

1. A door to the exterior of the dwelling.
2. A stairway or ramp that leads to the floor above.

(6) WINDOWS USED FOR EXITING. Windows which are installed for exit purposes shall comply with the requirements of this subsection.

(a) The window shall be openable from the inside without the use of tools or the removal of a sash. If equipped with a storm or screen, it shall be openable from the inside.

(b) 1. The nominal size of the net clear window opening shall be at least 20 inches by 24 inches irrespective of height or width. Nominal dimensions shall be determined by rounding up fractions of inches if they are $\frac{1}{2}$ inch or greater or rounding down fractions of inches if they are less than $\frac{1}{2}$ inch.

(7) DOORS USED FOR EXITING. (a) Doors used for exiting from a dwelling shall meet the following dimensions:

1. At least one exit door shall be a swing-type door at least 80 inches high by 36 inches wide.
2. Except as allowed under subds. 3. and 4., other required exit doors shall be at least 76 inches high by 32 inches wide.
3. Where double doors are used as a required exit, each door leaf shall provide a clear opening at least 30 inches wide and be at least 76 inches high.
4. Where sliding doors are used as a required exit, the clear opening shall be at least 30 inches wide and be at least 76 inches high.

(8) BALCONIES. (a) Balconies shall be made of concrete, metal or wood which is treated,

protected or naturally decay-resistant in accordance with s. Comm 21.10.

(9) SPLIT LEVEL DWELLINGS. In determining the exit requirement in a split level dwelling, all levels that are to be considered a single story shall be within 5 feet of each other.

(10) TWO-FAMILY DWELLINGS. In a 2-family dwelling, each dwelling unit shall be provided with exits in compliance with this section.

Comm 21.035 Interior circulation.

(1) DOORS AND OPENINGS. All doors and openings to the following areas shall be at least 80 inches high and provide either a net clear opening width of 30 inches or be a 32-inch door:

(a) Except as provided under pars. (b) and (c), all entrances into common use areas.

(b) At least 50% of the bedrooms.

(c) 1. At least one full bathroom, including doors or openings to a sink, toilet and tub or shower. If this bathroom is accessible only through a bedroom, the bedroom door shall meet the minimum width requirements of this section.

(2) HALLWAYS. (a) Except as allowed under par. (b), the clear width of hallways shall be at least 36 inches.

(b) The following are allowed to infringe on the required clear width of a hallway:

1. Door hardware and finish trim.
2. Handrails may infringe into the minimum width of a hallway up to 4 1/2 inches on each side.
3. Heating registers may infringe into the minimum width of a hallway up to 4 1/2 inches and no part of the register may be more than 38 inches above the floor.
4. Ducts, pipes, light fixtures, structural features, and corner treatments that are within 84 inches of the floor may infringe into the minimum width of a hallway by a maximum of 4 1/2 inches on each side.
5. Unlimited infringements are allowed in a hallway more than 84 inches above the floor.

(3) KITCHENS. (a) There shall be at least 30 inches of clearance between a wall, a permanently-installed kitchen island, permanently-installed kitchen cabinets and the following kitchen appliances, if provided:

1. A range, cook top or oven.
2. A sink, refrigerator or freezer.

(b) Measurements shall be taken from the face of the wall, island, cabinet or appliance, ignoring knobs and handles.

Comm 21.04 Stairways and elevated areas.

(2) DETAILS. (a) *Width.* 1. Except for spiral staircases under subd. 2., stairways shall measure at least 36 inches in width. Handrails and associated trim may project a maximum of 4.5 inches into the required width at each side of the stairway.

2. Risers in spiral staircases may not exceed 9.5 inches in height measured vertically from tread to tread.

(c) *Tread depth.* 1. 'Rectangular treads.' Rectangular treads shall have minimum tread depth of 9 inches measured horizontally from nosing to nosing.

(3) HANDRAILS AND GUARDRAILS. (a) *General.* 1. Stair flights with more than 3 risers shall be provided with at least one handrail for the full length of the stair flight.

4. a. Handrails and guardrails shall be designed and constructed to withstand a 200 pound load applied in any direction.

(c) *Guardrails.* 1. 'Application.' a. All openings between floors, and open sides of landings, platforms, balconies or porches that are more than 24 inches above grade or a floor shall be protected with guardrails.

Comm 21.042 Ladders.

Ladders which are used as part of a required exit shall conform to this section.

(1) DESIGN LOAD. Ladders shall be designed to withstand loads of at least 200 pounds.

(2) TREAD OR RUNGS. (a) Minimum tread requirements shall be specified in Table 21.042. Treads less than 9 inches in width shall have open risers. All treads shall be uniform in dimension.

Comm 21.045 Ramps.

(2) SLOPE. Ramps shall not have a gradient greater than 1 in 8 or one foot of rise in 8 feet of run. Walkways with gradients less than 1 in 20 or one foot of rise in 20 feet of run are not considered to be ramps.

(3) SURFACE AND WIDTH. Ramps shall have a slip resistant surface and shall have a minimum width of 36 inches measured between handrails.

Comm 21.05 Natural light and natural ventilation.

(3) SAFETY GLASS. Except as provided in par. (e), glazing shall consist of safety glass meeting the requirements of CPSC 16 CFR, Part 1201 when installed in any of the following locations:

(a) In any sidelight or glazing adjacent to a door that meets all of the following:

1. The nearest point of the glazing is within 2 feet of the door.
2. The nearest point of the glazing is within 5 feet of the floor.
3. The plane of the glazing is within 30 degrees of the plane of the door when the door is in the closed position

Comm 21.06 Ceiling height.

All habitable rooms, kitchens, hallways, bathrooms and corridors shall have a ceiling height of at least 7 feet. Habitable rooms may have ceiling heights of less than 7 feet provided at least 50% of the room's floor area has a ceiling height of at least 7 feet. Beams and girders or other projections shall not project more than 8 inches below the required ceiling height.

Comm 21.07 Attic and crawl space access.

(1) ATTIC. Attics with 150 or more square feet of area and 30 or more inches of clear height between the top of the ceiling framing and the bottom of the rafter or top truss chord framing shall be provided with an access opening of at least 14 by 24 inches, accessible from inside the structure.

(2) CRAWL SPACES. Crawl spaces with 18 inches of clearance or more between the crawl space floor and the underside of the house floor joist framing shall be provided with an access opening of at least 14 by 24 inches.

Comm 21.08 Fire separation and dwelling unit separation.

TABLE 21.08

Between Dwelling And:	Distance Between Objects ¹	Fire Rated Construction ^{2,5}
Detached garage or accessory building on same property	Less than 5 feet	3/4-hour wall ³ 1/3-hour door or window ³
Another dwelling on same property	Less than 5 feet	3/4-hour wall ⁴ 1/3-hour door or window ⁴
Detached garage, accessory building, or other dwelling on same property	5 to 10 feet	3/4-hour wall ³ No requirement on openings
Detached garage, accessory building, or other dwelling on same property	More than 10 feet	No requirements
Property Lines	Less than 3 feet	3/4-hour wall 1/3-hour door or window
Property Lines	3 feet or more	No Requirements
Zero Lot Line	None	Follow sub. (2) (d) requirements

Comm 21.085 Fireblocking.

(1) FIREBLOCKING LOCATIONS.

Fireblocking shall be provided in all of the following locations:

- (a) In concealed spaces of walls and partitions, including furred spaces, at the ceiling and floor levels.
- (b) At all interconnections between concealed vertical and horizontal spaces including the attachment between a carport and a dwelling.
- (c) In concealed spaces between stair stringers at the top and bottom of the run and at any intervening floor level.
- (d) At all openings around wires, cables, vents, pipes, ducts, chimneys and fireplaces at ceiling and floor level.

(2) FIREBLOCKING MATERIALS. Fireblocking shall consist of one of the following:

- (a) 2-inch nominal lumber.
- (b) Two layers of one-inch nominal lumber.
- (c) One thickness of 3/4-inch nominal plywood or wood structural panel with any joints backed with the same material.
- (d) One thickness of 1/2-inch gypsum wallboard, face nailed or face screwed to solid wood, with any joints backed with the same material.

Comm 21.09 Smoke detectors.

(1) A listed and labeled multiple-station smoke alarm with battery backup shall be installed in all of the following locations:

- (a) An alarm shall be installed inside each sleeping room.
- (b) On floor levels that contain one or more sleeping areas, an alarm shall be installed outside of the sleeping rooms, within 21 feet of the centerline of the door opening to any sleeping room and in an exit path from any sleeping room.
- (c) On floor levels that do not contain a sleeping area, an alarm shall be installed in a common area on each floor level.

Comm 21.095 Automatic fire sprinklers.

(1) Except as allowed under sub. (2), where automatic fire sprinklers using a dedicated water supply system are installed, the design, installation, testing and maintenance shall follow the requirements of NFPA 13D.

(2) Limited area dwelling systems are allowed.

Comm 21.097 Carbon monoxide alarms.

(1) DEFINITIONS.

In this section:

(a) “Fuel-burning appliance” has the meaning given in s. 101.647 (1) (b), Stats. Fuel-burning appliances include stoves, ovens, grills, clothes dryers, furnaces, boilers, water heaters, fireplaces and heaters.

(2) **NEW CONSTRUCTION.** (a) *General.* Except as provided in sub. (4), listed and labeled carbon monoxide alarms shall be installed and maintained in accordance with s. 101.647 (2) to (6), Stats., in one and 2-family dwellings, for which building permit applications were made or construction commenced on or after February 1, 2011.

(b) *Location.* 1. On floor levels that contain one or more sleeping areas, a carbon monoxide alarm shall be installed outside of the sleeping area, within 21 feet of the centerline of the door opening to any sleeping area and in an exit path from any sleeping area.

2. On floor levels that do not contain a sleeping area, a carbon monoxide alarm shall be installed in a common area on each floor level.

(c) *Electrical service and interconnection.*

1. Except as provided in sub. 2., carbon monoxide alarms shall be continuously powered by the house electrical service, shall have a backup power supply and shall be interconnected so that activation of one alarm will cause activation of all alarms.

2. Dwellings with no electrical service shall be provided with battery-powered carbon monoxide alarms in the locations under par. (b). Interconnection is not required in these dwellings.

Comm 21.10 Protection against decay and termites.

(1) Wood used in any of the applications under this section shall meet all of the following requirements:

(a) The wood shall be labeled and pressure treated with preservative in accordance with an AWP standard or shall be naturally durable and decay-resistant or shall be engineered to be decay resistant.

(b) The wood shall be pressure treated with preservative or shall be naturally termite-resistant unless additional steps are taken to make the wood termite-resistant.

Comm 21.11 Foam plastic.

(1) (a) *General.* Foam plastic insulation shall have a flame-spread rating of 75 or less and a smoke-developed rating of 450 or less when tested in accordance with ASTM E-84.

(b) *Thermal barrier.* Except as provided in par. (c), foam plastic insulation shall be separated from the interior of the dwelling by one of the following thermal barriers:

1. 1/2-inch gypsum wallboard.
2. 1/2-inch nominal wood structural panel.
3. 3/4-inch sawn lumber with tongue-and-groove or lap joints.
4. 1-inch of masonry or concrete.

Comm 21.115 Installation of elevators or dumbwaiters.

Elevators or dumbwaiters serving dwelling units shall comply with the requirements under ch. Comm 18.

Subchapter III — Excavations

Comm 21.12 Grade.

The finished grade of the soil shall slope away from the dwelling at a rate of at least 1/2 inch per foot for a minimum distance of 10 feet, or to the lot line, whichever is less.

(2) MANDATED PRACTICES. Specific practices at each site where land disturbing construction activity is to occur shall be utilized to prevent or reduce all of the following:

- (a) The deposition of soil from being tracked onto streets by vehicles.
- (b) The discharge of sediment from disturbed areas into on-site storm water inlets.
- (c) The discharge of sediment from disturbed areas into abutting waters of the state.
- (d) The discharge of sediment from drainage ways that flow off the site.
- (e) The discharge of sediment by dewatering activities.
- (f) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.

Comm 21.126 Storm water management.

Storm water management practices shall be employed in accordance with s. NR 151.12 and maintained when the land disturbing construction activity involves one or more acres.

Comm 21.13 Excavations adjacent to adjoining property.

(1) NOTICE. Any person making or causing an excavation which may affect the lateral soil support of adjoining property or buildings shall provide at least 30 days written notice to all owners of adjoining buildings of the intention to excavate. The notice shall state that adjoining buildings may require permanent protection.

Subchapter IV — Footings

Comm 21.15 Footings.

(1) GENERAL. (a) The dwelling and attached structures, such as decks and garages, shall be supported on a structural system designed to transmit and safely distribute the loads to the soil.

(b) The loads for determining the footing size shall include the weight of the live load, roof, walls, floors, pier or column, plus the weight of the structural system and the soil over the footing.

(c) Footings shall be sized to not exceed the allowable material stresses.

(d) The bearing area shall be at least equal to the area required to transfer the loads to the supporting soil without exceeding the bearing capacity of the soil.

(e) Structures supported on floating slabs or similar shallow foundations may not be physically attached to structures that are supported by footings that extend below the frost line unless an isolation joint is used between the structures. This isolation shall extend for the full height of the structure.

(2) SIZE AND TYPE. Unless designed by structural analysis, unreinforced concrete footings shall comply with the following requirements:

(a) *Continuous footings.* The minimum width of the footing on each side of the foundation wall shall measure at least 4 inches wider than the wall. The footing depth shall be at least 8 inches nominal. Footing placed in unstable soil shall be formed. Lintels may be used in place of continuous footings when there is a change in footing elevation.

Note: Unstable soil includes soils that are unable to support themselves at a 90 degree angle for the full depth of the footing.

(b) *Column or pier footing.*

1. The minimum width and length of column or pier footings shall measure at least 2 feet by 2 feet.

2. The minimum depth of column or pier footings shall measure at least 12 inches nominal.

(c) *Trench footings.* Footings poured integrally with the wall may be used when soil conditions permit. The minimum width shall be at least 8 inches nominal.

Comm 21.16 Frost protection.

(1) GENERAL.

(a) Except as allowed under sub. (2), footings and foundations, including those for ramps and stoops, shall be placed below the frost penetration level or at least 48 inches below adjacent grade, whichever is deeper.

Comm 21.17 Drain tiles.

(1) DETERMINATION OF NEED.

(a) *New construction.* 1. Except as provided under sub. (2), a complete drain tile or pipe system shall be installed around the foundation of dwellings under construction where groundwater occurs above the bottom of the footing.

Subchapter V — Foundations

Comm 21.18 Foundations.

(1) GENERAL.

(a) *Design.*

Foundation walls shall be designed and constructed to support the vertical loads of the dwelling, lateral soil pressure, and other loads without exceeding the allowable stresses of the materials of which the foundations are constructed.

(b) *Lateral support at base.* Lateral support such as floor slabs or framing shall be provided at the base of foundation walls.

(c) *Lateral support at top.* Lateral support shall be provided at the top of the foundation walls by one of the following:

2. Structural analysis. A system designed through structural analysis.

3. Anchor bolts.

a. Structural steel anchor bolts, at least ½ inch in diameter, embedded at least 7 inches into the [concrete or] grouted masonry with a maximum spacing of 72 inches and located within 18 inches of wall corners.

b. A properly sized nut and washer shall be tightened on each bolt to the plate or sill.

(3) MASONRY FOUNDATION WALLS.

(a) *Dampproofing.* 1. Except as allowed under subd. 3., masonry block foundation walls shall be coated with a layer of minimum 3/8-inch thick type M or S portland cement mortar parging on the exterior of the wall from footing to finished grade.

Subchapter VI — Floors

Comm 21.20 Concrete floors.

(1) When concrete floors are provided, the thickness of the concrete shall measure at least 3 inches.

(2) When a concrete floor is placed in clay soils, a 4-inch thick base course shall be placed in the subgrade consisting of clean graded sand, gravel or crushed stone.

(3) When a concrete floor is placed on sand or gravel soils, the base course may be omitted unless drain tile is installed. If drain tile is installed, the requirements of s. Comm 21.17 shall be met.

Comm 21.203 Garage floors.

(1) MATERIALS. Garage floors shall be constructed of concrete or other noncombustible materials which are impermeable to petroleum products. Slab-on-grade concrete garage floors shall be at least 4 inches thick and placed over at least 4 inches of granular fill.

Comm 21.22 Wood frame floors.

Unless designed through structural analysis, wood frame floors shall comply with the following requirements:

(1) FLOOR JOISTS. (a) *General.*

1. Floor joists shall comply with the structural requirements and live load determination under s. Comm 21.02.

2. Where the joists of a floor system are parallel to, and located between bearing walls above and below, the joists shall be doubled.

(b) *Floor joists on concrete walls.* Where a sill plate is provided for floor joists on poured concrete, the sill plates shall be fastened to the foundation.

(c) *Floor joists on masonry walls with a solid top course.* Where a sill plate is provided for floor joists on solid block top course masonry, the sill plate shall be fastened to the foundation.

(d) *Floor joists on masonry walls with open top course.*

1. Where the masonry wall has an open top course, a sill plate at least as wide as the foundation wall shall be fastened to the foundation.

2. Where anchor bolts are used on masonry walls with an open top course, the minimum width of an individual piece making up the sill plate shall be at least 5.5 inches.

(7) FLOOR OPENINGS. Trimmers and headers shall be doubled when the span of the header exceeds 4 feet. Headers which span more than 6 feet shall have the ends supported by joist hangers or framing anchors, unless the ends are supported on a partition or beam. Tail joists (joists which frame into headers) more than 8 feet long shall be supported on metal framing

anchors or on ledger strips of at least 2 inches by 2 inches nominal.

