

Continuing Education, For UDC Construction Inspectors and Dwelling Contractor Qualifiers.

The following test is for Continuing Education Credits for the above mentioned Licenses and Credentials, All answers are found in the Wisconsin Uniform Dwelling Code Book in comm. 20, 21, and 22. For your convenience we have included the PDF's for comm 20, comm 21 and comm 22 on the homepage of this website. Please call Brett at (920) 740-4348 with any questions or concerns with this or any other issue you may have.

All questions have a correct answer that can be found in the codebook, when your test is completed read the information at the bottom of the page and send the proper items in to obtain your credit

Construction Inspection/Qualifier Cont. Ed. Test 19

Comm 20 Subchapter III: Definitions

1. _____ means a glazed opening in an exterior wall, including glazed portions of doors, within a conditioned space.

- a. Casement
- b. Skylight
- c. Porthole
- d. Window

2. _____ means a permit issued by a municipality that does not conduct inspections or plan reviews under this code.

- a. Wisconsin Procedural Permit
- b. Wisconsin Executive Permit
- c. Wisconsin Governmental Permit
- d. Wisconsin Administrative Permit

3. _____ means the date of issuance of the Wisconsin uniform building permit.

- a. Construction permit
- b. Initial construction
- c. Pre-construction period
- d. Start-up construction

4. _____ means any device that uses gas as a fuel or raw material to produce light, heat, power, refrigeration or air conditioning.

- a. Motor driven appliance
- b. Reconditioned appliance
- c. Free standing appliance
- d. Gas appliance

5. _____ means that level of a dwelling, below the first floor, located on a site with a sloping or multilevel grade and which has a portion of its floor line at grade.

- a. Basement
- b. Groundfloor
- c. Sublevel
- d. Cellar

6. _____ means the assembly of a manufactured building on site and the process of affixing a manufactured building to land, a foundation, footing or an existing building.

- a. Constructing
- b. Assembling
- c. Installation
- d. Fabricating

7. _____ means areas used, or designed to be used, for the preparation of food.
- a. Kitchen
 - b. Island
 - c. Breakfast nook
 - d. Dining room
8. _____ means the level portion of a stairs located between flights of stairs or located at the top and foot of stairs.
- a. Stairway
 - b. Staircase
 - c. Landing
 - d. Stairwell
9. _____ means equipment or building components which are tested by an independent testing agency and accepted by the department.
- a. Building investigation and testing
 - b. Listed and listing
 - c. Construction approved
 - d. State endorsed
10. _____ means the weight superimposed on the floors, roof and structural and nonstructural components of the dwelling through use and by snow, ice or rain.
- a. Heat load
 - b. Active load
 - c. Live load
 - d. Cooling load
11. _____ means an upper room or floor which has at least 50% of the common wall open to the floor below.
- a. Rigging loft
 - b. Upper story
 - c. Attic
 - d. Loft
12. _____ means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in storm water runoff and lead to an increase in soil erosion and movement of sediment.
- a. Integrated waste management
 - b. Land disturbing construction activity
 - c. Nonpoint source pollution
 - d. Polluted runoff

13. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit or trench dewatering, filling and grading activities.

- a. True
- b. False

14. _____ means the process of making, fabricating, constructing, forming or assembling a product from raw, unfinished, semifinished or finished materials.

- a. Industrial design
- b. Industrial revolution
- c. Industrial process
- d. Manufacture

15. _____ means new construction performed on a dwelling which increases the outside dimensions of the dwelling.

- a. Building component
- b. Alteration
- c. Addition
- d. Building system

16. _____ means the specified maximum permissible stress of a material expressed in load per unit area.

- a. Dead load
- b. Allowable stress
- c. Allowable strength design
- d. Allowable strength value

17. Manufactured dwelling means any structure or component thereof which is intended for use as a dwelling and:

- a. Is of closed construction and fabricated or assembled on site or off site in manufacturing facilities away from the building site for installation, connection, or assembly and installation at the building site.
- b. Is a building of open construction which is made or assembled in manufacturing facilities away from the building site for installation, connection, or assembly and installation on the building site and for which certification is sought by the manufacturer.
- c. a OR b
- d. None of the above

18. _____ means 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.

- a. Manufactured home
- b. Mobile home
- c. Modular home
- d. Prefabricated home

19. _____ means any subsystem, subassembly or other system designed for use in or as part of a structure which may include structural, electrical, mechanical, plumbing and fire protection systems and other systems affecting health and safety.

- a. Truss
- b. Framing
- c. Remanufactured
- d. Building component

20. _____ 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.

- a. Prefabricated building system
- b. Building system network
- c. Building system
- d. Building management system

21. _____ means a venting system for a gas burning appliance that is designed to remove flue or vent gases by mechanical means, such as a fan, which may consist of an induced draft portion under non-positive static pressure or a force draft portion under positive static pressure.

- a. Mechanical draft venting system
- b. Double venting system
- c. Automatic venting system
- d. Downdraft venting system

22. _____ is a branch of the physical sciences which uses the principles of mechanics in analyzing the impact of loads and forces and their effect on the physical properties of materials in the form of internal stress and strain.

- a. Continuum mechanics
- b. Structural load
- c. Disambiguation
- d. Structural analysis

23. _____ means an assembly that incorporates the smoke detector, the control equipment and the alarm-sounding device in one unit that is capable of being interconnected with one or more additional alarms so that the actuation of one alarm causes the operation of all interconnected alarms.

- a. Single station smoke alarm
- b. Interconnect modular system
- c. Multiple station smoke alarm
- d. Station alarm device

24. _____ means any city, village, town or county in this state.

