(2) During construction, wall cavity insulation may not be installed until a water-resistant exterior covering is in place over the wall cavity.

Note: An example of acceptable water-resistant covering is foam sheathing with taped joints and the permanent doors and windows installed.

SECTION 74. Comm 21.25 (1) (title) is amended to read:

Comm 21.25 (1) (title) STUD ~~SIZE AND SPACING~~ CONFIGURATION AND BRACING.

SECTION 75. Comm 21.25 (1) (b) and (c) are repealed.

SECTION 76. Comm 21.25 (1) (d) is renumbered (b).

SECTION 77. Comm 21.25, Table 21.25-A (title) is repealed and recreated to read:

Comm 21.25, Table 21.25-A (title) MAXIMUM UNBRACED STUD LENGTH WITH SPACING AND LOADING

SECTION 78. Comm 21.25 (2) is repealed and recreated to read:

Comm 21.25 (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 a stud may have a joint only when directly over the stud.

(b) *Notching and boring.* 1. When piping or ductwork is placed in an exterior wall or an interior load bearing wall, such that at least half of the width of the top plate is removed, the plate shall be reinforced with a steel angle at least 2 inches by 2 inches by 20 gauge thick.

Note: 20 gauge is approximately 0.036 inch.

2. The steel angle shall span the gap and extend at least to the midpoint of the adjacent stud spaces.

3. Other equivalent materials may be used in accordance with s. Comm 21.02.

(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.

2. A continuous header, consisting of two 2-inch members set on edge, may be used in place of a double top plate provided the header is securely tied to the adjacent wall.

SECTION 79. Comm 21.25 (3) (b) 3. is amended to read:

Comm 21.25 (3) (b) 3. Headers greater than 6 feet in length shall be directly supported on each end by the single common stud and 2 shoulder studs. ~~Where 2 × 6 framing is used in bearing walls, the number of shoulder studs may be reduced to one.~~

SECTION 80. Comm 21.25 (6) is repealed and recreated to read:

Comm 21.25 (6) POSTS AND COLUMNS. (a) *General.* 1. Posts and columns shall be installed to resist imposed loads.

2. Posts and columns shall bear directly over the middle 1/3 of a footing.

3. Posts and columns shall be restrained at the top and bottom to resist displacement.

4. Posts and columns that use a height adjustment mechanism shall have the mechanism imbedded in concrete or permanently disabled after installation.

(b) *Bearing surface.* Posts and columns shall have a steel bearing plate affixed to one or both ends to distribute any applied loads and to prevent fiber crushing of any structural member being supported.

(c) *Steel posts or columns.* Steel posts or columns shall be sized according to one of the following methods:

1. Manufactured columns shall follow the manufacturer's testing and listing.

2. Columns made solely of steel pipe stock shall follow Table 21.25-E.

3. Columns made of steel stock, not meeting the requirements of subd. 3. a. or b., shall follow a nationally accepted design specification or the size shall be determined through structural analysis or load testing.

(d) *Wood posts or columns.* Wood posts or columns shall be sized according to Table 21.25-F or the size shall be determined through structural analysis or load testing.

SECTION 81. Comm 21.25, Tables 21.25-E and 21.25-F are repealed and recreated to read:

Table 21.25-E

COLUMNS MADE OF STEEL PIPE STOCK [1,2]

Column Diameter (inches)	Wall Thickness (inches)	Weight/ft (pounds)	Height (feet)	Allowable Load (pounds)
3	0.216	7.58	8	34,000
			10	28,000
			12	22,000
3.5	0.226	9.11	8	44,000
			10	38,000
			12	32,000
4	0.237	10.79	8	54,000
			10	49,000
			12	43,000
5	0.258	14.62	8	78,000
			10	73,000
			12	68,000
6	0.280	18.97	8	106,000
			10	101,000
			12	95,000

Note 1: This Table is based on a yield strength or Fy of 36,000 psi.

Note 2: This table is for columns made solely of steel pipe stock. The addition of any adjustment mechanism or other feature will alter the load carrying capacity of the column.

Table 21.25-F

WOOD COLUMNS

Wood Nominal Size (inches)	Cross Section Area (inches)	Height (feet)	Allowable Load (pounds)
4 x 4	12.25	8	4,900
		10	3,100
		12	2,150
4 x 6	19.25	8	7,700
		10	4,900
		12	3,400
6 x 6	30.25	8	30,000
		10	18,900
		12	13,300

Note: This Table is based on a modulus of elasticity or E of 1,000,000 psi and a fiber bending strength or F_b of 1,000 psi.

SECTION 82. Comm 21.27 (3) (a) 1. a. is amended to read:

Comm 21.27 (3) (a) 1. a. Underlayment consisting of number 15 asphalt-impregnated felt paper or equivalent or other type I material ~~conforming to~~ that shows no water transmission when tested in accordance with ASTM D 226 or ASTM D 4869 shall be provided under shingles.

SECTION 83. Comm 21.29 (6) and (9) are repealed and recreated to read:

Comm 21.29 (6) HEARTH EXTENSION. (a) Masonry fireplaces shall have a hearth extension made of noncombustible material.

(b) The structural support for the hearth and hearth extension shall be a minimum of 4 inches of reinforced concrete.