(8) (e) Planks. Planks shall be tongue and groove or splined and at least 2 inches, nominal, in thickness. Planks shall terminate over beams unless the joints are end matched. The planks shall be laid so that no continuous line of joints will occur except at points of support. Planks shall be nailed to each beam.

Comm 21.225 Decks.

Decks attached to dwellings and detached decks which serve an exit shall comply with the applicable provisions of this chapter, including but not limited to:

- (1) Excavation requirements of s. Comm 21.14;
- (2) Footing requirements of s. Comm 21.15 (2) (f);
- (3) Frost penetration requirements of s. Comm 21.16;
- (4) Load requirements of s. Comm 21.02;
- (5) Stair, handrail and guardrail requirements of s. Comm 21.04; and
- (6) Decay **protection requirements** of s. Comm 21.10

Subchapter VII — Walls

Comm 21.23 Wall design.

(1) LIVE AND DEAD LOADS.

All walls shall support all superimposed vertical dead loads and live loads from floors and roofs.

(2) HORIZONTAL WIND LOAD. Walls shall be designed to withstand a horizontal wind pressure of at least 20 pounds per square foot applied to the vertical projection of that portion of the dwelling above grade. No wind load reduction shall be permitted for the shielding effect of other buildings.

Comm 21.24 Exterior covering.

(1) GENERAL. The exterior walls shall be covered with a permanent weather resistant finish.

(2) DURING CONSTRUCTION. During construction, wall cavity insulation may not be installed until a water-resistant covering is in place over the wall cavity and windows, doors and a roof with at least underlayment are installed.

(3) FLASHING. (a) Corrosion-resistant flashing shall be installed in the exterior wall to prevent water from entering the wall cavity or coming in contact with the structural framing components.

(b) The flashing shall extend to the surface of the exterior wall finish and prevent water from reentering the exterior wall.

(c) 1. Any joints between 2 pieces of flashing that form a vertical joint shall be lapped a minimum of 6 inches and sealed.

2. Any joints between 2 pieces of flashing that form a horizontal joint shall be lapped a minimum of 2 inches and sealed unless otherwise specified by the flashing manufacturer.

3. Sealants used for flashing shall be exterior grade and shall be compatible with the materials being sealed.

(d) Flashing shall be provided at all of the following locations:

1. At the top of all exterior door and window openings, unless using self-flashing windows that provide at least one inch of flashing around the opening, including the corners.

2. At the intersection of chimneys or other masonry construction with frame walls.

3. Under and at the ends of masonry, wood or metal copings and sills.

4. Continuously above all projecting wood trim.

5. Where porches, decks or stairs attach to a wall or floor assembly of wood frame construction.

6. At wall and roof intersections.

7. At built-in gutters.

(4) WATER-RESISTIVE BARRIER REQUIREMENTS.

(a) *General.*

1. Exterior walls of wood or metal frame construction shall be provided with a water-resistive barrier from the highest point to the bottom of the permanent weather-resistant covering.

2. (b) *Material compatibility.* The water-resistive barrier material shall be compatible with the other materials in the wall with which it will come into contact.

(d) *Application.* 1. Horizontal seams in sheet or strip material shall be overlapped such that the upper layer extends over the lower layer at least 2 inches.

(e) 2. Penetrations of 5 square inches or less with an annular space of no more than 1/2 inch shall be sealed with caulk or similar material.

3. Penetrations of greater than 5 square inches shall be flashed in accordance with sub. (3)

Comm 21.25 Wood frame walls.

(2) TOP PLATES. (a) *General.* Except as allowed under subd. 3., top plates shall be provided and configured as follows:

1. Studs at bearing walls shall be capped with double top plates.
2. End joints in double top plates shall be offset at least 2 stud spaces.
3. Double top plates shall be overlapped at the corners and at intersections of partitions.
4. The plate immediately above the stud may have a joint only when directly over the stud.

(c) *Exceptions.* 1. A single top plate may be used in place of a double top plate provided a rafter is located directly over the studs and the plate is securely tied at the end joints, corners and intersecting walls. Joints may occur in single top plates only when directly over a stud.

(3) WALL OPENINGS.

1. Headers 3 feet or less in length shall be directly supported on each end by either:
 - a. The single common stud and a shoulder stud; or
 - b. The single common stud with a framing anchor attached.
2. Headers greater than 3 feet but less than or equal to 6 feet in length shall be directly supported on each end by the single common stud and a shoulder stud.
3. Headers greater than 6 feet in length shall be directly supported on each end by the single common stud and 2 shoulder studs.

Comm 21.26 Masonry walls.

Masonry walls shall be constructed in accordance with the requirements of this section.

(1) COLD WEATHER WORK. When ambient air temperature is below 40_F, the cold weather construction procedures under ACI 530.1 shall be followed.

TABLE 21.26-A
TYPES OF MORTAR FOR VARIOUS KINDS OF MASONRY

Kind of Masonry	Types of Mortar
Foundations:	
Footings	M, S
Walls of solid units	M, S, N
Walls of hollow units	M, S
Hollow walls	M, S
Masonry other than foundation masonry:	
Piers of solid masonry	M, S, N
Piers of hollow units	M, S
Walls of solid masonry	M, S, N, O
Walls of solid masonry not less than 12 in. thick or more than 35 ft. in height, supported laterally at intervals not exceeding 12 times the wall thickness	M, S, N, O
Walls of hollow units; load-bearing or exterior, and hollow walls 12 in. or more in thickness	M, S, N
Hollow walls, less than 12 in. thick	M, S, N
Linings of existing masonry, either above or below grade ..	M, S
Masonry other than above	M, S, N

(9) BEARING

(b) *Continuous loads.* Joists, trusses and beams other than wood, spaced 4 feet or less on center and 40 feet or less in length, slabs or other members causing continuous loads shall be transmitted to masonry with a minimum bearing of 3 inches upon solid masonry at least 2 inches in height, or as indicated for concentrated loads.

Subchapter VIII — Roof and Ceilings

(3) UPLIFT AND SUCTION FORCES.

(a) *General.* 1. Roofs shall withstand a pressure of at least 20 pounds per square foot acting upward normal to the roof surface.

2. Roof overhangs, eaves, canopies and cornices shall withstand an upward wind pressure of at least 20 pounds per square foot applied to the entire exposed area.

(b) *Anchorage.* 1. Roof framing members spanning more than 6 feet measured from the outermost edge of the roof shall be permanently fastened to the top plate of load bearing walls using engineered clips, straps or hangers.

2. Roof framing members spanning 6 feet or less measured from the outermost edge of the roof shall be permanently fastened to the top plate of load bearing walls using toe-nailing or engineered clips, straps or hangers.

(c) *Boring.* 1. Holes bored within 2 inches of the top or bottom of ceiling joists or rafters may not be located in the middle 1/3 of the span of the member.

2. The diameter of a hole may not exceed 1/3 the depth of the member.
3. A hole may not be bored within 2 inches of a notch or another hole.
4. The distance between adjacent holes may not be less than the diameter of the larger hole.

Comm 21.28 Weather protection for roofs.

(1) GENERAL.

- (a) All roofs shall be designed and constructed to assure drainage of water.
- (b) All fasteners shall be corrosion resistant.

(2) UNDERLAYMENT FOR SHINGLES. Underlayment consisting of number 15 asphalt-impregnated felt paper or equivalent or other type I material that shows no water transmission when tested in accordance with ASTM D 226 or ASTM D 4869 shall be provided under shingles.

Subchapter IX — Fireplace Requirements

Comm 21.29 Masonry fireplaces. Masonry fireplaces shall be constructed of masonry, stone or concrete. Masonry fireplaces shall be supported on foundations of concrete or masonry. Structural walls shall be at least 8 inches thick.

(1) FLUE SIZE. The fireplace flue size shall be based on the type of flue and the fireplace opening indicated in Table 21.29.

TABLE 21.29

MINIMUM FLUE SIZE FOR MASONRY FIREPLACES

Type of Flue	Minimum Cross-Sectional Area
Round	$\frac{1}{12}$ of fireplace opening but not less than 75 square inches.
Square or rectangular	$\frac{1}{10}$ of fireplace opening but not less than 75 square inches.

(2) TERMINATION OF CHIMNEY. Masonry fireplace chimneys shall extend at least 3 feet above the highest point where the chimney passes through the roof and at least 2 feet higher than any portion of the dwelling within 10 feet of the chimney.

(3) FIREBOX MATERIALS. The firebox shall be of the preformed metal type, at least 1/4-inch thick, or listed by a nationally recognized laboratory; or shall be lined with firebrick, at least 2 inches thick and laid in thin joints of refractory cement. The back and sidewalls of the firebox, including the lining, shall be at least 8 inches nominally thick masonry, at least 4 inches of which shall be solid.

(4) LINTEL. Masonry over the fireplace opening shall be supported by a lintel of steel or masonry.

Comm 21.30 Masonry chimneys.

Masonry chimneys shall conform to the following provisions:

(1) MATERIALS. No masonry chimney shall rest upon wood. The foundation shall be designed and built in conformity with the requirements for foundations. Masonry chimney walls shall be at least 4 inches in nominal thickness. Hollow cored masonry units may be used to meet the 4 inch nominal thickness requirement.

Comm 21.32 Factory–built fireplaces.

Factory–built fireplaces consisting of a fire chamber assembly, one or more chimney sections, a roof assembly and other parts shall be tested and listed by a nationally recognized testing laboratory.

(1) FIREPLACE ASSEMBLY AND MAINTENANCE. The fireplace assembly shall be erected and maintained in accordance with the conditions of the listing.

(a) All joints between the wall or decorative facing material and the fireplace unit shall be completely sealed, firestopped or draft–stopped with a noncombustible caulk or equivalent.

(b) Doors installed on factory built fireplaces shall conform with the terms of the listing and the manufacturers installation instructions for the fireplace unit.

(2) DISTANCE FROM COMBUSTIBLES. Portions of the manufactured chimney extending through combustible floors or roof/ceiling assemblies shall be installed in accordance with the distances listed on the chimney in order to prevent contact with combustible materials.

Subchapter X — Construction in Floodplains

(2) ELEVATION.

(a) *General.* Except as provided in pars. (b) and (c), all dwellings constructed within a flood fringe area shall be elevated so the lowest floor and all basement floor surfaces are located at or above the base flood elevation.

(b) *Certified floodproof basements.* Floodproof basements may have the top of the basement floor no more than 5 feet below the base flood elevation provided the basement is designed by a registered architect or engineer to be watertight and impermeable. No limitation is placed on the use or occupancy of a certified floodproof basement by the provisions of this subchapter.

Comm 21.34 Construction in coastal floodplains.

(1) GENERAL. All dwellings constructed in coastal floodplains shall be designed by a registered architect or engineer and shall meet the requirements of this section and s. Comm 21.33.

(2) ELEVATION. All dwellings constructed in a coastal floodplain shall be elevated so the

lowest portion of all structural members supporting the lowest floor, with the exception of mat or raft foundations, pilings, piling caps, columns, grade beams and bracing, is located at or above the base flood elevation.

Subchapter XI — Installation of Manufactured Homes

Comm 21.40 Installation standards.

(1) (a) The installation of a manufactured home produced on or after April 1, 2007 shall comply with procedures acceptable to the department.

(b) Acceptable installation procedures shall address all of the following:

1. Soil mechanics.
 2. Site preparation.
 3. Structural support, stabilization and anchorage.
 4. Setting.
 5. Ventilation of crawl spaces.
 6. Connections, plumbing, electrical, HVAC.
 7. Joining of home sections.
3. The home site shall be graded to permit water to drain from under the home and away from the home for a minimum of 5 feet from the home.
4. Every pier shall be supported by a footing. Each footing shall be no less than a nominal 16 inches by 16 inches.

Chapter 4 - Wisconsin Home Improvement Trade Practices

ATCP 110

Overview

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) regulate unfair and deceptive business practices. DATCP has adopted a rule to protect consumers against unfair home improvement practices. This rule is found in Wisconsin Administrative Code chapter ATCP 110. ATCP 110 applies to nearly every kind of home improvement.

ATCP 110 addresses the following practices and more:

- Deceptive sales tactics.
- Contract and disclosure requirements.
- 3-day “cooling off” period.
- Failure to complete work.
- Contract cancellation and refunds.
- Warranties.
- Lien waivers.
- Consumer remedies.

ATCP 110 does *not* do any of the following:

- Require contractors to be licensed.
- Regulate home improvement skills, workmanship or quality.
- Regulate the price of home improvements.
- Establish construction codes or standards (local codes apply).
- Require contractors or homeowners to get building permits from the department (local codes apply).

Home Improvements Covered

ATCP 110 applies to nearly all “home improvements” but does *not* apply to new home construction. “Home improvement” includes remodeling, altering, repairing, painting, modernizing or constructing additions to any residential building, or to the immediate premises on which a residential building is situated. For example, “home improvement” includes work on the following:

- Driveways.
- Sidewalks.
- Swimming pools.
- Terraces.
- Patios.
- Landscaping.
- Fences.
- Porches.
- Garages.
- Basements.
- Fire protection devices.
- Heating and air conditioning.
- Water softeners, heaters and purifiers.
- Carpets and attached floor coverings.

Persons Covered

ATCP 110 regulates “sellers” (home improvement contractors) who are engaged in the business of making or selling home improvements. The rule protects homeowners and tenants who contract with “sellers” for home improvements.

Home Improvement Contracts; General

- A “home improvement contract” includes any oral or written agreement to provide labor, services or materials in connection with a home improvement.
- A written contract is required in some cases (see below).
- If a written contract is required, or if the seller chooses to use a written contract, the seller must give the buyer a copy before the seller begins work or receives any payment. If a buyer is blind or unable to read the seller’s written contract, a 3rd party must read the contract to the buyer. If the contract is negotiated in a language other than English, the written contract must be in English and that other language.

Written Contract; When Required

A home improvement contract (and all changes to that contract) must be in writing if any of the following applies:

- The buyer is required to make any contract payment before the seller completes the work.
- The seller initiates the contract by any of the following means:
 - Face-to-face solicitation away from the seller’s regular place of business.
 - Mail or telephone solicitation.
 - A handbill or circular left at a place of residence.

Contract Terms

If ATCP 110 requires a written contract, or if the seller requires the buyer to sign a written contract, the contract must contain all the following information:

- The seller’s name and address, and the name and address of the seller’s sales representative or agent.
- A description of the work to be done and the principal materials to be used. If the seller promises to install specific products or materials, the contract must clearly describe those products or materials.
- The total price, including finance charges. If the contract is for time and materials, it must clearly disclose the hourly labor charge.
- The dates by which, or the time period within which, the seller will begin and complete the work.
- A description of any mortgage or security interest created in connection with the sale or financing of the home improvement.
- All warranties that the seller makes for labor, services, products or materials furnished in connection with the home improvement.

- A description of every document incorporated in the home improvement contract.
- Insurance coverage included in the home improvement contract, if any.

Under some home improvement contracts, a buyer agrees to pay a specified amount as “liquidated damages” if the buyer breaks the contract (even if the “liquidated damages” exceed the seller's actual damages). ATCP 110 prohibits “liquidated damages” that exceed 10% of the contract price or \$100, whichever is less.

Three-day "Cooling Off" Period

Under ATCP 110 and Wisconsin Statutes chapter 423, a buyer may cancel a home improvement contract within a 3-day “cooling off” period if all the following apply:

- The seller initiates the contract by face-to-face solicitation away from the seller’s regular place of business, or by a mail or telephone solicitation directed to the consumer.
- The parties enter into the contract, or the seller receives the contract, away from the seller’s regular place of business.
- The contract involves an extension of credit, or a cash payment of more than \$25.

If the 3-day “cooling off” period applies, the seller must give the buyer 2 copies of the following notice in at least 12-point bold-face type:

CUSTOMER'S RIGHT TO CANCEL

You may cancel this agreement by mailing a written notice to (insert name and mailing address of seller) before midnight of the third business day after you signed this agreement. If you wish, you may use this page as that notice by writing “I hereby cancel” and adding your name and address. A duplicate of this page is provided by the seller for your records.

The 3-day “cooling off” period does not start to run until the seller gives the above cancellation notice to the buyer. A seller who uses a language other than English in the ordinary course of business must give the cancellation notice in English and in that other language.

Prepayments

If a buyer prepays for any home improvement, the seller may not use that money for any purpose other than to provide materials or services for that home improvement. A seller may not solicit any prepayment for materials or services that the seller does not expect to provide according to the contract.

Failure to Complete Prepaid Work; Buyer’s Remedies

If a buyer prepays for any materials or services that the seller then fails to deliver on time, the buyer may give the seller a written notice that does any or all of the following:

- Cancels the contract.
- Demands return of any prepayments that the seller has not yet spent on the buyer’s home improvements. The seller must return the prepayments within 15 days.

- Demands delivery of prepaid materials that the seller has purchased but not yet delivered to the home improvement site. The seller must deliver the materials within 15 days, or within 5 days after the seller receives the materials from the supplier, whichever occurs later.
- Demands a written accounting for all prepayments, showing how the seller used those payments. The seller must provide the accounting within 30 days.

If the home improvement contract specifies no deadline for the delivery of materials or services for which the buyer has prepaid, the buyer may exercise the above remedies whenever buyer believes that the seller has failed to deliver in a timely manner. The buyer may also pursue any other remedies that may be available, regardless of whether the buyer has exercised the above remedies.

Notice of Delays

A seller must give a buyer timely notice of any impending delay in contract performance, if performance will be delayed beyond a deadline specified in the contract. The notice must specify the reason for the delay, and must specify a new proposed completion deadline. If

ATCP 110 requires a written contract, or the seller requires the buyer to sign a written contract, no change in performance deadlines is effective unless the buyer agrees in writing.