- a. Municipality
- b. Political unit
- c. Governing body
- d. Providence

25. _____ means an appliance with a venting system designed to remove flue or vent gases under non-positive static vent pressure entirely by natural draft.

- a. Vent free appliance
- b. Naturally vented appliance
- c. Gas appliance
- d. Direct vent appliance

26. _____ means any building, building component, assembly or system manufactured in such a manner that it cannot be inspected before installation at the building site without disassembly, damage, or destruction.

- a. Closed construction
- b. Open construction
- c. Manufactured construction
- d. Initial construction

27. _____ means granular material, such as gravel or crushed stone, that is predominately retained on a sieve with square openings of 4.75 mm or .18 inch.

- a. Asphalt
- b. Construction aggregate
- c. Coarse aggregate
- d. Fine aggregate

28. _____ means any building, building component, assembly or system manufactured in such a manner that it can be readily inspected at the building site without disassembly, damage or destruction.

- a. Manufactured construction
- b. Closed construction
- c. Open construction
- d. Modern construction

29. The higher the perm rating of a material is, the more difficult it is for water vapor to pass through it.

- a. True
- b. False

30. _____ is a projection of masonry or a filled cell area of masonry for the purpose of bearing concentrated loads or to stiffen the wall against lateral forces.

- a. Column
- b. Pilaster
- c. Entablature
- d. Buttress

31. _____ is a masonry wall composed of 2 or more wythes of masonry units tied or bonded together.

- a. Load bearing wall
- b. Single-wythe wall
- c. Multi-wythe wall
- d. Composite wall

32. _____ means an unenclosed exterior structure at or near grade attached or adjacent to the exterior wall of any building, and having a roof and floor.

- a. Porch
- b. Balcony
- c. Deck
- d. Garage

33. _____ 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 equivalent fixture, system or equipment.

- a. Restore
- b. Repair
- c. Reupholster
- d. Refurbish

34. _____ means a shingle with a second layer of asphalt and mat laminated to the first layer, usually in a design pattern to simulate the dimensional appearance of natural slate or wood shakes.

- a. Organic asphalt shingle
- b. Laminated shingle
- c. Fiberglass asphalt shingle
- d. Strip shingle

35. _____ means a shingle with an internal mat composed of organic fibers, such as cellulose, that is saturated and coated with asphalt.

- a. Organic asphalt shingle
- b. Laminated shingle
- c. Fiberglass asphalt shingle
- d. Strip shingle

36. _____ means a rectangle shingle that relies either on a sealant or on a combination of weight and stiffness to resist wind uplift, rather than using interlocking tabs.

- a. Organic asphalt shingle
- b. Laminated shingle
- c. Fiberglass asphalt shingle
- d. Strip shingle

37. _____ means a unit of roof covering material that has been manufactured to specific dimensions and is applied in overlapping fashion.

- a. Laminated shingle
- b. Strip shingle
- c. Roofing material
- d. Shingle

38. _____ means a type of shingle with an internal mat composed of nonwoven, resin-bonded glass fibers, that is impregnated and coated with asphalt.

- a. Organic asphalt shingle
- b. Laminated shingle
- c. Fiberglass asphalt shingle
- d. Strip shingle

39. _____ is a masonry wall consisting of one unit of thickness.

- a. Load bearing wall
- b. Multi-wythe wall
- c. Double-wythe wall
- d. Single-wythe wall

40. _____ is that part of a fireplace which acts as a funnel to compress the smoke and gases from the fire so that they will enter the chimney above.

- a. Conventional fireplace firebox
- b. Flue lining
- c. Hearth extension
- d. Smoke chamber

41. _____ is a landing or porch projecting from the wall of a building.

- a. Balcony
- b. Deck
- c. Platform
- d. Porch

42. _____ means the depth or peak elevation of flooding, including wave height, which has a one percent or greater chance of occurring in any given year.

- a. Coastal flood elevation
- b. Base flood elevation
- c. Velocity hazard
- d. Floodplain management

43. _____ means the condition where vegetation is established or other practices are in place on exposed soil surfaces so as to reduce erosion.

- a. Balanced
- b. Stabilized
- c. Morphology
- d. Structural runoff control

44. _____ means an enclosed nonportable toilet into which nonwater-carried human wastes are deposited to a subsurface storage chamber.

- a. Non- flush portable toilet
- b. Portable toilet
- c. Privy
- d. Composting toilet

45. _____ 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. 1011.651 (3) (b), Stats.

- a. Certified UDC inspection agency
- b. Registered UDC inspection agency
- c. Authorized UDC inspection agency
- d. Qualified UDC inspection agency

46. _____ is one or more flights of steps, and the necessary platforms or landings connecting them, to form a continuous passage from one elevation to another.

- a. Stairway
- b. Flight
- c. Stairwell
- d. Steps

47. _____ means that portion of a building located above the basement, between the floor and ceiling.

- a. Attic
- b. Loft
- c. Story
- d. Upper story

48. _____ is a nonportable solid-fuel-burning, vented, nonducted heat-producing appliance located in the space that it is intended to heat.
- a. Stovepipe
 - b. Smokepipe
 - c. Stove
 - d. Range
49. _____ means any person having a legal or equitable interest in the dwelling.
- a. Vendor
 - b. Proprietor
 - c. Operator
 - d. Owner
50. _____ means a unit of permeance which is measured in grains per (hour)(square foot) (inch of mercury vapor pressure difference).
- a. Water vapor transmission
 - b. Perm
 - c. Metric perm
 - d. Standard vapor pressure
51. The definition of “stove” does NOT include cooking appliances.
- a. True
 - b. False
52. _____ means the same as smoke pipe.
- a. Stovepipe
 - b. Pipe
 - c. Duct
 - d. Smoke chamber
53. _____ means a change in the physical shape of a material caused by stress.
- a. Tension
 - b. Structural analysis
 - c. Strain
 - d. Movement
54. _____ means internal resistance to an external force expressed in load per unit area; stresses acting perpendicular to the surface, or bending stresses which cause curving.
- a. Strain
 - b. Tension
 - c. Stress
 - d. Structural analysis

55. _____ means chs Comm 20 to 25, the Wisconsin uniform dwelling code.