Warranties

If the seller makes any warranty for a home improvement, including any warranty for labor, services, products or materials, the seller must do all of the following:

- Document the warranty in writing.
- Give the buyer a copy when the buyer contracts for the home improvements.
- Disclose all warranty terms and conditions.

If the seller installs a product that is covered by a manufacturer's product warranty, the seller must give the buyer a copy of that warranty when the seller installs the product.

Contracts or Promissory Notes Assigned to 3rd Parties

A seller, after getting a buyer's signature on a contract or promissory note, will sometimes sell or assign that contract or note to a 3rd party (such as a finance company) who will then demand payment from the buyer. Under older commercial law, a 3rd party could sometimes collect from a buyer even though the buyer had legitimate grounds for refusing to pay the original seller (for example, because the home improvements weren't properly completed). But ATCP 110 has added the following protections for buyers:

- No home improvement contract may waive a buyer's right to assert, against the 3rd party, any claims or defenses that the buyer may have against the seller.
- Every promissory note must disclose that the note is non-negotiable, and that the holder takes the note subject to the claims and defenses of the home improvement buyer. Even if a note fails to contain the required disclosure, a 3rd party takes that note subject to the buyer's claims and defenses if the 3rd party knows or should have known any of the following:
 - That the seller is in the home improvement business.

- That the note pertains to a home improvement transaction.
- If a home improvement contract or promissory note may be sold or assigned to a 3rd party, the seller must disclose that fact to the buyer before the buyer signs the contract or note.
- A seller must obtain the buyer's written consent before selling or assigning a home improvement contract to a 3rd party if a person other than the seller will be responsible for performing the home improvements.

Building Permits

ATCP 110 is not a building code, and it does not require a seller to get any permits from DATCP. But it does reinforce state and local building codes in the following ways:

- It requires a seller to notify a buyer of applicable state and local permit requirements.
- It prohibits a seller from starting a home improvement until all required state and local permits have been issued.
- If inspections are required under state or local codes, the seller must give inspection certificates to the buyer when construction is completed. The seller must provide the certificates before final payment is due and before the seller asks the buyer to sign a completion slip.

Sales Tactics

ATCP 110 prohibits a seller from making any false, deceptive or misleading representation in order to:

- Get a buyer to enter into a home improvement contract.
- Obtain or keep any payment under a home improvement contract.
- Delay performance under a home improvement contract.

ATCP 110 also prohibits a seller from engaging in a number of specific practices, such as the following:

- Misrepresenting that the buyer's home will be used as a "model" or "advertising job."
- Misrepresenting that products or materials meet certain standards or specifications.
- Misrepresenting that the buyer's home contains a defective or dangerous condition requiring repair.
- Engaging in "bait and switch" sales tactics.
- Misrepresenting the seller's identity, status or affiliation.
- Misrepresenting that the seller is licensed, bonded or insured. If a seller claims to be licensed, bonded or insured, the seller must provide the buyer with a written statement describing the type of license, bond or insurance that the seller possesses.
- Advertising any free, gift or bonus offer without specifying the terms and conditions of that offer.

- Misrepresenting that the buyer is getting a special price or offer because of a closeout, factory sale, survey, leftover materials or other special circumstances.
- Misrepresenting the contract price or other contract terms and obligations.
- Pressuring a buyer into a home improvement contract by delivering materials or starting work before the buyer has entered into a contract.
- Making false statements about a competitor, or the competitor's products or services.
- Misrepresenting that a home improvement contract will aid any charity or other organization.
- Encouraging the buyer to misrepresent the buyer's financial condition in order to obtain financing.
- Falsifying the contract price, or encouraging the buyer to falsify the contract price, in order to obtain financing.
- Asking the buyer to sign a completion slip or make final payment before the job is completed.

Lien Waivers

Contractors, subcontractors and material suppliers have a lien on a buyer's home for the value of the services they provide in connection with a home improvement. See Wisconsin Statutes chapter 779 (subchapter I). If a buyer pays the seller (general contractor), but the seller fails to pay the subcontractors, the subcontractors may try to enforce their liens against the buyer, and the buyer may end up paying twice. To protect buyers, ATCP 110 requires a seller to do all the following:

- Provide the buyer with lien waivers from all subcontractors and material suppliers before the buyer makes final payment on the home improvement contract.
- Before requiring partial payments from a buyer, furnish the buyer with lien waivers from subcontractors for the proportionate value of services or materials they have supplied as of that time.

Rule Background

DATCP has adopted ATCP 110 as a *general order* (rule) under Wisconsin's Unfair Business Practices Law, Wisconsin Statutes section 100.20.

- Originally adopted in 1940 and revised in 1941.
- Repealed and recreated in 1963 (DATCP Administrative Docket No. 664.)
- Amended in 1970 (DATCP Administrative Docket No. 875).
- Repealed and recreated effective June 1, 1974 (DATCP Administrative Docket No. 1089.)
- Amended effective April 1, 1976 (DATCP Administrative Docket No. 1200).
- Amended effective October 1, 1993 (DATCP Administrative Docket No. 2397, Rules Clearinghouse No. 93-1.)

Rule Enforcement

Private Remedy

A person who suffers a monetary loss because of a seller's violation of ATCP 110 may sue the seller under Wisconsin Statutes section 100.20(5), and may recover twice the amount of the loss, together with costs and attorneys fees.

Injunction and Restitution

DATCP may seek a court order under Wisconsin Statutes section 100.20(6), enjoining violations of ATCP 110 and ordering a seller to pay restitution to consumers. The Department of Justice or a district attorney may represent DATCP in court.

Civil Forfeiture

DATCP or any district attorney may start a court action under Wisconsin Statutes section 100.26(6), to recover a civil forfeiture from a seller who violates ATCP 110. The court may impose a civil forfeiture of up to \$10,000 per violation. The Department of Justice or a district attorney may represent DATCP in court.

Criminal

A district attorney may start a criminal prosecution, under Wisconsin Statutes section 100.26(3), against a seller who violates ATCP 110. A seller may be fined up to \$5,000 or sentenced to as much as a year in jail, or both.

Basement Waterproofing Transactions

ATCP 111

The Wisconsin Department of Agriculture, Trade and Consumer Protection regulate unfair and deceptive business practices. DATCP has adopted a rule to protect consumers against fraudulent basement waterproofing practices. This rule is found in Wisconsin Administrative Code chapter ATCP 111. Rule violators may be prosecuted, and there is a private remedy for consumers. ATCP 111 includes the following provisions:

Waterproofing Guarantees

- A seller may not state or imply that a basement waterproofing service is guaranteed unless all the following apply:
 - ✓ The service is in fact guaranteed.
 - ✓ The seller makes the guarantee in writing.
 - ✓ The seller gives the consumer a copy of the guarantee before the parties enter into a basement waterproofing contract.
 - ✓ The guarantee clearly and explicitly states that the waterproofing service will effectively prevent or control the basement water problem it was designed or intended to prevent or control, for the period of time specified in the guarantee.
 - ✓ The guarantee includes the name and address of the person responsible for performance under the guarantee.
 - ✓ The guarantee states that the responsible person will begin any remedial work required under the guarantee within 45 days after the consumer gives notice of a waterproofing failure, and will complete the work within 6 months after the consumer gives notice.
- A guarantee may not exclude basement dampness unless the consumer agrees and the guarantee conspicuously states:

“THE GUARANTEE PROVIDED HEREIN DOES NOT COVER DAMPNES ON THE BASEMENT WALLS – IT DOES COVER ANY WATER LEAKAGE OR FLOW.”

- If a seller fails to honor a guarantee, the consumer is entitled to a full refund less the value of benefits actually derived from the services performed. The seller has the burden of establishing the benefits.
- If basement waterproofing services are *not* guaranteed, the contract must contain the following conspicuous disclosure on the face of the contact:

“THE BASEMENT WATERPROOFING SERVICES PROVIDED BY THIS CONTRACT ARE NOT GUARANTEED.”

- A seller may not claim that basement waterproofing services will be effective unless the seller is experienced in, and uses, practices that are generally recognized as being effective.
- A seller may not make a guarantee if the seller knows or reasonably ought to know that the guarantee cannot be honored.

Seller’s Analysis

- A seller must provide a consumer with a written *seller’s analysis* before the parties enter into a basement waterproofing contract. The seller must sign the analysis.
- The *seller’s analysis* must describe the causes and conditions responsible for the consumer’s basement waterproofing problem, and the specific processes and materials that will be used to correct the problem.
- The seller may not misrepresent the facts or conclusions contained in a seller’s analysis.

Pressure Pumping Process; Engineer’s Analysis

In Wisconsin, there have been widespread problems with basement waterproofing services that use the *pressure pumping process*. A seller may not use the *pressure pumping process* unless all the following apply:

- The seller establishes its value or effectiveness in a written seller’s analysis verified by a written engineer’s analysis. A registered professional engineer must prepare the engineer’s analysis.
- The seller discloses, in every advertisement for the pressure pumping process, that an engineer’s analysis is required.
- The seller guarantees the results.
- The seller gives the consumer the seller’s analysis, the engineer’s analysis, and the guarantee before the parties enter into a basement waterproofing contract.

Rule Background

DATCP adopted ATCP 111 as a *general order* (rule) under Wisconsin’s Unfair Business Practices Law, Wisconsin Statutes section 100.20.

- DATCP adopted ATCP 111 effective April 1, 1975 (DATCP Docket No. 1148).
- DATCP amended ATCP 111 effective April 1, 1976 (DATCP Docket No. 1201).

Rule Enforcement

Private Remedy

A person who suffers a monetary loss because of a seller's violation of ATCP 111 may sue the seller under Wisconsin Statutes section 100.20(5), and may recover twice the amount of the loss, together with costs and attorneys fees.

Injunction and Restitution

DATCP may seek a court order under Wisconsin Statutes section 100.20(6), enjoining violations of ATCP 111 and ordering a seller to pay restitution to consumers. The Department of Justice or a district attorney may represent DATCP in court.

Civil Forfeiture

DATCP or any district attorney may start a court action under Wisconsin Statutes section 100.26(6), to recover a civil forfeiture from a seller who violates ATCP 111. The court may impose a civil forfeiture of up to \$10,000 per violation. The Department of Justice or a district attorney may represent DATCP in court.

Criminal

A district attorney may start a criminal prosecution, under Wisconsin Statutes section 100.26(3), against a seller who violates ATCP 111. A seller may be fined up to \$5,000 or sentenced to as much as a year in jail, or both

Chapter 5 - Wisconsin Worker's Compensation Laws

What Is Worker's Compensation?

Worker's compensation is a system of no-fault insurance that pays benefits to employees for accidental injuries or diseases related to the employee's work. In return for prompt and certain payment of benefits to an employee, an employer's liability is limited.

Who is required to have worker's compensation insurance?

Most Wisconsin employers are required by law to have worker's compensation insurance.

- Employers who employ three or more workers on a full-time or part-time basis must have insurance.
- Employers who employ one or more workers on a full-time or part-time basis and who pay gross, combined wages of \$500 or more in any calendar quarter for work done in Wisconsin must have insurance by the 10th day of the first month of the next calendar quarter.

Must out-of-state employers carry Wisconsin worker's compensation insurance?

Yes, you must carry the insurance if you have employees working in Wisconsin. The policy must be with an insurance company licensed to write worker's compensation in Wisconsin and endorsed to name Wisconsin as a covered state in section 3-A. Your insurance company must file the properly endorsed policy with the Wisconsin Compensation Rating Bureau.

Who is considered an employee and covered by the Worker's Compensation Act?

Nearly all private and public employees in Wisconsin are considered employees and covered under the Act, including:

- Part-time employees. Whether an employee works part-time or full-time has no bearing on the requirement to carry worker's compensation insurance.
- Family members. An employee's relationship to the owner has no bearing on the requirement to carry worker's compensation insurance.
- Minors. An employee's age has no bearing on the requirement to carry worker's compensation insurance.
- Corporate officers.

Who is not considered an employee under the Worker's Compensation Act?

The following are the only workers who are not considered employees under the Act.

- Domestic servants.
- Any person whose employment is not in the trade, business, profession or occupation of the employer.
- Some farm employees (certain relatives of a farmer).
- Sole proprietors, partners and members of limited liability companies.
- Qualified and certified members of certain religious sects.
- Volunteers of non-profit organizations receiving salary or in-kind compensation totaling not more than \$10 per week.
- Employees of Native American tribal enterprises (including casinos), unless the tribe elects to waive its sovereign immunity and voluntarily become subject to the Act.

All worker's compensation policies exclude sole proprietors, partners or members of limited liability companies unless there is a specific written endorsement to include them. Sole proprietors, partners and members of

limited liability companies may voluntarily purchase worker's compensation insurance to cover their own work-related injuries and illnesses.

Where Do You Get Insurance?

There are about 350 insurance companies licensed to write worker's compensation insurance in Wisconsin. If any insurance carrier denies your application for insurance, you may apply to another carrier or to the Wisconsin Compensation Rating Bureau, 20700 W Swenson Drive, Suite 100, Waukesha, WI 53186. The telephone number is (262) 796-4540. The Internet URL is <http://www.wcrb.org>. The Rating Bureau will assign an insurer to write a policy for you. The cost is the same for assigned coverage.

What Will Insurance Cost?

The cost of insurance will vary. There are approximately 650 separate job classifications rated on past experience in industry. Insurance will cost more for the most hazardous occupations and those that are highest in gross payroll.

The Wisconsin Compensation Rating Bureau sets the premium rate for each class with the approval of the Commissioner of Insurance.

What Liability Is Covered?

Any worker's compensation insurance policy covers liability for compensation and medical expense.

The policy will not cover:

- Penalties for false reporting;
- An unreasonable refusal to rehire the employee;
- Increased compensation for a safety violation;
- Illegal employment of a minor; and,
- Penalties for untimely payments caused by delays in reporting

What Are The Penalties For Failure To Insure?

The penalties are substantial and severe. Employers that fail to obtain insurance when required may be ordered by the Department to cease operations until coverage is obtained. The normal penalty for an illegal lapse in worker's compensation coverage is twice the amount of premium not paid during the uninsured time period or \$750, whichever is greater. An employer who has an illegal lapse in worker's compensation insurance of 7 consecutive days or less is subject to a \$100 penalty for each uninsured day up to 7 days, provided that the employer has not previously had an illegal lapse in coverage and that no injury occurred during the uninsured period.

An uninsured employer is personally liable to reimburse the Uninsured Employers Fund for benefit payments to an injured employee. Aggressive collection action including warrants, levies, garnishment and execution against property are used to insure reimbursement. The normal exemptions of property from seizure and sale on execution of a judgment do not apply to uninsured employers.

Is There Any Penalty For Negligence?

Negligence, either by the employer or employee, is not an issue except when the injury occurs because:

- An employer violated a safety order/statute; failed to use safety devices; and/or, disobeyed an established safety rule resulting in the employer possibly being liable for a 15 percent increase in compensation, up to a maximum of \$15,000.

- An employee was intoxicated by alcohol or illegal drugs resulting in the employee's compensation possibly being reduced by 15 percent with a maximum reduction of \$15,000.

What Is The Uninsured Employers Fund?

The Uninsured Employers Fund (UEF) pays benefits on valid claims filed by employees who are injured while working for illegally uninsured employers. When an employee files a compensable claim, the UEF pays benefits as if the uninsured employer had been insured. The uninsured employer is required to reimburse the UEF for all costs of a claim paid by the Fund.

What Is Self-Insurance?

Approximately 200 private-sector and 50 municipal employers are self-insured. The self-insured do not purchase insurance, but pay their claims using their own funds. Self-insurers must have written approval from the department before becoming self-insured. The approval process includes submitting an application with five years of audited financial data, and documentation demonstrating expertise in safety and claims management. Self-insurers are required to have excess insurance and other security to protect against potential claims.

What Must An Employer Report?

All employers must report all work-related fatalities to the Worker's Compensation Division, Madison Office, within 24 hours.

Insured employers must report any claim of an injury to their insurance carrier within 7 days.

Self-insured employers and insurance carriers must report injuries which result in time lost from work four days or more after the date of injury to the Worker's Compensation Division, Madison Office. The report must be on a form WKC-12 - First Report of Injury, or electronically filed, and must be filed within 14 days after the injury. Form WKC-13 – Supplemental Report or its electronic equivalent must be filed by the 30th day after the injury or first day of lost time after the date of injury.

Treating physician's medical reports for disabilities of more than 3 weeks as well as final payment reports for all reported claims are required.

Employers are required to provide the Worker's Compensation Division, Madison Office, with OSHA survey information when requested.

What Are The Penalties For Not Filing Injury Reports?

If an employer intentionally fails to file a report of injury, the employer may be assessed a penalty for bad faith up to \$15,000 or 200 percent of compensation due.

An employer may be assessed a 10 percent penalty payable to the injured worker for delay in reporting an injury which causes an untimely payment.

What Benefits Are Payable?

- All reasonable and necessary medical costs
- Lost-time benefits for wage loss (temporary disability) while recovering from an injury. These are based on two-thirds of the employee's wage rate up to a specified maximum.
- Benefits for permanent disability if the employee does not fully recover from the injury. The amount of benefit depends on the severity of the permanent disability.

- Job retraining or placement
- Death benefits and burial expenses up to specific limits

Who Picks The Doctor For Treatment?

The employee has the right to select any physician, psychologist, podiatrist, dentist or chiropractor, unless there is an emergency. The employer is obligated to offer the choice and can lose rights by failing to do so. The employee has the right to a second choice on notice to the employer or insurer.

An employer may also require an employee to submit to reasonable medical examinations for the purpose of reviewing claims for compensation. Out-of-state treatment requires an insurer's consent unless it is based upon a referral from an in-state provider.

Is The Injured Employee Guaranteed A Job?

The employer may not "unreasonably" refuse to rehire an injured employee if suitable employment is available within the employee's physical and mental limitations. If the employer has suitable employment available and unreasonably refuses to rehire the worker, the employer is liable for any lost wages, up to a total of one year's wages. The employer is not required to hold or create a job to guarantee the employee a job after an injury.

Who Pays For Worker's Compensation Insurance?

The employer pays for the insurance and may not withhold, deduct or collect payment for premiums from any employee or any other person. Agreements by employees waiving rights to compensation are not valid.

What about Independent Contractors?

There are special provisions in the law covering independent contractors.

An independent contractor, sub-contractor or owner/operator may actually be a statutory employee of the employer for whom he or she is working unless they meet the nine-point test under s. 102.07(8)(b) of the Wisconsin statutes.

An independent contractor, sub-contractor or owner/operator who employs others must provide insurance for his or her employees. The independent contractor/employer must obtain insurance in his or her personal or trade name. No employer may elect to be under the insurance coverage of another employer or contractor.

Independent contractors who do not have employees or who are not required to be insured may choose to purchase insurance for self-coverage. The policy must be endorsed to name the sole proprietor or partners for them to be covered. Employers and independent contractors may purchase insurance without personal benefit coverage.

What about Sole Proprietors and Partners?

Sole proprietors and partners are **not** considered or counted as employees. Generally, policies exclude the sole proprietor or partners unless they are specifically endorsed to include them.

Sole proprietors and partners may voluntarily purchase insurance to cover their own work-related injuries and illnesses.

What about Corporations?

Corporate officers are employees. Generally, policies covering corporations include corporate officers. In closely held corporations with not more than 10 stockholders, no more than 2 officers can be excluded from insurance coverage. If the corporation has other employees and/or officers, a policy is required and the election

must be made by endorsement on the worker's compensation policy. Officers who have made this election will still be counted in determining whether the employer is subject to the Worker's Compensation Act.

If a closely held corporation has no more than 2 corporate officers and has no other employees, a worker's compensation policy is not required if both officers elect not to be subject to the Worker's Compensation Act. This election can be completed by filing a Corporate Officer Option Notice with the Department.

Once an employer is required to get a worker's compensation insurance policy, how long does the employer have to keep it?

Once an employer becomes subject to the Wisconsin Worker's Compensation Act (Act) under s. 102.04(1)(b), Wis. Stats., he or she remains subject to the Act unless the employer withdraws from the provisions of the Act under s. 102.05(1), Wis. Stats.

A subject employer is required to have a worker's compensation policy as long as he or she has one or more part-time or full-time employees. Even if a subject employer has only one part-time employee making less than \$500 per quarter, the employer must maintain the insurance for the remainder of that calendar year--and for the next calendar year--(a calendar year is January through December) before he or she is eligible to withdraw from being subject to the provisions of the Act.

If a subject employer lays off all his or her employees, the employer may drop their worker's compensation insurance while they have no employees, however, the employer remains subject to the Act. Therefore, because the employer has already become subject to the Act, if the employer hires an employee at a later date, the employer must have a worker's compensation insurance policy in place on the date any employee begins working, unless the employer has withdrawn from the Act.

Note: Corporations can not withdraw from the provision of the Act. Closely held corporations (a corporation with not more than 10 stockholders) that have no more than two corporate officers and no other employees, may elect not to be subject to the Act by completing and filing with the Department a Corporate Officer Option Notice. A corporation with more than two corporate officers or any other employee is not eligible to file a Corporate Officer Option Notice and must obtain and/or maintain a worker's compensation insurance policy.

As an employer, how do I benefit from the Wisconsin Worker's Compensation Act?

You receive benefits that can mean the difference between the success or failure of your business. If one of your employees gets hurt while working for you, you could be sued for damages, medical care, lost wages, and much more. By complying with the law and carrying appropriate worker's compensation insurance, you receive:

- Protection from most law suits brought by an employee because of a work-related illness or injury.
- Fair and prompt delivery of benefits to your employee who is injured on the job.
- Fair adjudication of disputes by a Worker's Compensation Division Administrative Law Judge.
- Fair and standard insurance premium rates approved by the Office of the Commissioner of Insurance.

Does my employee benefit from the Worker's Compensation Act?

If your employee does get hurt on the job, he or she can look to the worker's compensation system for prompt payment of benefits and fair adjudication of disputes.

Chapter 6 – OSHA Worker Safety

Construction

Nearly 6.5 million people work at approximately 252,000 construction sites across the nation on any given day. The fatal injury rate for the construction industry is higher than the national average in this category for all industries.

Potential hazards for workers in construction include:

- Falls (from heights);
- Trench collapse;
- Scaffold collapse;
- Electric shock and arc flash/arc blast;
- Failure to use proper personal protective equipment; and
- Repetitive motion injuries.

Hazards & Solutions

For construction, the 10 OSHA (Occupational Safety & Health Administration) standards most frequently included in the agency's citations in FY 2004 were:

1. Scaffolding
2. Fall protection (scope, application, definitions)
3. Excavations (general requirements)
4. Ladders
5. Head protection
6. Excavations (requirements for protective systems)
7. Hazard communication
8. Fall protection (training requirements)
9. Construction (general safety and health provisions)
10. Electrical (wiring methods, design and protection)

Scaffolding

Hazard: When scaffolds are not erected or used properly, fall hazards can occur. About 2.3 million construction workers frequently work on scaffolds. Protecting these workers from scaffold-related accidents would prevent an estimated 4,500 injuries and 50 fatalities each year.

Solutions:

- Scaffold must be sound, rigid and sufficient to carry its own weight plus four times the maximum intended load without settling or displacement. It must be erected on solid footing.
- Unstable objects, such as barrels, boxes, loose bricks or concrete blocks must not be used to support scaffolds or planks.
- Scaffold must not be erected, moved, dismantled or altered except under the supervision of a competent person.

- Scaffold must be equipped with guardrails, midrails and toeboards.
- Scaffold accessories such as braces, brackets, trusses, screw legs or ladders that are damaged or weakened from any cause must be immediately repaired or replaced.
- Scaffold platforms must be tightly planked with scaffold plank grade material or equivalent.
- A “competent person” must inspect the scaffolding and, at designated intervals, reinspect it.
- Rigging on suspension scaffolds must be inspected by a competent person before each shift and after any occurrence that could affect structural integrity to ensure that all connections are tight and that no damage to the rigging has occurred since its last use.
- Synthetic and natural rope used in suspension scaffolding must be protected from heat-producing sources.
- Employees must be instructed about the hazards of using diagonal braces as fall protection.
- Scaffold can be accessed by using ladders and stairwells.
- Scaffolds must be at least 10 feet from electric power lines at all times.

Fall Protection

Hazard: Each year, falls consistently account for the greatest number of fatalities in the construction industry. A number of factors are often involved in falls, including unstable working surfaces, misuse or failure to use fall protection equipment and human error. Studies have shown that using guardrails, fall arrest systems, safety nets, covers and restraint systems can prevent many deaths and injuries from falls.

Solutions:

- Consider using aerial lifts or elevated platforms to provide safer elevated working surfaces;
- Erect guardrail systems with toeboards and warning lines or install control line systems to protect workers near the edges of floors and roofs;
- Cover floor holes; and/or
- Use safety net systems or personal fall arrest systems (body harnesses).

Ladders

Hazard: Ladders and stairways are another source of injuries and fatalities among construction workers. OSHA estimates that there are approximately 25,000 injuries and as many as 36 fatalities per year due to falls on stairways and ladders used in construction. Nearly half of these injuries were serious enough to require time off the job.

Solutions:

- Use the correct ladder for the task.
- Have a competent person visually inspect a ladder before use for any defects such as:
 - ❖ Structural damage, split/bent side rails, broken or missing rungs/steps/cleats and missing or damaged safety devices;
 - ❖ Grease, dirt or other contaminants that could cause slips or falls;
 - ❖ Paint or stickers (except warning labels) that could hide possible defects.
- Make sure that ladders are long enough to safely reach the work area.
- Mark or tag (“Do Not Use”) damaged or defective ladders for repair or replacement, or destroy them immediately.
- Never load ladders beyond the maximum intended load or beyond the manufacturer's rated capacity.
- Be sure the load rating can support the weight of the user, including materials and tools.
- Avoid using ladders with metallic components near electrical work and overhead power lines.

Stairways

Hazard: Slips, trips and falls on stairways are a major source of injuries and fatalities among construction workers.

Solutions:

- ❖ Stairway treads and walkways must be free of dangerous objects, debris and materials.
- ❖ Slippery conditions on stairways and walkways must be corrected immediately.
- ❖ Make sure that treads cover the entire step and landing.
- ❖ Stairways having four or more risers or rising more than 30 inches must have at least one handrail.

Trenching

Hazard: Trench collapses cause dozens of fatalities and hundreds of injuries each year.

Solutions:

- ✓ Never enter an unprotected trench.

- ✓ Always use a protective system for trenches 5 feet deep or greater.
- ✓ Employ a registered professional engineer to design a protective system for trenches 20 feet deep or greater.
- ✓ Protective Systems:
 - Sloping to protect workers by cutting back the trench wall at an angle inclined away from the excavation not steeper than a height/depth ratio of 1 1/2 :1, according to the sloping requirements for the type of soil.
 - Shoring to protect workers by installing supports to prevent soil movement for trenches that do not exceed 20 feet in depth.
 - Shielding to protect workers by using trench boxes or other types of supports to prevent soil cave-ins.
- ✓ Always provide a way to exit a trench--such as a ladder, stairway or ramp--no more than 25 feet of lateral travel for employees in the trench.
- ✓ Keep spoils at least two feet back from the edge of a trench.
- ✓ Make sure that trenches are inspected by a competent person prior to entry and after any hazard-increasing event such as a rainstorm, vibrations or excessive surcharge loads.

Cranes

Hazard: Significant and serious injuries may occur if cranes are not inspected before use and if they are not used properly. Often these injuries occur when a worker is struck by an overhead load or caught within the crane's swing radius. Many crane fatalities occur when the boom of a crane or its load line contact an overhead power line.

Solutions:

- Check all crane controls to insure proper operation before use.
- Inspect wire rope, chains and hook for any damage.
- Know the weight of the load that the crane is to lift.
- Ensure that the load does not exceed the crane's rated capacity.
- Raise the load a few inches to verify balance and the effectiveness of the brake system.

- Check all rigging prior to use; do not wrap hoist ropes or chains around the load.
- Fully extend outriggers.
- Do not move a load over workers.
- Barricade accessible areas within the crane's swing radius.
- Watch for overhead electrical distribution and transmission lines and maintain a safe working clearance of at least 10 feet from energized electrical lines.

Hazard Communication

Hazard: Failure to recognize the hazards associated with chemicals can cause chemical burns, respiratory problems, fires and explosions.

Solutions:

- Maintain a Material Safety Data Sheet (MSDS) for each chemical in the facility.
- Make this information accessible to employees at all times in a language or formats that are clearly understood by all affected personnel.
- Train employees on how to read and use the MSDS.
- Follow manufacturer's MSDS instructions for handling hazardous chemicals.
- Train employees about the risks of each hazardous chemical being used.
- Provide spill clean-up kits in areas where chemicals are stored.
- Have a written spill control plan.
- Train employees to clean up spills, protect themselves and properly dispose of used materials.
- Provide proper personal protective equipment and enforce its use.
- Store chemicals safely and securely

Forklifts

Hazard: Approximately 100 employees are fatally injured and approximately 95,000 employees are injured every year while operating powered industrial trucks. Forklift turnover accounts for a significant number of these fatalities.

Solutions:

- Train and certify all operators to ensure that they operate forklifts safely.
- Do not allow any employee under 18 years old to operate a forklift.
- Properly maintain haulage equipment, including tires.
- Do not modify or make attachments that affect the capacity and safe operation of the forklift without written approval from the forklift's manufacturer.
- Examine forklift truck for defects before using.
- Follow safe operating procedures for picking up, moving, putting down and stacking loads.
- Drive safely--never exceed 5 mph and slow down in congested or slippery surface areas.
- Prohibit stunt driving and horseplay.
- Do not handle loads that are heavier than the capacity of the industrial truck.
- Remove unsafe or defective forklift trucks from service.
- Operators shall always wear seatbelts.
- Avoid traveling with elevated loads.
- Assure that rollover protective structure is in place.
- Make certain that the reverse signal alarm is operational and audible above the surrounding noise level.

Safety Checklists

The following checklists may help you take steps to avoid hazards that cause injuries, illnesses and fatalities. As always, be cautious and seek help if you are concerned about a potential hazard.

Personal Protective Equipment (PPE)

Eye and Face Protection

- Safety glasses or face shields are worn anytime work operations can cause foreign objects getting into the eye such as during welding, cutting, grinding, nailing (or when working with concrete and/or harmful chemicals or when exposed to flying particles).

- Eye and face protectors are selected based on anticipated hazards.
- Safety glasses or face shields are worn when exposed to any electrical hazards including work on energized electrical systems.

Foot Protection

- Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
- Safety-toed footwear is worn to prevent crushed toes when working around heavy equipment or falling objects.

Hand Protection

- Gloves should fit snugly.
- Workers wear the right gloves for the job (for example, heavy-duty rubber gloves for concrete work, welding gloves for welding, insulated gloves and sleeves when exposed to electrical hazards).

Head Protection

- Workers shall wear hard hats where there is a potential for objects falling from above, bumps to their heads from fixed objects, or of accidental head contact with electrical hazards.
- Hard hats are routinely inspected for dents, cracks or deterioration.
- Hard hats are replaced after a heavy blow or electrical shock.
- Hard hats are maintained in good condition.

Chapter 7 – Erosion Control & Stormwater Management

Comm 21.125 - Erosion control and sediment control.

(1) GENERAL.

(a) Where land disturbing construction activity is to occur erosion and sediment control practices shall be employed, as necessary, and maintained to prevent or reduce the potential deposition of soil or sediment to all of the following:

1. The waters of the state.
2. Adjacent properties.

(b) Land disturbing construction activities, except those activities necessary to implement erosion or sediment control practices, may not begin until the sediment control practices are in place for each area to be disturbed in accordance with the approved plan.

(c) Erosion and sediment control practices shall be maintained until the disturbed areas are stabilized. A disturbed area shall be considered stabilized by vegetation when a perennial cover has been established with a density of at least 70%.

(d) Erosion and sediment control practices shall either be approved by the department or listed by the department of natural resources in accordance with the process under s. NR 151.32 (2).

(2) MANDATED PRACTICES. Specific practices at each site where land disturbing construction activity is to occur shall be utilized to prevent or reduce all of the following:

- (a) The deposition of soil from being tracked onto streets by vehicles.
- (b) The discharge of sediment from disturbed areas into on-site storm water inlets.
- (c) The discharge of sediment from disturbed areas into abutting waters of the state.
- (d) The discharge of sediment from drainage ways that flow off the site.
- (e) The discharge of sediment by dewatering activities.
- (f) The discharge of sediment eroding from soil stockpiles existing for more than 7 days.

(3) CONTROL STANDARDS. Including the practices under sub.(2) above, additional erosion and sediment control practices shall be employed, as necessary, to accomplish one of the following:

(a) A potential annual cumulative soil loss rate of not more than one of the following:

1. Five tons per acre per year where sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures are exposed.
2. Seven and a half tons per acre per year where silt, silty clay loam or silt loam textures are exposed.

(b) A reduction of at least 80% of the potential sediment load in storm water runoff from the site on an average annual basis as compared with no sediment or erosion controls for the site when the land disturbing construction activity involves one or more acres.

(c) A reduction of at least 40% of the potential sediment load in storm water runoff from the site on an average annual basis as compared with no sediment or erosion controls for the site where less than one acre of land disturbing construction activity is to occur.

The following are designs acceptable by the department to achieve compliance with the control standards of acceptable soil loss or percent reduction of sediment load in runoff from a site.

Less than one acre disturbance (regardless of the lot or property size).

A. Mandated practices:

1. A method to prevent or reduce soil from leaving a site via entries or roads. This may include a tracking pad or tire washing stand designed and installed to meet DNR Standard 1057. Other means of compliance include gravel mulch, frozen soil, bedrock or some other physical means to prevent soil from leaving the site on vehicle tires which is equivalent to the tracking pad or tire washing stand.
2. Storm water inlet protection. Inlet protection may be accomplished by using DNR Technical Standard, number 1050, "Storm Drain Inlet Protection for Construction Sites". The protection of stormwater inlets in the code is specific to "on-site" inlets; however an off-site inlet may create a direct conduit to a water of the state, which links any inlet that leads to a water of the state to the #3 mandated practice. In that case, special care should be taken to protect both types of inlets from sediment in runoff from a construction site.
3. Protection of adjoining waters of the state. The installation of practices is necessary if runoff from the disturbance could impact a water of the state. Practices may include channel erosion mats, silt fences, vegetative buffers or any other practices applicable to the specific site.
4. Drainage way protection. Any ditches or drainage ways that flow off-site must be protected with appropriate best management practices (BMPs). This may include but is not limited to ditch checks, channel erosion control mats or riprap.
5. Dewatering activity sediment reduction. Any dewatering necessary on the construction site must include measures to reduce the sediment in the water leaving the site. Dewatering BMPs may include filters, fiber rolls or gravel bag berms.
6. Stockpile protection. Any soil stockpiles which are left more than 7 days must be protected by seeding and mulching, erosion mat, silt fencing, covering or other methods. This does not include fill or topsoil piles that are in active use.