- a. UDC
- b. Administrative code
- c. Statewide code
- d. Local code

56. _____ is a connector between the solid or liquid fuel-burning appliance and the chimney.

- a. Flue
- b. Smoke chamber
- c. Smoke pipe
- d. Shaft

57. _____ means a masonry unit which has a net cross-sectional area parallel to the bearing face which is 75% or more of the gross cross-sectional area.

- a. Solid unit
- b. Hollow unit
- c. Portable unit
- d. Wall unit

58. _____ includes those portions of Lake Michigan and Lake Superior within the boundaries of Wisconsin, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, watercourses, drainage systems, and other surface waters or groundwaters, natural or artificial public or private, within the state or jurisdiction.

- a. Waters of the state
- b. Qualified waters
- c. Protected waters
- d. Surface waters

Comm 21.01: Loads and Materials

59. Every dwelling shall be designed and constructed to support the actual dead load, live loads and wind loads acting upon it without _____ the allowable stresses of the material.

- a. Shifting
- b. Varying
- c. Changing
- d. Exceeding

60. The construction of buildings and structures shall result in a system that provides a complete _____ capable of transferring all loads from point of origin through the load-resisting elements to the foundation.

- a. Short path
- b. Load path
- c. Non-load path
- d. Non-continuous load path

61. Every dwelling shall be designed and constructed to support the _____ weight of all components and materials.
- Anticipated
 - Actual
 - Expected
 - Probable
62. Earth-sheltered dwellings shall be designed and constructed to support the actual weight of all _____ loads.
- Soil
 - Hydrostatic
 - Building
 - Live
63. Dwellings shall be designed and constructed to withstand a horizontal and uplift pressure of _____ pounds per square foot acting over the surface area.
- 5
 - 10
 - 20
 - 30
64. Roof framing members spanning more than 6 feet measured from the outermost edge of the roof shall be _____ fastened to the top plate of load bearing walls using engineered clips, straps or hangers.
- Firmly
 - Securely
 - Temporarily
 - Permanently
65. All dwellings shall be designed by the method of _____ or the method of accepted practice specified in each part of this code.
- Elasticity theory approach
 - Mechanics of materials approach
 - Finite element approach
 - Structural analysis
66. The cumulative effects of _____ loads, such as snow, shall be considered in determining duration of load.
- Short-time
 - Long-time
 - Live
 - Active

67. Reused lumber shall be considered to have a _____ of load factor of 0.90.

- a. Sum
- b. Amount
- c. Interval
- d. Duration

Comm 21.03: Exits, doors and hallways

68. Exits from the first floor. Except as allowed under par. (h), every dwelling unit shall be provided with _____ exit door (s) accessible from the first floor.

- a. At least one
- b. At least two
- c. Several
- d. Swing

69. At least one of the exits shall discharge to grade.

- a. True
- b. False

70. A(n) _____ exit may discharge into an attached garage provided the garage has an exit door that discharges to grade.

- a. Additional
- b. Emergency
- c. Street
- d. None of the above

71. For exiting through an attached garage, the _____ distance shall be measured using the door connecting the garage and the dwelling.

- a. Safety
- b. Total
- c. Separation
- d. None of the above

72. Dwellings consisting of no more than a first floor with a maximum floor area of 400 square feet and a loft area not exceeding (a) _____ 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).

- a. Half
- b. Quarter
- c. Third
- d. Two-thirds

73. Windows which are installed for exit purposes shall comply with the requirements of this subsection. The window shall be operable from the inside without the use of tools or the removal of a _____.

- a. Mullion
- b. Grille kit
- c. Hinge
- d. Sash

74. The nominal size of the net clear window opening shall be at least _____ irrespective of height or width.

- a. 20 inches by 24 inches
- b. 36 inches by 36 inches
- c. 30 inches by 30 inches
- d. 22 inches by 26 inches

75. No portion of the window, including stops, stools, meeting rails and operator arms, shall infringe on the required opening.

- a. True
- b. False

76. Hallways shall be at least _____ feet in width except that door hardware, finish trim and heating registers may infringe upon this dimension.

- a. 2
- b. 2.5
- c. 3
- d. 3.5

77. Balconies shall be made of concrete, metal or wood which is treated, protected or _____ decay-resistive in accordance with s. Comm 21.10.

- a. Artificially
- b. Unusually
- c. Synthetically
- d. Naturally

Comm 21.04: Stairways and elevated areas.

78. Within a stairway flight, tread depths and riser heights may vary by a _____ of 3/16 inch.

- a. Fraction
- b. Total
- c. Minimum
- d. Maximum

79. Stairways with open risers shall be constructed to prevent the through-passage of a sphere with a diameter of 4 inches or larger between any 2 _____ treads.

- a. Contiguous
- b. Parallel
- c. Reinforced
- d. Adjacent

80. Handrails and guardrails shall be constructed to withstand a _____ pound load applied in any direction.

- a. 50
- b. 75
- c. 100
- d. 200

81. A landing is not required between the door and the top of the interior stairs if the door does not _____ the stairs.

- a. Affect
- b. Infringe on
- c. Rest on
- d. Swing over

82. A landing is not required between a sliding glass door and the top of an exterior stairway of _____ or fewer risers.

- a. 3
- b. 2
- c. 4
- d. 5

Comm 21.042: Ladders

83. Rungs may only be used for ladders with a pitch range of 75 degrees to _____ degrees.

- a. 80
- b. 85
- c. 95
- d. 90

84. Rungs shall be at least 1 inch in diameter for metal ladders and _____ inch for wood ladders.

- a. 1.5
- b. 1
- c. 2
- d. 2.5

85. The ladder shall have a _____ clearance of at least 15 inches on either side of the center of the tread.

- a. Maximum
- b. Minimum
- c. Total
- d. Overall

Comm 21.045 Ramps

86. A level landing shall be provided at the top, at the foot and at any change in _____ of the ramp.

- a. Width
- b. Height
- c. Elevation
- d. Direction

Comm 21.05: Light and ventilation

87. All habitable rooms shall be provided with natural light by means of _____ openings.

- a. Energy efficient
- b. Thermalized
- c. Glazed
- d. Operative

88. Habitable rooms, other than bedrooms, located in basements or ground floors do require natural light.

- a. True
- b. False

89. All decayable organic material, including topsoil, shall be removed from crawl space floors prior to placing the vapor retarder.

- a. True
- b. False

Comm 21.06: Ceiling height

90. All habitable rooms, kitchens, hallways, bathrooms and corridors shall have a ceiling height of at least _____ feet.

- a. 6
- b. 8
- c. 9
- d. 7

Comm 21.08: Fire separation and dwelling unit separation

91. Vertical separations between an attached garage and a dwelling shall extend from the top of a concrete or masonry foundation to the underside of the _____ or fire-resistive ceiling construction.

- a. Built-up roofing
- b. Roof sheathing
- c. Gable ends
- d. Trusses

92. The cover or door of the access opening shall be permanently installed with hardware that will maintain it in the _____ position when not in use.

- a. Closed
- b. Open
- c. Secured
- d. Correct

93. Penetrations of a required separation by electrical and plumbing components shall be firmly packed with noncombustible material or shall be protected with a listed through-penetration firestop system with a rating of at least _____ hour(s).

- a. Two
- b. One-quarter
- c. One-half
- d. One

Comm 21.085: Fireblocking

94. Fireblocking shall consist of one of the following EXCEPT:

- a. 1-inch nominal lumber
- b. Two layers of one-inch nominal lumber
- c. One thickness of $\frac{3}{4}$ inch nominal plywood or wood structural panel with any joints backed with the same material.
- d. One thickness of $\frac{1}{2}$ inch gypsum wallboard, faced nailed or faced screwed to solid wood, with any joints backed with the same material.

Comm 21.09: Smoke detectors

95. Smoke detectors required in this section shall be _____ powered by the house electrical service, and shall be interconnected so that activation of one detector will cause activation of all detectors.

- a. Intermittently
- b. Additionally
- c. Continuously
- d. Automatically

96. Where there is a(n) _____ door between one level and the adjacent lower level, smoke detectors shall be installed on each level.

- a. Intervening
- b. Pocket
- c. Hinged
- d. Swing

97. For envelope dwellings, at least _____ smoke alarm(s) shall be placed in the air passageways.

- a. 4
- b. 1
- c. 2
- d. 3

Comm 21.125: Erosion control and sediment control

98. Land disturbing construction activities, except those activities _____ 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.

- a. Established
- b. Permitted
- c. Mandated
- d. Necessary

99. A disturbed area shall be considered stabilized by vegetation when a perennial cover has been established with a density of at least _____.

- a. 55%
- b. 60%
- c. 65%
- d. 70%.

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

- a. Within 24 hours after a rainfall event of .5 inches or greater.
- b. At all intervals cited on the erosion and sediment control plan.
- c. Bi-monthly
- d. None of the above

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

- a. Sanitary sewers
- b. Public sewers
- c. Storm sewers
- d. City sewers

Comm 21.13: Excavations adjacent to adjoining property

102. Any person making or causing an excavation which may affect the lateral soil support of adjoining property or buildings shall provide at least 15 days written notice to all owners of adjoining buildings of the intention to excavate.

- a. True
- b. False

103. If the excavation is made to a depth of 12 feet or less below grade, the person making or causing the excavation shall not be responsible for any necessary underpinning or extension of the foundations of any adjoining buildings.

- a. True
- b. False

Comm 21.14: Excavations for footings and foundations

104. No excavation shall be made below the footing and foundation unless provisions are taken to prevent the _____ of the footing or foundation.

- a. Collapse
- b. Failure
- c. Modification
- d. Alteration

105. All footings shall be located on undisturbed or compacted soil, free of organic material, unless the footings are _____ to bridge poor soil conditions.

- a. Continuous
- b. Embedded
- c. Reinforced
- d. Supported

Comm 21.15: Footings

106. The dwelling shall be supported on a structural system designed to transmit and safely _____ the loads to the soil.

- a. Shift
- b. Distribute
- c. Transfer
- d. Move

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

- a. Plus
- b. Minus
- c. Less
- d. None of the above

108. The bearing area shall be at least equal to the area required to transfer the loads to the supporting soil without _____ the bearing values of the soil.

- a. Lowering
- b. Changing
- c. Affecting
- d. Exceeding

DEPARTMENT OF COMMERCE Comm 22.10

109. Chapter Comm 22 as it existed on March 31, 2009, was repealed and a new chapter Comm 22 was created effective _____ .

- a. March 31, 2009
- b. June 31, 2009
- c. April 1, 2009
- d. May 1, 2009

Subchapter I — Scope and Application

110. Comm 22.01 Scope. (1) This chapter applies to all one–and 2–family dwellings covered by this code that use any amount of _____ energy for heat generation.