B. In addition to mandated practices, the owner/contractor or designer must choose one or more of the following methods in order to achieve compliance with the standards.

1. The Revised Universal Soil Loss Equation may be used to determine the amount of soil lost from a site in order to stay below the 5 tons/acre/year for sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures or the 7.5 tons/acre/year soil loss for silt, silty clay loam or silt loam textures. The Commerce-accepted version of an Excel worksheet that is used to calculate the soil loss is available at: <http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>.
2. Silt fence may be placed in accordance with the DNR Technical Standard 1056 and remain on the site until the pervious area is stabilized. This practice, in addition to the mandated practices in part "A" is accepted by the Department of Commerce as compliant with the 40% reduction in sediment load goal.
3. The site may be seeded and mulched, erosion control mat may be installed or polymers may be applied. The erosion control BMPs must be applied within one week of disturbance. Seeding must be accomplished in accordance with DNR Technical Standard 1059 and mulching with DNR Technical Standard 1058. Erosion

control mat must be installed in accordance with DNR Technical Standards 1052 and 1053. Polymer application must be done in accordance with DNR Technical Standard 1051. (This method is only acceptable when the maximum slope length is 300 feet and the maximum slope is no more than that specified in Table A-21.125-1 and Table A-21.125-2.)

4. Practices may be included in the erosion and sediment control plan for the site that achieves compliance with the 40% reduction in sediment load in the runoff from the site.

5. A unique design may be submitted with the UDC permit application for review.

One acre or more disturbed (regardless of the lot or property size).

A. Mandated practices:

1. A method to prevent or reduce soil from leaving a site via entries or roads. This may include a tracking pad or tire washing stand designed and installed to meet DNR Standard 1057. Other means of compliance include gravel mulch, frozen soil, bedrock or some other physical means to prevent soil from leaving the site on vehicle tires which is equivalent to the tracking pad or tire washing stand.

2. Storm water inlet protection. Inlet protection may be accomplished by using DNR Technical Standard, number 1060, "Storm Drain Inlet Protection for Construction Sites". The protection of stormwater inlets in the code is specific to "on-site" inlets; however an off-site inlet may create a direct conduit to a water of the state, which links any inlet that leads to a water of the state to the #3 mandated practice. In that case, special care should be taken to protect both types of inlets from sediment in runoff from a construction site.

3. Protection of adjoining waters of the state. The installation of practices is necessary if runoff from the disturbance could impact a water of the state. Practices may include channel erosion mats, silt fences, vegetative buffers or any other practices applicable to the specific site.

4. Drainage way protection. Any ditches or drainage ways that flow off-site must be protected with appropriate best management practices (BMPs). This may include but is not limited to ditch checks, erosion control mats or riprap.

5. Dewatering activity sediment reduction. Any dewatering necessary on the construction site must include measures to reduce the sediment in the water leaving the site. Dewatering BMPs may include filters, fiber rolls or gravel bag berms.

6. Stockpile protection. Any soil stockpiles which are left more than 7 days must be protected by seeding and mulching, erosion mat, silt fencing, covering or other methods. This does not include fill or topsoil piles that are in active use.

B. In addition to mandated practices, the owner/contractor or designer must choose one or more of the following methods in order to achieve compliance with the standards.

1. The Revised Universal Soil Loss Equation may be used to determine the amount of soil lost from a site in order to stay below the 5 tons/acre/year for sand, loamy sand, sandy loam, loam, sandy clay loam, clay loam, sandy clay, silty clay or clay textures or the 7.5 tons/acre/year soil loss for silt, silty clay loam or silt loam textures. The Commerce-accepted version of an Excel worksheet that is used to calculate the soil loss is available at: <http://commerce.wi.gov/SB/SB-SoilErosionControlProgram.html>.

2. The site may be seeded and mulched, erosion control mat may be installed or polymers may be applied. The erosion control BMPs must be applied within one week of disturbance. Seeding must be accomplished in accordance with DNR Technical Standard 1059 and mulching with DNR Technical Standard 1058. Erosion control mat must be installed in accordance with DNR Technical Standards 1052 and 1053. Polymer application must be done in accordance with DNR Technical Standard 1051. (This method is only acceptable when the maximum slope length is 300 feet and the maximum slope is no more than that specified in Table A-21.125-1.)

3. Practices may be included in the erosion and sediment control plan for the site that achieve compliance with the 80% reduction in sediment load in the runoff from the site.

4. A unique design may be submitted with the UDC permit application for review.

(4) SOIL LOSS ANALYSIS. Potential soil loss shall be determined using an engineer analytical modeling acceptable to the department.

Note: The Revised Universal Soil Loss Equation II is an example of an acceptable model to determine soil loss.

(5) MONITORING.

(a) The owner or owner's agent shall check the erosion and sediment control practices for maintenance needs at all the following intervals until the site is stabilized:

1. At least weekly.

2. Within 24 hours after a rainfall event of 0.5 inches or greater. A rainfall event shall be considered to be the total amount of rainfall recorded in any continuous 24 hour period.

3. At all intervals cited on the erosion and sediment control plan.

(b) The owner or owner's agent shall maintain a monitoring record when the land disturbing construction activity involves one or more acres.

(c) The monitoring record shall contain at least the following information:

1. The condition of the erosion and sediment control practices at the intervals specified under par. (a).

2. A description of the maintenance conducted to repair or replace erosion and sediment control practices.

(6) MAINTENANCE.

(a) 1. Except as provided in subd. 3., off-site sediment deposition resulting from the failure of an erosion or sediment control practice shall be cleaned up by the end of the next day.

Note: Contact the Department of Natural Resources before attempting to clean up any sediment deposited or discharged into the waters of the state.

2. Except as provided in subd. 3., off-site soil deposition, resulting from construction activity, that creates a nuisance shall be cleaned up by the end of the work day.

3. A municipality may enact more stringent requirements regarding cleanup of soil or sediment deposition onto public ways.

(b) 1. Except as required in subd. 2., the owner or owner's agent shall complete repair or replacement of erosion and sediment control practices as necessary within 48 hours of an interval specified under sub. (5).

2. When the failure of erosion or sediment control practices results in an immediate threat of sediment entering public sewers or the waters of the state, procedures shall be implemented immediately to repair or replace the practices.

Silt Fence

One of the most important ways to prevent soil erosion is utilizing a proper silt fence. Here is a summary of the Wisconsin DNR's Conservation Practice Standard.

I. Definition

Silt fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.

II. Purpose

The purpose of this practice is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.

III. Conditions Where Practice Applies

A. This standard applies to the following applications:

1. Erosion occurs in the form of sheet and rill erosion (see definitions). There is no concentration of water flowing to the barrier (channel erosion).
2. Where adjacent areas need protection from sediment-laden runoff.
3. Where effectiveness is required for one year or less.
4. Where conditions allow for silt fence to be properly entrenched and staked as outlined in the Criteria Section V.

B. Under no circumstance shall silt fence be used in the following applications:

1. Below the ordinary high watermark or placed perpendicular to flow in streams, swales, ditches or any place where flow is concentrated.
2. Where the maximum gradient upslope of the fence is greater than 50% (2:1).

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of silt fence. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements.

A. Placement

1. When installed as a stand-alone practice on a slope, silt fence shall be placed on the contour. The parallel spacing shall not exceed the maximum slope lengths for the appropriate slope as specified in Table 1.

<u>Slope</u>	<u>Fence Spacing</u>
< 2%	100 feet
2 to 5%	75 feet
5 to 10%	50 feet
10 to 33%	25 feet
> 33%	20 feet

2. Silt fences shall not be placed perpendicular to the contour.

3. The ends of the fence shall be extended upslope to prevent water from flowing around the ends of the fence.

B. Height – Installed silt fences shall be a minimum 14 inches high and shall not exceed 28 inches in height measured from the installed ground elevation.

C. Support – Silt fences shall be supported by either steel or wood supports as specified below:

1. Wood supports

a. The full height of the silt fence shall be supported by 1 1/8 inches by 1 1/8 inches air or kiln dried posts of hickory or oak.

b. The silt fence fabric shall be stapled, using at least 0.5-inch staples, to the upslope side of the posts in at least 3 places.

c. The posts shall be a minimum of 3 feet long for 24-inch silt fence and a minimum of 4 feet for 36-inch silt fence fabric.

2. Steel supports

a. The full height of the silt fence shall be supported by steel posts at least 5 feet long with a strength of 1.33 pounds per foot and have projections for the attachment of fasteners.

b. The silt fence fabric shall be attached in at least three places on the upslope side with 50 pound plastic tie straps or wire fasteners. To prevent damage to the fabric from fastener, the protruding ends shall be pointed away from the fabric.

3. The maximum spacing of posts for nonwoven silt fence shall be 3 feet and for woven fabric 8 feet.

4. Silt fence shall have a support cord.

5. Where joints are necessary, each end of the fabric shall be securely fastened to a post. The posts shall then be wrapped around each other to produce a stable, secure joint or shall be overlapped the distance between two posts.

6. A minimum of 20 inches of the post shall extend into the ground after installation.

D. Anchoring – Silt fence shall be anchored by spreading at least 8 inches of the fabric in a 4 inch wide by 6 inch deep trench, or 6 inch deep V-trench on the upslope side of the fence. The trench shall be backfilled and compacted. Trenches shall not be excavated wider and deeper than necessary for proper installation. On the terminal ends of silt fence the fabric shall be wrapped around the post such that the staples are not visible.

E. Geotextile Fabric Specifications – The geotextile fabric consists of either woven or non-woven polyester, polypropylene, stabilized nylon, polyethylene, or polyvinylidene chloride. Non-woven fabric may be needle punched, heat bonded, resin bonded, or combinations thereof. All fabric shall meet the following requirements as specified in Table 2.

Table 2.

Test Requirement	Method	Value*
Minimum grab tensile strength in the machine direction	ASTM D4632	120 lbs. (550 N)
Minimum grab tensile strength in the cross machine direction	ASTM D4632	100 lbs. (450 N)
Maximum apparent opening size equivalent standard sieve	ASTM D4751	No. 30 (600µm)
Minimum permittivity	ASTM D4491	0.05 scc-1
Minimum ultraviolet stability percent of strength retained after 500 hours of exposure	ASTM D4355	70%

(WisDOT Standard Specifications for Road and Bridge Construction, 2001)
 * All numerical values represent minimum / maximum average roll values. (For example, the average minimum test results on any roll in a lot should meet or exceed the minimum specified values.)

Silt fence shall have a maximum flow rate of 10-gallons/minute/square foot at 50mm constant head as determined by multiplying permittivity in 1/second as determined by ASTM D-4491 by a conversion factor of 74.

F. Removal – Silt fences shall be removed once the disturbed area is permanently stabilized and no longer susceptible to erosion.

VI. Considerations

- A. Improper placement as well as improper installation and maintenance of silt fences will significantly decrease the effectiveness of this practice. Silt fences should be considered for trapping sediment where sheet and rill erosion may be expected to occur in small drainage areas. Silt fences should not be placed in areas of concentrated flow.
- B. Silt fences should be installed prior to disturbing the upslope area.
- C. Silt fences should not be used to define the boundaries of the entire project. Silt fence should be placed only in areas where it is applicable due to its cost and the fact that it is not biodegradable. For example, silt fence should not be placed in locations where the natural overland flow is from an undisturbed area into disturbed areas of the project. It should also not be used as a diversion.
- D. Silt fence should not be used in areas where the silt fence is at a higher elevation than the disturbed area.
- E. When placing silt fence near trees, care should be taken to minimize damage to the root system. Avoid compaction and root cutting within 1.5 feet multiplied by the inch diameter of the tree (for example: for 10-inch trees keep out a 15-foot radius from the trunk). Refer to UWEX publication Preserving Trees During Construction for more information.

F. To protect silt fence from damage in areas of active construction or heavy traffic, silt fence should be flagged, marked, or highlighted to improve visibility.

G. Silt fence effectiveness is generally increased when used in conjunction with other upslope erosion control practices. To further strengthen the silt fence, straw / hay bales can be placed on the down slope side.

H. To help ensure effectiveness, silt fence should be inspected and repaired as necessary prior to forecasted rain events.

I. Where installation with wood posts is difficult, such as when hard or frozen ground is encountered, the use of steel post is recommended.

J. Silt fence can be mechanically installed with a plow type device provided that the silt fence is trenched in a manner such that equivalent performance is achieved to that specified in Section V.D.

VII. Plans and Specifications

A. Plans and specifications for installing silt fence shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:

1. Location of silt fence
2. Contributory drainage area
3. Schedules
4. Material specification conforming to standard
5. Standard drawings and installation details
6. Restoration after removal

B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. Silt fences shall at a minimum be inspected weekly and within 24 hours after every precipitation event that produces 0.5 inches of rain or more during a 24 hour period.

B. Damaged or decomposed fences, undercutting, or flow channels around the end of barriers shall be repaired or corrected.

C. Sediment shall be properly disposed of once the deposits reach ½ the height of the fence.

IX. References

UWEX Publication A0327 “Preserving Trees During Construction”

X. Definitions

Channel Erosion (III.A.1): The deepening and widening of a channel due to soil loss caused by flowing water. As rills become larger and flows begin to concentrate, soil detachment occurs primarily as a result of shear.

Sheet and Rill Erosion (III.A.1): Sheet and rill erosion is the removal of soil by the action of rainfall and shallow overland runoff. It is the first stage in water erosion. As flow becomes more concentrated rills occur. As soil detachment continues or flow increases, rills will become wider and deeper forming gullies.

Appendix

A5.31 Dwelling contractor financial responsibility certification.

Section 101.654 (2), (2m) and (4) of the statutes reads:

(2) An applicant for a certificate of financial responsibility shall provide to the satisfaction of the department proof of all of the following:

(a) That the applicant has in force one of the following:

1. A bond endorsed by a surety company authorized to do business in this state of not less than \$5,000, conditioned upon the applicant complying with all applicable provisions of the one- and 2- family dwelling code and any ordinance enacted under s. 101.65 (1) (a).

2. A policy of general liability insurance issued by an insurer authorized to do business in this state insuring the applicant in the amount of at least \$250,000 per occurrence because of bodily injury to or death of others or because of damage to the property of others.

(b) If the applicant is required under s. 102.28 (2) (a) to have in force a policy of worker's compensation insurance or if the applicant is self-insured in accordance with s. 102.28 (2) (b), that the applicant has in force a policy of worker's compensation insurance issued by an insurer authorized to do business in this state or is self-insured in accordance with s. 102.28 (2) (b).

(c) If the applicant is required to make state unemployment compensation contributions under ch. 108 or is required to pay federal unemployment compensation taxes under 26 USC 3301 to 3311, that the applicant is making those contributions or paying those taxes as required.

(2m) If an applicant wishes to use a bond under sub. (2) (a) 1. of less than \$25,000 to comply with sub. (2) (a), the applicant shall agree not to perform any work on a dwelling for which the estimated cost of completion is greater than the amount of the bond. The department shall indicate any restriction under this subsection on the certificate of financial responsibility issued under sub. (3).

(4) (a) A bond or insurance policy required under sub. (2) may not be canceled by the person insured under the bond or policy or by the surety company or insurer except on 30 days' prior written notice served on the department in person or by 1st class mail or, if the cancellation is for nonpayment of premiums to the insurer, on 10 days' prior written notice served on the department in person or by 1st class mail. The person insured under the bond or policy shall file with the department proof to the satisfaction of the department of a replacement bond or replacement insurance within the 30-day notice period or 10-day notice period, whichever is applicable, and before the expiration of the bond or policy. The department shall suspend without prior notice or hearing the certificate of financial responsibility of a person who does not file satisfactory proof of a replacement bond or replacement insurance as required by this subsection.

(b) A bond under sub. (2) (a) 1. shall be executed in the name of the state for the benefit of any person who sustains a loss as a result of the person insured under the bond not complying with an applicable provision of the one- and 2-.family dwelling code or any ordinance enacted under s. 101.65 (1) (a), except that the aggregate liability of the surety to all persons may not exceed the amount of the bond.

Final Exam – Dwelling Contractor Qualifier Initial Course

(You must receive a 70% or greater on the final exam to pass the course.)