- a. Renewable
- b. Non–renewable
- c. Stored mechanical
- d. Gravitational

111. Note: Non–renewable energy sources used for heat distribution only _____ require compliance with this chapter.

- a. Will not
- b. Will
- c. May
- d. None of the above

112. Note: The Public Service Commission has rules regulating “non-essential uses” of natural gas, such as _____ in ch. PSC 136 of the Wisconsin Administrative Code.

- a. Snow melting
- b. Lighting
- c. Feedstock or industrial uses
- d. a AND b

113. The equipment efficiency standards in this chapter apply to all _____ dwellings covered by this code that use the respective equipment.

- a. One family
- b. Two family
- c. a AND b
- d. None of the above

114. The vapor retarder requirements under s. Comm 22.38 and the moisture control and ventilation requirements under s. Comm 22.39 apply to any dwelling with insulation installed, _____.

- a. Whether or not the insulation is required under this code
- b. If local municipality requires it
- c. With limited exceptions
- d. Provided laws do not change

Comm 22.02 Application.

115. This chapter is not intended to conflict with any safety or health requirements. Where a conflict occurs, _____ shall govern.

- a. This code
- b. The Safety and health requirements
- c. The Safety requirements
- d. The Health requirements

116. This chapter allows the designer the option of using _____ methods to demonstrate compliance with thermal performance requirements.

- a. Limited
- b. Approved
- c. Various
- d. Researched

117. The designer shall identify on the plan submittal form _____ is being used, and indicate the design criteria and how it is being applied.

- a. What method
- b. Subchapter
- c. a AND b
- d. None of the above

118. Unless specifically exempted, all requirements of this chapter apply _____.

- a. To all contractors
- b. Until the law changes
- c. Until further notice
- d. Regardless of the method used

Subchapter II — Definitions

119. _____ means having an air permeance less than or equal to 0.02 L/s-m² at a pressure differential of 75 pascals when tested according to ASTM E 2178 or ASTM E 283.

- a. Conditioned floor area
- b. Conditioned space
- c. Air-impermeable
- d. Dwelling thermal envelope

120. _____ means the sum of areas of all floors in conditioned space in the structure, including basements, cellars, and intermediate floored levels measured from the exterior faces of exterior walls or from the center line of interior walls, excluding covered walkways, open roofed-over areas, porches, exterior terraces or steps, chimneys, roof overhangs and similar features.

- a. Conditioned space
- b. Dwelling thermal envelope
- c. Conditioned floor area
- d. Crawl space wall

121. _____ means space within the dwelling thermal envelope which is provided with heated air or surfaces to provide a heated space capable of maintaining the temperature of the space to at least 50°F at design conditions.

- a. Conditioned space
- b. Crawl space wall
- c. Dwelling thermal envelope
- d. Air- impermeable

122. _____ means the opaque portion of a wall which encloses a crawl space and is partially or totally below grade.

- a. Crawl space wall
- b. Conditioned space
- c. Dwelling thermal envelope
- d. Exterior wall area

123. _____ means the elements of a dwelling with enclosed conditioned space through which thermal energy may be transferred to or from unconditioned space or the exterior.

- a. Crawl space
- b. Conditioned space
- c. Exterior wall area
- d. Dwelling thermal envelope

124. _____ means the normal projection of the dwelling envelope wall area bounding interior space which is conditioned by an energy-using system including opaque wall, window and door area. Any skylight shaft walls that are 12 inches or more in depth, measured from the ceiling plane to the roof deck, are considered in the area of exterior walls and are not considered part of the roof assembly.

- a. Heated slab
- b. Crawl space
- c. Dwelling thermal envelope
- d. Exterior wall area

125. _____ slab means a floor slab in which an uninsulated heating element, uninsulated hydronic tubing or uninsulated hot air distribution system is in contact with the slab or placed within the slab or the subgrade.

- a. Travertine
- b. Heated
- c. Natural stone
- d. Granite

126. _____ means heating, ventilating and air conditioning.

- a. HVAC
- b. HVAC system
- c. Climate control
- d. High voltage alternating current

127. _____ means the equipment, distribution network, and terminals that provide either collectively or individually the processes of heating, ventilating, or air conditioning to a building.

- a. HVAC
- b. Ventilation
- c. HVAC system
- d. Heating

128. _____ means the uncontrolled inward air leakage through cracks and interstices in any dwelling element and around windows and doors of a dwelling caused by the pressure effects of wind, and the effect of differences in the indoor and outdoor air density.

- a. C-rated
- b. Infiltration
- c. Mass wall
- d. Opaque area

129. _____ means an electrical fixture tested and listed by an independent testing laboratory as being suitable for installation in a cavity where the fixture may be in direct contact with thermal insulation or combustible materials.

- a. Infiltration
- b. Mass wall
- c. Opaque area
- d. C-rated

130. _____ wall means a wall of concrete block, concrete, insulated concrete forms, masonry cavity, brick other than brick veneer, earth and solid timber or logs.

- a. Retaining
- b. Marriage
- c. Mass
- d. Free standing

131. _____ areas means all exposed areas of a dwelling envelope which enclose conditioned space except openings for windows, skylights, doors and dwelling service systems.

- a. Opaque
- b. Large
- c. Exposed
- d. Transparent

132. Proposed _____ means a description of the proposed dwelling used to estimate annual energy use for determining compliance based on total building performance.

- a. Design
- b. Prototype
- c. Principles
- d. None of the above

133. Renewable energy sources means sources of energy, excluding minerals and petroleum products, derived from incoming_____, lake or pond thermal differences and from the internal heat of the earth.