Chapter 1 – Comm 5

General

- 1.) The “Department” referenced in WI Chapter Comm 5 refers to:
 - a. Department of Regulation and Licensing
 - b. Department of Commerce
 - c. Department of Revenue
 - d. Department of Public Instruction

- 2.) WI Chapter Comm 5 applies to any person or business engaging or offering to engage in an activity or provide a service for which a license, certification or registration is required or desired.
 - a. True
 - b. False

- 3.) _____ means an official document or certificate granting permission to perform construction work on a one or 2-family dwelling.
 - a. Building permit
 - b. Business establishment
 - c. Dwelling Contractor
 - d. None of the above

- 4.) “Net worth” means the difference between the asset and liability values on a financial statement.
 - a. True
 - b. False

- 5.) Fees for licenses, certifications or registrations and their processing under Chapter Comm 5 is determined in accordance with Table 5.02.
 - a. True
 - b. False

- 6.) The Department has how many days to process a complete application?
 - a. 7 days
 - b. 14 days
 - c. 21 days
 - d. 30 days

- 7.) A notice of renewal shall be mailed by the Department to a license holder at least _____ calendar days prior to expiration of the license.
 - a. 21 days
 - b. 30 days
 - c. 45 days
 - d. 90 days

- 8.) Failure to receive a notice for renewal of a license from the department shall be considered as an excuse for failure to renew.
- True
 - False
- 9.) Only courses, programs and seminars approved in writing by the department shall be used for credit to fulfill continuing education requirements.
- True
 - False
- 10.) Which one of the following is a responsibility of license or certification holder under Chapter Comm5?
- They must carry on his/her person the license while performing the activity under the license.
 - Upon request of the department or its representative, present the license for identification
 - They must carry the license with them at ALL times
 - Only a & b

Building Contractor

- 11.) The prerequisites for a person registering as a Building Contractor are:
- The owner of a construction business
 - A partner in a construction business
 - Chairman of the Board of the construction business
 - Any of the above
- 12.) A person that holds a building contractor registration shall include their registration number on all construction bids and contracts.
- True
 - False
- 13.) The renewal for a building contractor registration expires how many years from the date of issuance?
- 4
 - 3
 - 2
 - 1
- 14.) If you hold a Dwelling Contractor Qualifier Certification, you must also register as a Building Contractor?
- True
 - False
- 15.) The license fee to obtain a building contractor registration is:
- \$15
 - \$50
 - \$100
 - \$150

- 16.) In order to renew your building contractor registration, how many continuing education hours are required every other year?
- a. 6
 - b. 12
 - c. 24
 - d. None
- 17.) What is the application fee for a Building Contractor if mailed in?
- a. \$15
 - b. \$20
 - c. \$25
 - d. \$30
- 18.) You do not need to register as a building contractor if you already have a dwelling contractor certification.
- a. True
 - b. False
- 19.) A person or entity that works only on real estate or property they own or lease also needs to register as a building contractor.
- a. True
 - b. False

Dwelling Contractor

- 20.) The renewal for a Dwelling Contractor certification expires how many years from the date of issuance?
- a. 4
 - b. 3
 - c. 2
 - d. 1
- 21.) The Dwelling Contractor-Restricted category is for projects or surety bonds less than:
- a. \$5,000
 - b. \$15,000
 - c. \$25,000
 - d. \$50,000
- 22.) A Dwelling Contractor certification allows a person to obtain a building permit for one or 2-family dwellings.
- a. True
 - b. False

- 23.) A person applying for a dwelling contractor certification shall provide evidence of the following:
- Complies with worker's compensation requirements
 - Complies with unemployment compensation requirements
 - Obtain proper liability or bond insurance
 - All of the above
- 24.) For a dwelling contractor certification, the amount of general liability insurance required per occurrence is (assuming you don't get a bond):
- \$5,000
 - \$25,000
 - \$250,000
 - \$500,000
- 25.) The one-year certification fee for a Dwelling Contractor Certification is:
- \$15
 - \$25
 - \$50
 - \$100
- 26.) The application fee for a Dwelling Contractor Certification is how much?
- \$15
 - \$25
 - \$35
 - \$45
- 27.) In order to renew your Dwelling Contractor Certification, how many continuing education hours are required every other year?
- 6
 - 12
 - 24
 - None
- 28.) A renewal letter for the Dwelling Contractor Certification will be sent to the credential holder approximately 45 days before the renewal date.
- True
 - False

Dwelling Contractor Qualifier

- 29.) The main purpose of the Dwelling Contractor Qualifier Certification is to:
- Provide proof of fulfilling the continuing education obligations
 - Protect the public health, safety and welfare
 - Pull a building permit
 - None of the above

- 30.) For a Dwelling Contractor Qualifier certification, how many hours of initial training are required?
- 6 hours
 - 12 hours
 - 18 hours
 - None
- 31.) The initial training for a Dwelling Contractor Qualifier certification should contain the following topics:
- Construction laws
 - Construction codes
 - Construction business practices
 - All of the above
- 32.) How often does the Dwelling Contractor Qualifier certification need to be renewed?
- 1 year from the date of issuance
 - 2 years from the date of issuance
 - Every December 31st
 - December 31st every other year
- 33.) The continuing education for a Dwelling Contractor Qualifier must be completed 3 months prior to the date of expiration.
- True
 - False
- 34.) In order to renew your Dwelling Contractor Qualifier certification, how many continuing education hours are required every other year?
- 6
 - 12
 - 24
 - None
- 35.) How much is the two-year certification fee for a Dwelling Contractor Qualifier certification:
- \$15
 - \$20
 - \$25
 - \$30

Chapter 2 – Comm 20

Purpose and Scope

- 36.) The purpose of Comm 20 is to:
- Establish uniform statewide construction standards and procedures
 - Establish minimum standards for licenses
 - Establish building codes
 - All of the above

- 37.) The effective date of chapter Comm 20 is:
- December 1, 1978
 - December 1, 1980
 - June 1, 1980
 - June 1, 1978
- 38.) The provisions of chapter Comm 20 apply to existing dwellings prior to the effective date of the code.
- True
 - False

Definitions

- 39.) _____ means new construction performed on a dwelling which increases the outside dimensions of the dwelling.
- Addition
 - Alteration
 - Attached
 - Code
- 40.) _____ means the structural system used to transfer the weight of the building to the earth
- Building system
 - Foundation
 - Alteration
 - None of the above
- 41.) _____ means any building, the initial construction of which is commenced on or after the effective date of this code, which contains one or 2 dwelling units.
- Foundation
 - Building system
 - Dwelling
 - Addition
- 42.) _____ means an enhancement, upgrading or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems within a dwelling.
- Addition
 - Alteration
 - Attached
 - Repair
- 43.) _____ means the act or process of restoring to original soundness, including redecorating, refinishing, nonstructural repairs or maintenance, or the replacement of existing fixtures, systems or equipment with the equivalent fixture, system or equipment.
- Addition
 - Alteration
 - Attached
 - Repair

Approval and Inspection

- 44.) How many sets of plans for one- and 2-family dwellings need to be submitted to the municipality or UDC inspection agency?
- 1
 - 2
 - 3
 - 4
- 45.) A person who obtains a Wisconsin uniform building permit from a registered UDC inspection agency shall retain the same agency to conduct the inspections for the project.
- True
 - False
- 46.) Applications for a Wisconsin uniform building permit must be complete and on the forms obtained from the department or municipality enforcing the code.
- True
 - False
- 47.) The municipality or authorized UDC inspection agency shall forward a copy of all applications for new dwellings to the department within ____ business days after permit issuance.
- 10 days
 - 20 days
 - 30 days
 - 40 days
- 48.) When required by local ordinance, permit applications for additions, alterations and repairs shall be filed with municipalities and counties in accordance with their adopted ordinances.
- True
 - False
- 49.) Action to approve or deny a uniform building permit application shall be completed within how many days?
- 7 days
 - 10 days
 - 14 days
 - 21 days
- 50.) The foundation shall be inspected after completion. Where dampproofing, exterior insulation or drain tile are required for code compliance, the foundation shall be inspected prior to backfilling.
- True
 - False

- 51.) An inspection should be made of the insulation and vapor retarders after they are installed but before they are concealed.
- True
 - False
- 52.) The design and construction of manufactured homes is regulated by the federal Department of Housing and Urban Development under Title 24 CFR:
- Part 3280
 - Part 3450
 - Part 3520
 - Part 3640
- 53.) Occupancy may proceed if the final inspection has not been completed by the end of the _____ business day following notification.
- Third
 - Fourth
 - Fifth
 - Sixth
- 54.) The municipality or the UDC inspection agency may suspend or revoke a building permit under which circumstance:
- The permit was obtained through fraud
 - The applicant has willfully refused to correct a violation
 - The inspector is denied access to the premises
 - All of the above
- 55.) Construction may take place on the dwelling after suspension or revocation of the permit.
- True
 - False

Variance, Appeals, Violations and Penalties

- 56.) The department shall review and make a determination on a municipal request to adopt an ordinance not in conformance with this code within _____ business days of receipt of the request.
- 30
 - 45
 - 60
 - 90
- 57.) According to Chapter Comm 20, each day that the violation continues, after notice, shall constitute a separate offense
- True
 - False

- 58.) According to Chapter Comm 20, whoever violates this code shall forfeit to the state not less than \$25 nor more than \$500 for each violation.
- True
 - False

Adoption of Standards

- 59.) Alternate standards that are equivalent to or more stringent than the standards incorporated by reference in this chapter may be used in lieu of incorporated standards when approved by the department.
- True
 - False
- 60.) Upon receiving the appropriate forms, fees and documents to use alternative standards, the department shall review and make a determination with _____ business days.
- 10
 - 20
 - 30
 - 40

Chapter 3 – Construction Codes

Scope and Design Criteria

- 61.) The provisions of Chapter Comm 21 apply to the design and the construction of
- One family dwellings
 - 2-family dwellings
 - Commercial buildings
 - Only a & b
- 62.) Floors and ceilings are considered:
- Dead loads
 - Live loads
 - Wind loads
 - Snow loads
- 63.) Every dwelling shall be designed and constructed to support the actual weight of all components and materials.
- True
 - False
- 64.) Earth-sheltered dwellings shall be designed and constructed to support the actual weight of all soil loads.
- True
 - False
- 65.) All building components shall be fastened to withstand the dead load, live load and wind load.
- True
 - False

- 66.) For wind loads, dwellings shall be designed and constructed to withstand a horizontal and uplift pressure of _____ pounds per square foot acting over the surface area.
- 10
 - 20
 - 30
 - 40
- 67.) Garage floors should be designed and constructed to support the following minimum live load?
- 20 pounds per square foot
 - 30 pounds per square foot
 - 40 pounds per square foot
 - 50 pounds per square foot
- 68.) Exterior balconies should be designed and constructed to support the following minimum live load?
- 20 pounds per square foot
 - 30 pounds per square foot
 - 40 pounds per square foot
 - 50 pounds per square foot
- 69.) In Milwaukee County (Zone 2) what is the minimum snow load for the roof?
- 20 pounds per square foot
 - 30 pounds per square foot
 - 40 pounds per square foot
 - 50 pounds per square foot
- 70.) In Wisconsin Zone 1, what is the minimum snow load for the roof?
- 20 pounds per square foot
 - 30 pounds per square foot
 - 40 pounds per square foot
 - 50 pounds per square foot
- 71.) Dwellings shall be designed and constructed to withstand a horizontal and uplift pressure of _____ per square foot acting over the surface area.
- 20 pounds
 - 30 pounds
 - 40 pounds
 - 50 pounds
- 72.) All building components shall be fastened to withstand the dead load, live load and wind load.
- True
 - False

- 73.) Reused lumber shall be considered to have a duration of load factor of _____.
a. 0.80
b. 0.90
c. 1.15
d. 1.25
- 74.) Span tables for joists and rafters approved by the department may be used in lieu of designing by structural analysis.
a. True
b. False
- 75.) The design and construction of masonry shall conform to the following standards:
a. ACI 318
b. ACI 400
c. ACI 530
d. ACI 620
- 76.) The standard for whole logs requires the minimum log diameter to be _____.
a. 6 inches
b. 7 inches
c. 8 inches
d. 9 inches

Exits

- 77.) In most cases, how many exit doors accessible from the first floor are required?
a. 1
b. 2
c. 3
d. 4
- 78.) At least one first floor exits must discharge to grade and may not go through a garage.
a. True
b. False
- 79.) An overhead garage door may be used as an exit door.
a. True
b. False
- 80.) If the full length of the longest diagonal of the floor in plan view is 90-feet, what is the required distance between the two first floor exits?
a. 20 feet
b. 30 feet
c. 40 feet
d. 50 feet

- 81.) If the full length of the longest diagonal of the floor in plan view is 50-feet, what is the required distance between the two first floor exits?
- 20 feet
 - 30 feet
 - 40 feet
 - 50 feet
- 82.) For exiting through an attached garage, the separation distance shall be measured using the door connecting the garage and the dwelling.
- True
 - False
- 83.) Dwellings consisting of no more than a first floor with a maximum floor area of _____ and a loft area not exceeding half of the first floor area, shall be provided with at least one exit door leading directly to the exterior and at least one egress window.
- 200 square feet
 - 300 square feet
 - 400 square feet
 - 500 square feet
- 84.) In most cases, how many exits are required from the second floor?
- 1
 - 2
 - 3
 - 4
- 85.) Windows may be provided in each second floor bedroom in lieu of a second exit from the floor.
- True
 - False
- 86.) At least one stairway exit shall be provided, to the floor below, for a loft exceeding _____ in area.
- 300 square feet
 - 400 square feet
 - 500 square feet
 - 600 square feet
- 87.) A basement is required to have both a door to the exterior and a stairway that leads to the floor above.
- True
 - False

- 88.) The nominal size of the net clear window opening, for an appropriate exit, must be at least:
- 16 inches by 20 inches
 - 20 inches by 24 inches
 - 24 inches by 28 inches
 - 28 inches by 32 inches
- 89.) A window used as an exit shall be openable from the inside without the use of tools or the removal of a sash.
- True
 - False
- 90.) At least one exit door must be a swing-type door at least 80 inches high by 36 inches wide.
- True
 - False
- 91.) Where double doors are used as a required exit, each door leaf shall provide a clear opening at least 24 inches wide and be at least 76 inches high.
- True
 - False
- 92.) Balconies shall be made of which of the following:
- Concrete
 - Metal
 - Treated wood
 - Any of the above
- 93.) In determining the exit requirement in a split level dwelling, all levels that are to be considered a single story shall be within _____ of each other.
- 3 feet
 - 4 feet
 - 5 feet
 - 6 feet

Interior Circulation

- 94.) Excluding infringements, the clear width of hallways shall be at least _____.
- 30 inches
 - 36 inches
 - 42 inches
 - 48 inches
- 95.) Door hardware and finish trim are allowed to infringe on the required clear width of a hallway.
- True
 - False

- 96.) Handrails may infringe into the minimum width of a hallway up to 6 inches on each side.\
- True
 - False
- 97.) Heating registers may infringe into the minimum width of a hallway up to 4 1/2 inches and no part of the register may be more than ____ inches above the floor.
- 34 inches
 - 36 inches
 - 38 inches
 - 40 inches
- 98.) Unlimited infringements are allowed in a hallway more than 84 inches above the floor.
- True
 - False
- 99.) Ducts, pipes, light fixtures, structural features, and corner treatments that are within ____ inches of the floor may infringe into the minimum width of a hallway by a maximum of 4 1/2 inches on each side.
- 54 inches
 - 64 inches
 - 74 inches
 - 84 inches
- 100.) The minimum distance between a wall and a permanently installed kitchen island must be at least _____.
- 30 inches
 - 36 inches
 - 42 inches
 - 48 inches

Stairways and elevated areas

- 101.) Except for spiral staircases, stairways must measure at least _____ in width.
- 30 inches
 - 36 inches
 - 42 inches
 - 48 inches
- 102.) Handrails may project a maximum of _____ into the required width at each side of the stairway.
- 4.5 inches
 - 6.5 inches
 - 8.5 inches
 - 9.5 inches

- 103.) What is the maximum height for risers in spiral staircases?
- 4.5 inches
 - 6.5 inches
 - 8.5 inches
 - 9.5 inches
- 104.) What is the load that handrails and guardrails must be designed to withstand?
- 100 pounds
 - 150 pounds
 - 200 pounds
 - 250 pounds
- 105.) All openings between floors, and open sides of landings, platforms, balconies or porches that are more than _____ above grade or a floor shall be protected with guardrails.
- 24 inches
 - 30 inches
 - 36 inches
 - 42 inches
- 106.) Rectangular treads shall have minimum tread depth of 12 inches measured horizontally from nosing to nosing.
- True
 - False

Ladders & Ramps

- 107.) Ladders which are used as part of a required exit shall be designed to withstand loads of at least _____ pounds.
- 100 pounds
 - 150 pounds
 - 200 pounds
 - 250 pounds
- 108.) Ladders used for exits with treads less than 9 inches in width shall have open risers.
- True
 - False
- 109.) All treads on ladders used for exits should be uniform in dimension.
- True
 - False
- 110.) Ramps must have a minimum width of _____ measured between handrails
- 30 inches
 - 36 inches
 - 42 inches
 - 48 inches

- 111.) Ramps shall not have a gradient greater than 1 in 8 or one foot of rise in 8 feet of run.
- True
 - False
- 112.) Walkways with gradients less than 1 in 20 or one foot of rise in 20 feet of run are not considered to be ramps.
- True
 - False

Ceiling Height

- 113.) Which of the following rooms must have a ceiling of at least 7 feet tall?
- Kitchens
 - Hallways
 - Bathrooms
 - All of the above
- 114.) Beams and girders or other projections shall not project more than 12 inches below the required ceiling height.
- True
 - False

Attics and crawl space access

- 115.) Assuming an attic is required to have an access opening, the opening must be:
- At least 14 by 24 inches
 - Accessible from the inside
 - Both a & b
 - None of the above
- 116.) Assuming a crawl space is required to have an access opening, the opening must be at least:
- 14 by 24 inches
 - 18 by 24 inches
 - 14 by 30 inches
 - 18 by 30 inches
- 117.) Crawl spaces with ____ inches of clearance or more between the crawl space floor and the underside of the house floor joist framing shall be provided with an access opening.
- 12
 - 18
 - 24
 - 30

Fireblocking

- 118.) Fireblocking is required at all openings around wires, cables, vents, pipes, ducts, chimneys and fireplaces at ceiling and floor level.
- True
 - False

- 119.) 2-inch nominal lumber may be used as fireblocking material.
- True
 - False