- a. Solar radiation
- b. Trees and other plants
- c. Wind, waves and tides
- d. All of the above

134. _____ assembly means all components of the roof and ceiling envelope through which heat flows, thus creating a building transmission heat loss or gain, where such assembly is exposed to outdoor air and encloses a heated space. Any skylight shaft walls less than 12 inches in depth, as measured from the ceiling plane to the roof deck, are considered in the roof assembly and are not considered in the area of exterior walls.

- a. Maven
- b. Roof
- c. Automatic
- d. Hub

135. _____ means a one-story structure attached to a dwelling with a glazing area in excess of 40% of the gross area of the structure's exterior walls and roof.

- a. Garden room
- b. Covered porch
- c. Sun room
- d. Moon room

136. Note: A thermally isolated sun room _____ count in the calculation of amount of glazing.

- a. Does not
- b. Does
- c. Should
- d. May

137. System means a combination of central or terminal equipment and their components, controls, accessories, interconnecting means, and terminal devices by which energy is transformed so as to perform a specific function, such as _____.

- a. HVAC,
- b. Water heating
- c. Illumination
- d. a, b, OR c

138. _____ means a measure of the ability to retard the flow of heat. The R-value is the reciprocal of thermal transmittance or U-factor expressed as $R = 1/U$.
- a. Thermal resistance
 - b. R-value
 - c. a OR b
 - d. U-factor
139. Note: The _____ the R-value of a material, the more difficult it is for heat to be transmitted through the material.
- a. Higher
 - b. Lower
 - c. Poorer
 - d. None of the above
140. _____ means the time rate of heat flow through a body or assembly which is located between 2 different environments, expressed in $\text{Btu/h} \cdot \text{ft}^2 \cdot ^\circ\text{F}$. The U-factor applies to combinations of different materials used in series along the heat flow path and also to single materials that comprise a dwelling section, including cavity air spaces and air films on both sides of a dwelling element.
- a. Thermal transmittance
 - b. U factor
 - c. R-value
 - d. a OR b
141. Note: The higher the U-factor of a material, the more difficult it is for heat to be transmitted through the material.
- a. True
 - b. False
142. Note: The thermal transmittance is also referred to as the _____.
- a. Coefficient of heat transfer
 - b. Coefficient of heat transmission
 - c. a OR b
 - d. Thermal conductivity
143. _____ means physically and thermally separated with separate zone or separate equipment controls for space heating.
- a. Thermostat
 - b. Thermally isolated
 - c. Ventilation
 - d. Zone

144. _____ means an automatic control device actuated by temperature and designed to be responsive to temperature.

- a. Thermostat
- b. Thermally isolated
- c. Ventilation
- d. Zone

145. _____ means the process of supplying or removing air by natural or mechanical means to or from any space. The air may or may not have been conditioned.

- a. Thermostat
- b. Ventilation
- c. Zone
- d. Thermally isolated

146. _____ means a space or group of spaces within a dwelling with heating requirements sufficiently similar so that comfort conditions can be maintained throughout by a single controlling device.

- a. Thermostat
- b. Zone
- c. Ventilation
- d. Thermally isolated

Subchapter III — Insulation Materials and Installation
Comm 22.20 Basic requirements.

147. When available, information and values on thermal properties, performance of building envelope sections and components, and heat transfer shall be obtained from the _____.

- a. DOE Fundamental Handbook
- b. ASHRAE Handbook of Fundamentals
- c. Electrical Science Fundamentals Handbook
- d. Reading is Fundamental

148. Insulation material used in layers, such as _____ shall be summed to compute the component R-value.

- a. Framing cavity insulation
- b. Insulating sheathing
- c. a AND b
- d. None of the above

149. The manufacturer's settled R-value shall be used for _____ insulation.

- a. Rigid
- b. Foamed in place
- c. Blown
- d. Blanket

150. Computed R-values may not include values for air films or for building materials other than _____ materials.

- a. Construction
- b. Insulation
- c. Teaching
- d. Precipitator

151. Note: The REScheck program will automatically account for:

- a. Appliances
- b. Air Films
- c. Other building materials
- d. b AND c

152. When information specified under sub. (1) is not available, or when a different value is claimed, supporting data shall be obtained using which of the following test methods:

- a. ASTM C177, Standard test method for steady state heat flux measurements and thermal transmission properties by means of the guarded-hot-plate apparatus or ASTM C335, Standard test method for steady state heat transfer properties of pipe insulation.
- b. ASTM C518, Standard test method for steady state thermal transmission properties by means of the heat flow meter apparatus.
- c. ASTM C1363, Standard test method for the thermal performance of building materials and envelope assemblies by means of a hot box apparatus.
- d. All of the above

153. When information specified under sub. (1), _____, foam plastic insulation that uses a gas other than air as the insulating medium shall use laboratory or field tests conducted on representative samples that have been aged for the equivalent of 5 years or until the R-value has stabilized.

- a. Is not available
- b. has a different value claimed
- c. a AND b
- d. None of the above

154. The tests shall be _____.

- a. Conducted by an independent third party using the standards listed under par. (a)
- b. Submitted for department approval in accordance with s. Comm 20.18
- c. Submitted for department approval in accordance with s. Comm 20.18
- d. All of the above

155. Systems using integrally-insulated concrete masonry units shall be evaluated for thermal performance in accordance with which one of the following:

- a. Default values as approved by the department with no extrapolations or interpolations.
- b.. Laboratory or field test measurements specified under par. (a).
- c.. The material approval process specified in s. Comm 20.18.
- d. All of the above

156. _____ shall be identified in a manner that will allow a determination of their compliance with the applicable provisions of this code.

- a. Materials
- b. Equipment
- c. Systems
- d. All of the above

157. All insulation materials, caulking and weatherstripping, _____, and water-heating equipment and system components shall be installed in accordance with the manufacturer's installation instructions.

- a. Mechanical equipment
- b. Fenestration assemblies
- c. Systems components
- d. All of the above

158. Manufacturer's installation instructions shall be available on _____ at the time of inspection.

- a. On the job site
- b. Upon request
- c. If needed
- d. None of the above

159. _____ insulation shall be installed in a manner which will permit inspection of the manufacturer's R-value identification mark.

- a. Roof and ceiling
- b. Roof and wall cavity batt
- c. Board insulation
- d. All of the above

160. A thermal resistance identification mark shall be applied by the manufacturer to each piece of dwelling envelope insulation _____ inches or greater in width.

- a. 12
- b. 10
- c. 8
- d. 6

161. The thickness of blown-in roof and ceiling insulation shall be identified by thickness markings that are labeled in inches and installed at least one for every _____square feet through the attic space.

- a. 200
- b. 300
- c. 400
- d.500

162. The markers shall be affixed to trusses or joists marking the minimum initial installed thickness and minimum settled thickness with numbers a minimum of _____ inch(es) in height.

- a. Half
- b. Two
- c. Three
- d. None of the above

163. The certificate shall be completed by the _____.

- a. Owner
- b. Builder
- c. Insulation installer
- d. a, b, OR c

164. The certificate shall list at least which of the following information:

- a. The predominant R-values of insulation installed in or on ceilings or roofs, walls, foundation walls, slabs and any heating ducts that are outside the thermal envelope.
- b. The U-factors of all windows, skylights and doors.
- c. a AND b
- d. None of the above

165. Insulating blankets or batts shall be held in place with _____.

- a. A covering
- b. Other means of mechanical or adhesive fastening
- c. a OR b
- d. Balls

166. Note: If the insulation is on a below-grade wall, s. Comm 22.08 (3) may prohibit the use of vapor retarder material used as the covering.

- a. True
- b. False

167. Except as provided under s. Comm 22.39 (4) for cathedral ceilings, all air-permeable insulation materials installed in any position other than horizontal, shall be covered on the cold-in-winter side with a permanently attached material of low air permeability to maintain the R-value of the insulation.

- a. True
- b. False

168. Note: Suitable materials for this purpose include house wrap permanently attached with _____, oriented strand board or OSB, siding material, rigid insulation sheathing, etc.

- a. Batten strips
- b. Asphalt-impregnated felt or tar paper
- c. Plywood
- d. a, b, OR c

169. If non-rigid sheet material is used, it shall not be water vapor permeable.

- a. True
- b. False

170. Exterior foam plastic insulation shall be protected from physical damage and damage from ultraviolet light with a _____ covering or coating.

- a. Permanent
- b. Opaque
- c. Weather-resistant
- d. All of the above

171. The protective covering shall cover the exposed exterior insulation and extend a minimum of ____ inches below grade.

- a. 6
- b. 8
- c. 10
- d. 12

172. **Note:** For interior applications, a thermal barrier may be required under s. Comm 21.11.

- a. True
- b. False

Comm 22.30 General design requirements.

173. Infiltration for heating design loads shall be calculated based on a maximum of ____ air change per hour in the heated space.

- a. 1.0
- b. 0.5
- c. 1.5
- d. None of the above

174. The minimum air change per hour rate may not be less than _____, unless mechanical ventilation is provided.

- a. 0.2
- b. 0.1
- c. 0.02
- d. None of the above

175. Where basement and crawl space walls are part of the dwelling thermal envelope, their _____ shall be based on the wall components.

- a. R-values
- b. U-factors
- c. a AND b
- d. None of the above

176. Adjacent soil may be considered in the determination.

- a. True
- b. False

177. Except as provided under par. (b), a garage may not be provided with any supplemental heat unless which of the following conditions are met:

- a. The dwelling shall be thermally isolated from the garage.
- b. The garage floor, ceiling and walls shall be provided with a vapor retarder in accordance with s. Comm 22.38.
- c. All building elements shall meet the requirements of s. Comm 22.31.
- d. All of the above

178. The thermal envelope requirements under par. (a) are not required if which of the following conditions are met:

- a. The thermostat is permanently limited to a maximum of 50 degrees F.
- b. Heating equipment is either separate from the dwelling unit equipment or installed as a separate zone.
- c. Separate heating equipment shall be sized to provide a maximum indoor temperature of 50 degrees F.
- d. All of the above

179. When insulation is placed on the exterior of a foundation supporting a masonry veneer exterior, the horizontal foundation surface supporting the veneer is required to be insulated to satisfy the foundation insulation requirement.

- a. True
- b. False

Comm 22.31 Prescriptive insulation and fenestration

180. Except as specifically provided under this subchapter, dwellings using the prescriptive method shall meet the requirements of Table 22.31-1 or 22.31-2.