Smoke detectors, fire sprinklers and Carbon monoxide alarms

- 120.) Smoke alarms must be installed in 50% of the sleeping rooms.
- True
 - False
- 121.) On floor levels that do not contain a sleeping area, a smoke detector must be installed in a common area on each floor level.
- True
 - False
- 122.) On floor levels that contain one or more sleeping areas, a smoke detector alarm shall be installed outside of the sleeping rooms, within ____ feet of the centerline of the door opening to any sleeping room and in an exit path from any sleeping room.
- 18
 - 21
 - 24
 - 27
- 123.) Where automatic fire sprinklers using a dedicated water supply system are installed, the design, installation, testing and maintenance shall follow the requirements of NFPA 13D.
- True
 - False
- 124.) Which of the following is considered a fuel-burning appliance?
- Stove
 - Furnace
 - Water heater
 - All of the above
- 125.) On floor levels that contain one or more sleeping areas, a carbon monoxide alarm shall be installed outside of the sleeping area, within 21 feet of the centerline of the door opening to any sleeping area and in an exit path from any sleeping area.
- True
 - False
- 126.) On floors that do not contain a sleeping area, a carbon monoxide alarm shall be installed in a common area on each floor level.
- True
 - False

- 127.) Which is a true statement about carbon monoxide alarms with dwellings that have electrical service:
- Be continuously powered by the house electrical service
 - Have a backup power supply
 - Be interconnected with other alarms in the house
 - All of the above

Protection against decay and termites & Foam plastic

- 128.) The wood use to protect against termites shall be labeled and pressure treated with preservative in accordance with an AWPA standard or shall be naturally durable and decay-resistant or shall be engineered to be decay resistant.
- True
 - False
- 129.) Foam plastic insulation shall have a flame-spread rating of _____ or less.
- 55
 - 65
 - 75
 - 85
- 130.) Foam plastic insulation shall have a smoke-developed rating of _____ or less when tested in accordance with ASTM E-84.
- 350
 - 450
 - 550
 - 650

Subchapter III - Excavations

- 131.) The finished grade of the soil shall slope away from the dwelling at a rate of at least ½ inch per foot for a minimum distance of ___ feet, or to the lot line, whichever is less.
- 5
 - 10
 - 15
 - 20
- 132.) Storm water management practices shall be employed in accordance with s. NR 151.12 and maintained when the land disturbing construction activity involves one or more acres.
- True
 - False

- 133.) Any person making or causing an excavation which may affect the lateral soil support of adjoining property or buildings shall provide at least ____ written notice to all owners of adjoining buildings of the intention to excavate.
- 14 days
 - 30 days
 - 45 days
 - 60 days

Footings

- 134.) The minimum width and length of column or pier footings shall measure at least:
- 1 foot by 1 foot
 - 2 feet by 2 feet
 - 3 feet by 3 feet
 - 4 feet by 4 feet
- 135.) Footings may be sized to exceed the allowable material stresses.
- True
 - False
- 136.) The minimum depth of column or pier footings shall measure at least 12 inches nominal.
- True
 - False
- 137.) The bearing area for footings shall be at least equal to the area required to transfer the loads to the supporting soil without exceeding the bearing capacity of the soil.
- True
 - False
- 138.) Structures supported on floating slabs may not be physically attached to structures that are supported by footings that extend below the frost line unless an _____ is used between the structures.
- Continuous footing
 - Pier footing
 - Isolation joint
 - Column
- 139.) The minimum width of an unreinforced concrete footing on each side of the foundation wall shall measure at least _____ wider than the wall.
- 4 inches
 - 6 inches
 - 8 inches
 - 12 inches

- 140.) Unstable soil includes soils that are unable to support themselves at a 45 degree angle for the full depth of the footing.
- True
 - False
- 141.) The minimum width and length of column or pier footings shall measure at least 2 feet by 2 feet.
- True
 - False
- 142.) Footings and foundations, including those for ramps and stoops, shall be placed below the frost penetration level or at least _____ below adjacent grade, whichever is deeper.
- 24 inches
 - 36 inches
 - 48 inches
 - 60 inches
- 143.) In most cases, a complete drain tile or pipe system shall be installed around the foundation of dwellings under construction where groundwater occurs above the bottom of the footing.
- True
 - False

Foundations

- 144.) Structural steel anchor bolts must be embedded how far into the concrete or grouted masonry?
- 60 inches
 - 72 inches
 - 84 inches
 - 96 inches
- 145.) Structural steel anchor bolts must be embedded at least _____ into the concrete or grouted masonry foundation.
- 5 inches
 - 6 inches
 - 7 inches
 - 8 inches
- 146.) Lateral support such as floor slabs or framing shall be provided at the base of foundation walls.
- True
 - False

Floors

- 147.) What is the required thickness of concrete floors in normal soils?
- 1 inch
 - 2 inches
 - 3 inches
 - 4 inches

- 148.) When a concrete floor is placed in clay soils, a _____ thick base course shall be placed in the sub grade consisting of clean graded sand, gravel or crushed stone.
- 4 inch
 - 5 inch
 - 6 inch
 - 7 inch
- 149.) When a concrete floor is placed on sand or gravel soils, the base course may be omitted unless drain tile is installed.
- True
 - False
- 150.) For wood frame floors, where a sill plate is provided for floor joists on poured concrete, the sill plates shall be fastened to the foundation.
- True
 - False
- 151.) Garage floors shall be constructed of concrete or other noncombustible materials which are impermeable to petroleum products.
- True
 - False
- 152.) Slab– on–grade concrete garage floors shall be at least _____ thick and placed over at least 4 inches of granular fill.
- 4 inches
 - 5 inches
 - 6 inches
 - 7 inches
- 153.) Where anchor bolts are used on masonry walls with an open top course, the minimum width of an individual piece making up the sill plate shall be at least _____.
- 5.5 inches
 - 6.5 inches
 - 7.5 inches
 - 8.5 inches

Walls

- 154.) All walls shall support all superimposed vertical dead loads and live loads from floors and roofs.
- True
 - False

- 155.) Walls shall be designed to withstand a horizontal wind pressure of at least _____ per square foot applied to the vertical projection of that portion of the dwelling above grade.
- 10 pounds
 - 20 pounds
 - 30 pounds
 - 40 pounds
- 156.) The exterior walls shall be covered with a temporary weather resistant finish.
- True
 - False
- 157.) During construction, wall cavity insulation may not be installed until a water-resistant covering is in place over the wall cavity and windows, doors and a roof with at least underlayment are installed.
- True
 - False
- 158.) Any joints between 2 pieces of flashing that form a vertical joint shall be lapped a minimum of _____ and sealed.
- 6 inches
 - 8 inches
 - 10 inches
 - 12 inches
- 159.) Sealants used for flashing shall be exterior grade and shall be compatible with the materials being sealed.
- True
 - False
- 160.) Flashings are not required at built-in gutters.
- True
 - False
- 161.) Flashings shall be provided at the following locations:
- At the top of all exterior door and window openings
 - At wall and roof intersections
 - Continuously above all projecting wood trim
 - All of the above
- 162.) Exterior walls of wood or metal frame construction shall be provided with a water-resistant barrier from the highest point to the bottom of the permanent weather-resistant covering.
- True
 - False

- 163.) Headers greater than 3 feet but less than or equal to 6 feet in length shall be directly supported on each end by the single common stud and a shoulder stud.
- True
 - False
- 164.) Headers greater than ____ feet in length shall be directly supported on each end by the single common stud and 2 shoulder studs.
- 3 feet
 - 4 feet
 - 5 feet
 - 6 feet

Roof and Ceilings

- 165.) Roofs shall withstand a pressure of at least _____ per square foot acting upward normal to the roof surface.
- 10 pounds
 - 20 pounds
 - 30 pounds
 - 40 pounds
- 166.) Roof overhangs, eaves, canopies and cornices shall withstand an upward wind pressure of at least _____ per square foot applied to the entire exposed area.
- 10 pounds
 - 20 pounds
 - 30 pounds
 - 40 pounds
- 167.) Roof framing members spanning more than _____ measured from the outermost edge of the roof shall be permanently fastened to the top plate of load bearing walls using engineered clips, straps or hangers.
- 4 feet
 - 5 feet
 - 6 feet
 - 7 feet
- 168.) Holes bored within 2 inches of the top or bottom of ceiling joists or rafters may not be located in the middle 1/3 of the span of the member.
- True
 - False
- 169.) All roofs shall be designed and constructed to assure drainage of water.
- True
 - False

Fireplace Requirements

- 170.) Structural walls of masonry fireplaces must be at least how thick?
- 6 inches
 - 7 inches
 - 8 inches
 - 9 inches
- 171.) Masonry fireplace chimneys shall extend at least _____ above the highest point where the chimney passes through the roof.
- 2 feet
 - 3 feet
 - 4 feet
 - None of the above
- 172.) Masonry fireplace chimneys shall extend at least _____ higher than any portion of the dwelling within 10 feet of the chimney.
- 2 feet
 - 3 feet
 - 4 feet
 - None of the above
- 173.) The back and sidewalls of the firebox, including the lining, shall be at least 8 inches nominally thick masonry, at least 4 inches of which shall be solid.
- True
 - False
- 174.) Masonry over the fireplace opening shall be supported by a lintel of steel or masonry.
- True
 - False
- 175.) Masonry chimney walls shall be at least 6 inches in nominal thickness.
- True
 - False
- 176.) A masonry chimney may rest upon wood.
- True
 - False

Construction in Floodplains

- 177.) Dwellings constructed within a flood fringe area shall be elevated so the lowest floor and all basement floor surfaces are located at or above the base flood elevation.
- True
 - False

- 178.) Floodproof basements may have the top of the basement floor no more than _____ below the base flood elevation.
- 4 feet
 - 5 feet
 - 6 feet
 - 7 feet
- 179.) Floodproof basements must be designed by a registered architect or engineer to be watertight and impermeable.
- True
 - False

Installation of Manufactured Homes

- 180.) The installation of a manufactured home produced on or after April 1, _____ shall comply with procedures acceptable to the department.
- 2005
 - 2006
 - 2007
 - 2008

Chapter 4 – ATCP 110 & 111

- 181.) ATCP 110 address the following practices:
- Licensing of contractors
 - Establishes construction codes
 - Deceptive sales practices
 - All of the above
- 182.) DATCP stands for the Wisconsin Department of Agriculture, Trade and Consumer Protection.
- True
 - False
- 183.) ACTP 110 does NOT do any of the following:
- Requires contractors to be licensed
 - Lien waivers
 - Warranties
 - All of the above
- 184.) ATCP applies to nearly all home improvements and new home construction.
- True
 - False
- 185.) Home Improvement includes work on the following:
- Driveways
 - Patios
 - Basements
 - All of the above

- 186.) ATCP 110 protects _____ who contract with sellers for home improvements?
- Tenants
 - Homeowners
 - Contractors
 - Only a & b
- 187.) ATCP 110 regulates sellers who are engaged in the business of selling real estate.
- True
 - False
- 188.) A _____ includes any oral or written agreement to provide labor, services or materials in connection with a home improvement.
- Home improvement contract
 - Written contract
 - Land contract
 - None of the above
- 189.) An oral agreement to provide home improvement services is NOT a “home improvement contract”.
- True
 - False
- 190.) A home improvement contract (and all changes to that contract) must be in writing if the seller initiates the contract by mail or telephone solicitation.
- True
 - False
- 191.) A home improvement contract (and all changes to that contract) must be in writing if any of the following applies: The seller is required to make any contract payment before the contractor completes the work.
- True
 - False
- 192.) If ATCP 110 requires a written contract, or if the seller requires the buyer to sign a written contract, the contract must contain the seller’s name and address, and the name and address of the seller’s sales representative or agent.
- True
 - False
- 193.) If ATCP 110 requires a written contract, or if the seller requires the buyer to sign a written contract, the contract must contain the total price, excluding finance charges
- True
 - False

- 194.) If ATCP 110 requires a written contract, or if the seller requires the buyer to sign a written contract, the contract must contain insurance coverage included in the home improvement contract, if any.
- True
 - False
- 195.) ATCP 110 prohibits “liquidated damages” that exceed ____ of the contract price or \$100, whichever is less.
- 5%
 - 10%
 - 15%
 - 20%
- 196.) According to ATCP 110, how many days is the “cooling off” period after a home improvement contract is signed?
- 3
 - 4
 - 5
 - 7
- 197.) Under ATCP 110 which of the following is a true statement about the customer’s right to cancel?
- The cooling off period does not start until the cancellation notice is give to the buyer
 - Must be in writing
 - The buyer must receive 2 copies of the notice in at least 12-point bold-face type.
 - All of the above
- 198.) If a buyer prepays for any home improvement, the seller may not use that money for any purpose other than to provide materials or services for that home improvement.
- True
 - False
- 199.) If a buyer prepays for materials that the seller fails to deliver on time, the seller must return the prepayments within how many days?
- 5 days
 - 10 days
 - 15 days
 - 20 days
- 200.) If a buyer prepays for materials that the seller fails to deliver on time, the buyer may give the seller a written notice to cancel the contract.
- True
 - False

- 201.) If a buyer prepays for materials or services that the seller fails to deliver on time, which the following are remedies for the buyer?
- Cancel the contract
 - Demand return of any prepayments that haven't been spent
 - Demand a written accounting for all prepayments
 - All of the above
- 202.) If ATCP 110 requires a contract, no change in performance deadlines is effective unless the buyer and seller orally agree to the changes.
- True
 - False
- 203.) The delay notice must specify the _____
- Reason for the delay
 - New proposed completion date
 - Both a & b
 - Neither a & b
- 204.) If the seller installs a product that is covered by a manufacturer's product warranty, the seller must give the buyer a copy of that warranty when the seller installs the product.
- True
 - False
- 205.) If the seller makes any warranty for a home improvement, the seller must do which of the following:
- Document the warranty in writing
 - Give the buyer a copy
 - Disclose all terms and conditions
 - All of the above
- 206.) A seller must obtain the buyer's written consent before selling or assigning a home improvement contract to a 3rd party if a person other than the seller will be responsible for performing the home improvements.
- True
 - False
- 207.) ATCP 110 requires a seller to notify a buyer of applicable state and local permit requirements.
- True
 - False
- 208.) ATCP 110 allows a seller to start a home improvement before all required state and local permits have been issued.
- True
 - False

- 209.) ATCP 110 requires a seller to get permits directly from the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP).
- True
 - False
- 210.) ATCP 100 prohibits a seller from making any false or misleading representations in order to:
- Get a buyer to enter into a contract
 - Obtain any payment under a contract
 - Delay performance under a contract
 - All of the above
- 211.) ATCP 110 prohibits a seller from asking the buyer to sign a completion slip or make final payment before the job is completed.
- True
 - False
- 212.) ATCP 110 prohibits a seller from encouraging the buyer to misrepresent the buyer's financial condition in order to obtain financing.
- True
 - False
- 213.) ATCP 110 prohibits a seller from making any statements about a competitor, or the competitor's products or services.
- True
 - False
- 214.) ATCP 110 prohibits a seller from pressuring a buyer into a home improvement contract by delivering materials or starting work before the buyer has entered into a contract.
- True
 - False
- 215.) ATCP 110 prohibits a seller from misrepresenting that the buyer is getting a special price or offer because of a closeout, factory sale, survey, leftover materials or other special circumstances.
- True
 - False
- 216.) ATCP 110 prohibits a seller from misrepresenting that the buyer's home contains a defective or dangerous condition requiring repair.
- True
 - False
- 217.) ATCP 110 prohibits a seller from misrepresenting that the buyer's home will be used as a "model" or "advertising job."
- True
 - False

- 218.) A person who suffers a monetary loss because of a seller's violation of ATCP 110 may sue the seller, and may recover _____ the amount of the loss?
- The amount equal to the loss
 - Twice the amount of the loss
 - Three times the amount of the loss
 - May not sue
- 219.) A district attorney may start a criminal prosecution against a seller who violates ATCP 110.
- True
 - False
- 220.) Under ATCP 110, a seller may be fined up to how much?
- \$1,000
 - \$2,500
 - \$5,000
 - \$10,000
- 221.) A seller may be sentenced up to a year for violating ATCP 110.
- True
 - False
- 222.) ATCP 111 protects consumers against fraudulent basement waterproofing practices.
- True
 - False
- 223.) According to ATCP 111, a seller may make an oral guarantee for basement waterproofing.
- True
 - False
- 224.) According to ATCP 111, a seller may not imply that a basement waterproofing service is guaranteed unless all of the following apply:
- The service is in fact guaranteed
 - The guarantee is in writing
 - The seller gives that consumer a copy of the guarantee before entering into a contract
 - All of the above
- 225.) According to ATCP 111, the guarantee must state that the responsible person will begin any remedial work required under the guarantee with how many days after a notice is given?
- 30 days
 - 45 days
 - 60 days
 - 90 days

- 226.) According to ATCP 111, any remedial work must be completed within what timeframe after the consumer gives notice?
- 3 months
 - 4 months
 - 5 months
 - 6 months
- 227.) According to ATCP 111, if a seller fails to honor a guarantee, the consumer is entitled to a full refund less the value of benefits actually derived from the services performed.
- True
 - False
- 228.) If the basement waterproofing services are not guaranteed, the contract does not need to contain any special language.
- True
 - False
- 229.) A seller may not make a guarantee if the seller knows or reasonably ought to know that the guarantee cannot be honored.
- True
 - False
- 230.) According to ATCP 111, the seller's analysis must include:
- A description of the causes and conditions responsible for the problem
 - The specific processes that will be used to correct the problem
 - The specific materials that will be used to correct the problem
 - All of the above
- 231.) The seller may not misrepresent the facts or conclusions contained in a seller's analysis.
- True
 - False
- 232.) A seller must provide a consumer with a written *seller's analysis* after the parties enter into a basement waterproofing contract.
- True
 - False
- 233.) In Wisconsin, there have been widespread problems with basement waterproofing services that use the *pressure pumping process*.
- True
 - False

- 234.) A registered professional engineer must prepare the engineer's analysis when using the pressure pumping process.
- True
 - False
- 235.) A person who suffers a monetary loss because of a seller's violation of ATCP 111 may sue the seller, and may recover _____ the amount of the loss?
- The amount equal to the loss
 - Twice the amount of the loss
 - Three times the amount of the loss
 - May not sue
- 236.) A seller who violates ATCP 111 may be fined up to \$5,000 or sentenced to as much as a year in jail, or both.
- True
 - False
- 237.) According to ATCP 111, a district attorney may *not* represent DATCP in court.
- True
 - False
- 238.) The effective date for ATCP 111 as amended is:
- April 1, 1976
 - April 1, 1980
 - April 1, 1993
 - April 1, 1996
- 239.) According to ATCP 111, the court may impose a civil forfeiture of up to \$10,000 per violation.
- True
 - False
- 240.) The disclosure "the basement waterproofing services provided by this contract are not guaranteed" must be present in the contract when:
- Making a guarantee for basement waterproofing services
 - The basement waterproofing services are not guaranteed
 - Making any home improvement guarantee
 - None of the above

Wisconsin Worker's Compensation

- 241.) Employers must carry worker's compensation under which scenario?
- Employ 3 or more workers
 - Employ 1 or more workers with combined wages greater than \$500 in a quarter
 - Both a & b
 - None of the above

- 242.) Worker's compensation is a system of no-fault insurance that pays benefits to employees for accidental injuries or diseases related to the employee's work.
- True
 - False
- 243.) Once an employer qualifies to have worker's compensation insurance, the insurance must be in place by the 15th day of the first month of the next calendar quarter.
- True
 - False
- 244.) Out of state employers are not required to carry worker's compensation insurance even if the employees are working in Wisconsin.
- True
 - False
- 245.) Out of state employers with employees working in Wisconsin must carry a policy with an insurance company licensed to write worker's compensation in Wisconsin.
- True
 - False
- 246.) A minor under the age of 18 is not considered an employee under the Worker's Compensation Act?
- True
 - False
- 247.) Who is considered an employee and covered by the worker's compensation act?
- Part-time employees
 - Corporate officers
 - Family members
 - All of the above
- 248.) A worker's compensation policy covers liability for compensation and medical expense.
- True
 - False
- 249.) Part-time employees are workers who are *not* considered employees under the Worker's Compensation Act.
- True
 - False
- 250.) A domestic servant is not considered an employee under the Worker's Compensation Act?
- True
 - False

- 251.) Partners and members of limited liability companies are considered employees under the Worker's Compensation Act.
- True
 - False
- 252.) An employee's relationship to the owner has no bearing on the requirement to carry worker's compensation insurance.
- True
 - False
- 253.) Wisconsin has approximately how many separate job classifications for worker's compensation?
- 6
 - 65
 - 650
 - 6,500
- 254.) The Wisconsin Compensation Rating Bureau sets the premium rate for each class with the approval of the Commissioner of Insurance.
- True
 - False
- 255.) A worker's compensation policy will cover penalties for false reporting.
- True
 - False
- 256.) A worker's compensation policy will not cover illegal employment of a minor.
- True
 - False
- 257.) A worker's compensation will not cover increased compensation for a safety violation.
- True
 - False
- 258.) An uninsured employer is personally liable to reimburse the Uninsured Employers Fund for benefit payments to an injured employee.
- True
 - False
- 259.) Assuming the premium not paid during the uninsured time period was \$500, what is the penalty for failure to insure?
- \$500
 - \$750
 - \$1,000
 - \$1,500

- 260.) Self-insurers must have written approval from the department before becoming self-insured.
- True
 - False
- 261.) How quickly must employer report all work related fatalities to the Worker's Compensation Division?
- 1 hour
 - 24 hours
 - 48 hours
 - 7 days
- 262.) Within how many days must an insured employer report any claim of injury to their insurance carrier?
- 1
 - 3
 - 5
 - 7
- 263.) The Uninsured Employers Fund pays benefits on valid claims filed by employees who are injured while working for illegally uninsured employers.
- True
 - False
- 264.) An employer may be assessed a ____ percent penalty payable to the injured worker for delay in reporting an injury which causes an untimely payment.
- 5
 - 10
 - 15
 - 20
- 265.) If an employer intentionally fails to file a report of injury, the employer may be assessed a penalty for bad faith up to \$15,000 or 200 percent of compensation due.
- True
 - False
- 266.) The employer may not "unreasonably" refuse to rehire an injured employee if suitable employment is available within the employee's physical and mental limitations.
- True
 - False

- 267.) Assuming it is not an emergency, who picks the doctor for treatment under worker's compensation?
- Employer
 - Employee
 - Worker's Compensation Division
 - None of the above
- 268.) The employer may withhold a portion of the worker's compensation insurance from the employee's paycheck.
- True
 - False
- 269.) Sole proprietors are not considered or counted as employees.
- True
 - False
- 270.) In closely held corporations with not more than 10 stockholders, no more than 2 officers can be excluded from insurance coverage.
- True
 - False

OSHA Worker Safety

- 271.) OSHA stands for the Occupational Safety & Health Administration
- True
 - False
- 272.) Which of the following is a potential hazard for workers in construction?
- Falls
 - Trench collapse
 - Scaffold collapse
 - All of the above
- 273.) In 2004 the number one OSHA standard that was most frequently cited was scaffolding.
- True
 - False
- 274.) Scaffolds must be at least _____ from electric power lines at all times.
- 5 feet
 - 10 feet
 - 15 feet
 - 20 feet

- 275.) Protecting workers from scaffold-related accidents would prevent approximately how many injuries?
- 45
 - 450
 - 4,500
 - 45,000
- 276.) Protecting workers from scaffold-related accidents would prevent approximately how many deaths?
- 5
 - 50
 - 500
 - 5,000
- 277.) Unstable objects, such as barrels, boxes, loose bricks or concrete blocks must not be used to support scaffolds or planks.
- True
 - False
- 278.) Scaffold must be equipped with guardrails, midrails and toeboards.
- True
 - False
- 279.) Each year falls consistently account for the greatest number of fatalities in the construction industry.
- True
 - False
- 280.) Scaffold platforms must be tightly planked with scaffold plank grade material or equivalent.
- True
 - False
- 281.) According to OSHA estimates, how many injuries are caused each year due to falls on ladders and stairways in construction
- 25
 - 250
 - 2,500
 - 25,000
- 282.) Never load ladders beyond the maximum intended load or beyond the manufacturer's rated capacity.
- True
 - False

- 283.) Which of the following is a potential solution to avoid a fall from a ladder?
- Use the correct ladder for the task
 - Make sure the ladder is long enough to safely reach the work area
 - Be sure the load rating can support the weight of the user
 - All of the above
- 284.) Stairways having _____ or more risers or rising more than 30 inches must have at least one handrail.
- 2
 - 3
 - 4
 - 5
- 285.) Which of the following is a potential solution to avoid a fall on stairways?
- Correct slippery conditions immediately
 - Make sure that treads cover the entire step and landing
 - Keep dangerous objects away from stairways
 - All of the above
- 286.) Stairway treads and walkways must be free of dangerous objects, debris and materials.
- True
 - False
- 287.) A protective system should be used for trenches greater than how many feet deep?
- 4
 - 5
 - 6
 - 7
- 288.) Never enter an unprotected trench.
- True
 - False
- 289.) Always provide a way to exit a trench--such as a ladder, stairway or ramp--no more than 50 feet of lateral travel for employees in the trench.
- True
 - False
- 290.) Employ a registered professional engineer to design a protective system for trenches greater than how many feet deep?
- 5 feet
 - 10 feet
 - 15 feet
 - 20 feet

- 291.) A solution reduce injuries on cranes include:
- Know the weight load that the crane is to lift
 - Do not move or load over workers
 - Inspect wire rope, chains and hook for any damage
 - All of the above
- 292.) Many crane fatalities occur when the boom of a crane or its load line contact an overhead power line.
- True
 - False
- 293.) Which of the following is a potential solution to limit injuries on cranes?
- Check all controls before use
 - Inspect wire rope, chains an hook for damage
 - Know the weight of the load the crane can lift
 - All of the above
- 294.) According to OSHA, approximately how many employees die every year while operating forklifts?
- 100
 - 200
 - 300
 - 400
- 295.) According to OSHA, approximately how many employees are injured from forklifts?
- 95
 - 950
 - 9,500
 - 95,000
- 296.) OSHA recommends not to exceed ____ mph when driving a forklift
- 5
 - 10
 - 15
 - 20
- 297.) Which of the following is a potential solution for reducing injuries on forklifts?
- Train and certify all operators
 - Assure that rollover protective structure is in place
 - Avoid traveling with elevated loads
 - All of the above

- 298.) Gloves are an example of:
- Head protection
 - Hand protection
 - Foot protection
 - Eye protection
- 299.) Construction workers should wear work shoes or boots with slip-resistant and puncture-resistant soles.
- True
 - False
- 300.) The following is an example of personal protective equipment to keep a construction worker safe:
- Safety glasses
 - Work boots
 - Gloves
 - All of the above

Chapter 7 – Erosion Control

- 301.) Land disturbing construction activities may not begin until the sediment control practices are in place for each area to be disturbed in accordance with the approved plan.
- True
 - False
- 302.) A disturbed area shall be considered stabilized by vegetation when a perennial cover has been established with a density of at least _____.
- 50%
 - 60%
 - 70%
 - 80%
- 303.) Specific practices at each site where land disturbing construction activity is to occur shall be utilized to prevent or reduce the discharge of sediment:
- By dewatering activities
 - From drainage that flow off the site
 - From disturbed areas into abutting waters of the state
 - All of the above
- 304.) A reduction of at least 80% of the potential sediment load in storm water runoff from the site on an average annual basis as compared with no sediment or erosion controls for the site when the land disturbing construction activity involves _____.
- Less than one acre
 - One or more acres
 - Two or more acres
 - None of the above

- 305.) A reduction of at least 40% of the potential sediment load in storm water runoff from the site on an average annual basis as compared with no sediment or erosion controls for the site when the land disturbing construction activity involves _____.
- Less than once acre
 - One of more acres
 - Two or more acres
 - None of the above
- 306.) A tracking pad or a tire washing stand is an acceptable practice to prevent or reduce soil from leaving a site via entries or roads.
- True
 - False
- 307.) Ditch checks, channel erosion control mats or riprap are examples of:
- Stockpile protection
 - Storm water inlet protection
 - Drainage way protection
 - None of the above
- 308.) Any dewatering necessary on the construction site must include measures to reduce the sediment in the water leaving the site.
- True
 - False
- 309.) Any soil stockpiles which are left more than ____ days must be protected by seeding and mulching, erosion mat, silt fencing, covering or other methods.
- 3
 - 5
 - 7
 - 9
- 310.) Inlet protection for less than once acre of disturbance may be accomplished by using which DNR Technical Standard number?
- 1050
 - 1056
 - 1057
 - 1058
- 311.) Filters, fiber rolls or gravel bag berms are examples of best management practices for:
- Stockpile protection
 - Dewatering
 - Storm inlet protection
 - Drainage way protection

- 312.) A unique design may NOT be submitted with the UDC permit application for review.
- True
 - False
- 313.) Potential soil loss shall be determined using an engineer analytical modeling acceptable to the department.
- True
 - False
- 314.) The Revised Universal Soil Loss Equation II is an example of an acceptable model to determine soil loss.
- True
 - False
- 315.) The owner or owner's agent shall maintain a monitoring record when the land disturbing construction activity involves _____.
- Less than one acre
 - One or more acres
 - Two or more acres
 - None of the above
- 316.) The monitoring record shall contain at least the following information:
- The condition of the erosion and sediment control practices
 - A description of the maintenance conducted to repair or replace erosion and sediment control practices.
 - All of the above
 - None of the above
- 317.) Off-site sediment deposition resulting from the failure of an erosion or sediment control practice shall be cleaned up by the end of the week.
- True
 - False
- 318.) The owner or owner's agent shall complete repair or replacement of erosion and sediment control practices as necessary within _____ hours.
- 24
 - 48
 - 72
 - 96

- 319.) When the failure of erosion or sediment control practices results in an immediate threat of sediment entering public sewers or the waters of the state, procedures shall be implemented immediately to repair or replace the practices.
- True
 - False
- 320.) _____ is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.
- Sediment ponds
 - Temporary seeding
 - Silt fence
 - All of the above
- 321.) The purpose of using a silt fence is to reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.
- True
 - False
- 322.) The standard for silt fence applies where adjacent areas need protection from sediment-laden runoff.
- True
 - False
- 323.) The standard for silt fence applies where effectiveness is required for two years or more.
- True
 - False
- 324.) A silt fence may used where the maximum gradient upslope of the fence is greater than 50%.
- True
 - False
- 325.) A silt fence may not be used below the ordinary high watermark.
- True
 - False
- 326.) Using Table 1, what is the appropriate fence spacing when the slope is 7%?
- 25 feet
 - 50 feet
 - 75 feet
 - 100 feet

- 327.) Using Table 1, what is the appropriate fence spacing when the slope is 1%?
- 25 feet
 - 50 feet
 - 75 feet
 - 100 feet
- 328.) Using Table 1, what is the appropriate fence spacing when the slope is 25%?
- 25 feet
 - 50 feet
 - 75 feet
 - 100 feet
- 329.) Silt fences shall not be placed perpendicular to the contour.
- True
 - False
- 330.) The ends of the silt fence shall be extended upslope to prevent water from flowing around the ends of the fence.
- True
 - False
- 331.) What is the minimum height requirement of an installed silt fence?
- 10 inches
 - 14 inches
 - 20 inches
 - 28 inches
- 332.) What is the maximum height requirement of an installed silt fence?
- 10 inches
 - 14 inches
 - 20 inches
 - 28 inches
- 333.) Silt fences shall be supported by either steel or wood supports.
- True
 - False
- 334.) For wood supports, the silt fence fabric should be stapled using at least 0.5 inch staples, to the upslope side of the posts in at least _____.
- 1 place
 - 2 places
 - 3 places
 - 4 places

- 335.) Wood supports made of hickory or oak must be what size?
- 1/2 inch by 1/2 inch
 - 3/4 inch by 3/4 inch
 - 1 inch by 1 inch
 - 1 1/8 inch by 1 1/8 inch
- 336.) Wood posts should be a minimum of ____ feet long for a 24-inch silt fence.
- 2
 - 3
 - 4
 - 5
- 337.) Wood posts should be a minimum of ____ feet long for a 36-inch silt fence.
- 2
 - 3
 - 4
 - 5
- 338.) The full height of the silt fence shall be supported by steel posts at least ____ feet long.
- 2
 - 3
 - 4
 - 5
- 339.) The full height of the silt fence shall be supported by steel posts with a strength of 1.33 pounds per foot.
- True
 - False
- 340.) The silt fence fabric shall be attached to steel supports in at least _____ places on the upslope side with 50 pound plastic tie straps or wire fasteners.
- 2
 - 3
 - 4
 - 5
- 341.) The maximum spacing of posts for a nonwoven silt fence shall be 8 feet.
- True
 - False

- 342.) The maximum spacing of posts for a woven silt fence is:
- 3 feet
 - 4 feet
 - 7 feet
 - 8 feet
- 343.) A minimum of 10 inches of the post shall extend into the ground after installation.
- True
 - False
- 344.) A Silt fence should have a support cord.
- True
 - False
- 345.) It is appropriate to anchor silt fence by spreading at least 8 inches of the fabric in a 4 inch wide by 6 inch deep trench.
- True
 - False
- 346.) Silt fences shall be removed once the disturbed area is permanently stabilized and no longer susceptible to erosion.
- True
 - False
- 347.) Which of the following will decrease the effectiveness of using a silt fence?
- Improper placement
 - Improper installation
 - Improper maintenance
 - All of the above
- 348.) Silt fences should be considered for trapping sediment where sheet and rill erosion may be expected to occur in small drainage areas.
- True
 - False
- 349.) Silt fences should be placed in areas of concentrated flow.
- True
 - False
- 350.) Silt fences should be used to define the boundaries of an entire construction project.
- True
 - False

- 351.) A silt fence should not be used in areas where the silt fence is at a higher elevation than the disturbed area.
- True
 - False
- 352.) When placing a silt fence near trees, care should be taken to minimize damage to the root system.
- True
 - False
- 353.) To protect silt fence from damage in areas of active construction or heavy traffic, silt fence should be flagged, marked, or highlighted to improve visibility.
- True
 - False
- 354.) Where installation with wood posts is difficult, such as when hard or frozen ground is encountered, the use of steel post is recommended.
- True
 - False
- 355.) Plans and specifications for installing silt fence should include which of the following?
- Location of silt fence
 - Contributory drainage area
 - Schedules
 - All of the above
- 356.) Damaged or decomposed fences, undercutting, or flow channels around the end of barriers shall be repaired or corrected.
- True
 - False
- 357.) Sediment shall be properly disposed of once the deposits reach ____ the height of the fence.
- Half
 - Equal to
 - Twice
 - None of the above
- 358.) Sediment shall be properly disposed of once the deposits reach twice the height of the fence.
- True
 - False

- 359.) _____ is the removal of soil by the action of rainfall and shallow overland runoff.
- Channel erosion
 - Sheet and rill erosion
 - Lake erosion
 - None of the above
- 360.) _____ is the deepening and widening of a channel due to soil loss caused by flowing water.
- Channel erosion
 - Sheet and rill erosion
 - Lake erosion
 - None of the above