(b) In Tables 22.31-1 and 22.31-2, zone 2 consists of which of the following northern counties:

- a. Ashland, Bayfield, Burnett, Douglas, Florence
- b. Forest, Iron, Langlade, Lincoln, Oneida, Price
- c. Sawyer, Taylor, Vilas and Washburn
- d. All of the above

181. Zone 1 consists of all other counties not included in zone 2.

- a. True
- b. False

Construction Inspection/Qualifier Cont. Ed. Test 19

Answer Sheet

- | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|-----|---|---|---|---|------|---|---|---|---|------|---|---|---|---|
| 1. | a | b | c | d | 49. | a | b | c | d | 97. | a | b | c | d | 145. | a | b | c | d |
| 2. | a | b | c | d | 50. | a | b | c | d | 98. | a | b | c | d | 146. | a | b | c | d |
| 3. | a | b | c | d | 51. | a | b | c | d | 99. | a | b | c | d | 147. | a | b | c | d |
| 4. | a | b | c | d | 52. | a | b | c | d | 100. | a | b | c | d | 148. | a | b | c | d |
| 5. | a | b | c | d | 53. | a | b | c | d | 101. | a | b | c | d | 149. | a | b | c | d |
| 6. | a | b | c | d | 54. | a | b | c | d | 102. | a | b | c | d | 150. | a | b | c | d |
| 7. | a | b | c | d | 55. | a | b | c | d | 103. | a | b | c | d | 151. | a | b | c | d |
| 8. | a | b | c | d | 56. | a | b | c | d | 104. | a | b | c | d | 152. | a | b | c | d |
| 9. | a | b | c | d | 57. | a | b | c | d | 105. | a | b | c | d | 153. | a | b | c | d |
| 10. | a | b | c | d | 58. | a | b | c | d | 106. | a | b | c | d | 154. | a | b | c | d |
| 11. | a | b | c | d | 59. | a | b | c | d | 107. | a | b | c | d | 155. | a | b | c | d |
| 12. | a | b | c | d | 60. | a | b | c | d | 108. | a | b | c | d | 156. | a | b | c | d |
| 13. | a | b | c | d | 61. | a | b | c | d | 109. | a | b | c | d | 157. | a | b | c | d |
| 14. | a | b | c | d | 62. | a | b | c | d | 110. | a | b | c | d | 158. | a | b | c | d |
| 15. | a | b | c | d | 63. | a | b | c | d | 111. | a | b | c | d | 159. | a | b | c | d |
| 16. | a | b | c | d | 64. | a | b | c | d | 112. | a | b | c | d | 160. | a | b | c | d |
| 17. | a | b | c | d | 65. | a | b | c | d | 113. | a | b | c | d | 161. | a | b | c | d |
| 18. | a | b | c | d | 66. | a | b | c | d | 114. | a | b | c | d | 162. | a | b | c | d |
| 19. | a | b | c | d | 67. | a | b | c | d | 115. | a | b | c | d | 163. | a | b | c | d |
| 20. | a | b | c | d | 68. | a | b | c | d | 116. | a | b | c | d | 164. | a | b | c | d |
| 21. | a | b | c | d | 69. | a | b | c | d | 117. | a | b | c | d | 165. | a | b | c | d |
| 22. | a | b | c | d | 70. | a | b | c | d | 118. | a | b | c | d | 166. | a | b | c | d |
| 23. | a | b | c | d | 71. | a | b | c | d | 119. | a | b | c | d | 167. | a | b | c | d |
| 24. | a | b | c | d | 72. | a | b | c | d | 120. | a | b | c | d | 168. | a | b | c | d |
| 25. | a | b | c | d | 73. | a | b | c | d | 121. | a | b | c | d | 169. | a | b | c | d |
| 26. | a | b | c | d | 74. | a | b | c | d | 122. | a | b | c | d | 170. | a | b | c | d |
| 27. | a | b | c | d | 75. | a | b | c | d | 123. | a | b | c | d | 171. | a | b | c | d |
| 28. | a | b | c | d | 76. | a | b | c | d | 124. | a | b | c | d | 172. | a | b | c | d |
| 29. | a | b | c | d | 77. | a | b | c | d | 125. | a | b | c | d | 173. | a | b | c | d |
| 30. | a | b | c | d | 78. | a | b | c | d | 126. | a | b | c | d | 174. | a | b | c | d |
| 31. | a | b | c | d | 79. | a | b | c | d | 127. | a | b | c | d | 175. | a | b | c | d |
| 32. | a | b | c | d | 80. | a | b | c | d | 128. | a | b | c | d | 176. | a | b | c | d |
| 33. | a | b | c | d | 81. | a | b | c | d | 129. | a | b | c | d | 177. | a | b | c | d |
| 34. | a | b | c | d | 82. | a | b | c | d | 130. | a | b | c | d | 178. | a | b | c | d |
| 35. | a | b | c | d | 83. | a | b | c | d | 131. | a | b | c | d | 179. | a | b | c | d |
| 36. | a | b | c | d | 84. | a | b | c | d | 132. | a | b | c | d | 180. | a | b | c | d |
| 37. | a | b | c | d | 85. | a | b | c | d | 133. | a | b | c | d | 181. | a | b | c | d |
| 38. | a | b | c | d | 86. | a | b | c | d | 134. | a | b | c | d | | | | | |
| 39. | a | b | c | d | 87. | a | b | c | d | 135. | a | b | c | d | | | | | |
| 40. | a | b | c | d | 88. | a | b | c | d | 136. | a | b | c | d | | | | | |
| 41. | a | b | c | d | 89. | a | b | c | d | 137. | a | b | c | d | | | | | |
| 42. | a | b | c | d | 90. | a | b | c | d | 138. | a | b | c | d | | | | | |
| 43. | a | b | c | d | 91. | a | b | c | d | 139. | a | b | c | d | | | | | |
| 44. | a | b | c | d | 92. | a | b | c | d | 140. | a | b | c | d | | | | | |
| 45. | a | b | c | d | 93. | a | b | c | d | 141. | a | b | c | d | | | | | |
| 46. | a | b | c | d | 94. | a | b | c | d | 142. | a | b | c | d | | | | | |
| 47. | a | b | c | d | 95. | a | b | c | d | 143. | a | b | c | d | | | | | |
| 48. | a | b | c | d | 96. | a | b | c | d | 144. | a | b | c | d | | | | | |

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Date _____

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