(c) There shall be no structural framing material within 1 inch of the hearth or hearth extension in any direction. Any wooden forms or supports used during construction shall be removed.

(d) The minimum dimensions of the hearth extension shall be in accordance with Table 21.29-1.

(9) FLUE LINERS. (a) Flue liners shall be installed in accordance with s. Comm 21.30 (7) and this section.

(b) Flue liners shall start at the top of the fireplace throat and extend to a point at least 4 inches above the top of the chimney cap.

(c) Firebrick may be used in the throat of the fireplace as an inlet to the flue liner.

SECTION 84. Comm 21.30 (7) (a) is repealed and recreated to read:

Comm 21.30 (7) (a) Masonry chimneys shall be lined with a material that will resist corrosion, softening and cracking at temperatures up to 1800°F, such as vitrified clay sewer pipe or minimum 5/8 inch thick fireclay lining material.

SECTION 85. Comm 21.30 (7) (d) and (e) are created to read:

Comm 21.30 (7) (d) There shall be a minimum clearance of 1/2-inch between the flue liner and the chimney walls.

(e) Unless serving a masonry fireplace under s. Comm 21.29, flue liners shall commence at the chimney footing.

SECTION 86. Comm 21.30 (9) (c) is amended to read:

Comm 21.30 (9) (c) The clearance spaces between chimneys and wood joists, beams, headers or other structural members ~~which form floors or ceilings~~ shall be ~~firestopped~~ fireblocked at each floor level from chimney footing all the way to the roof flashing with galvanized steel, at least 26 gage thick or with noncombustible sheet material ~~not more than 1/2 inch thick~~.

SECTION 87. Comm 22.04 is created to read:

Comm 22.04 Protection of insulation. (1) BLANKET INSULATION. Except in the box sill, insulating blankets or batts shall be held in place with a covering or other means of mechanical or adhesive fastening.

Note: Acceptable covering or fastening for interior or warm-side applications includes drywall, vapor retarder material, foil or kraft paper backing or other means of holding the blankets in place. Air barrier material may be used for cold-side support.

(2) FOAM PLASTIC INSULATION. Exterior foam plastic insulation shall be protected from physical damage and damage from ultraviolet light.

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

SECTION 88. Comm 22.06 (5) and (15) are amended to read:

Comm 22.06 (5) "Conditioned space" means space within the dwelling envelope which is provided with heated or cooled air or surfaces to provide a heated space or a cooled space.

(15) "Gross exterior wall area " 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. The gross area of exterior walls consists of all opaque wall areas, including between floor spandrels, ~~peripheral edges of floors,~~ box sills, window area including sash, and door areas when they are exposed to outdoor air or unconditioned spaces and enclosed heated or mechanically cooled space, including interstitial area between two such spaces. The gross exterior wall area includes the total basement wall area if it is less than 50 percent below grade. The gross exterior wall area includes non-opaque areas such as windows and doors of all basement walls.

SECTION 89. Comm 22.06 (19) Note is repealed.

SECTION 90. Comm 22.07, Table 22.07-1 is amended to read:

TABLE 22.07-1
INDOOR DESIGN TEMPERATURES

SEASON	LOCATION	DESIGN TEMPERATURE
Winter	All areas except nonhabitable basement areas	70°F
	Unheated, nonhabitable basement areas only	~~45~~ Less Than 50°F
Summer	All areas	78°F

[NOTE TO REVISOR: Please delete one of the two "Zone 1" lines in Table 22.07-2.]

SECTION 91. Comm 22.08 (1) (d) is created to read:

Comm 22.08 (1) (d) The ventilation area required in par. (a) shall be maintained after the installation of insulation.

SECTION 92. Comm 22.12 (3) is created to read:

Comm 22.12 (3) The efficiency of equipment installed in a dwelling shall match the efficiency used to claim any credit under the method of design by system analysis or other approved compliance method.

SECTION 93. Comm 22.17 (1) is amended to read:

Comm 22.17 (1) Except as provided in sub. (4), all heating and cooling duct systems, or portions thereof, that are located ~~on the exterior of walls, floors, ceilings or roofs that are part of the thermal envelope~~ in unheated or uncooled spaces respectively, shall be provided with insulation with a thermal resistance of at least R-5.

SECTION 94. Comm 22.18 is created to read:

Comm 22.18 Duct and plenum sealing. (1) Sections of supply and return ducts not located entirely within the conditioned space and the unconditioned side of enclosed stud bays or joist cavities or spaces used to transport air shall be sealed.

(2) Sealing shall be accomplished using welds, gaskets, mastics, mastic-plus-embedded-fabric systems or tapes installed in accordance with the manufacturer's instructions.

(3) Insulation that provides a continuous air barrier may be used in lieu of sealing metal ducts.

(4) Tapes and mastics used with rigid fibrous glass ducts shall be listed and labeled as complying with UL 181A.

(5) Tapes and mastics used with flexible air ducts shall be listed and labeled as complying with UL 181B.

(6) Tapes with rubber-based adhesives may not be used.

Note: Standard duct tape has a rubber-based adhesive and does not comply with the requirements under this section.

SECTION 95. Comm 22.20 Note is repealed and recreated to read:

Comm 22.20 **Note:** See appendix for a copy of the UDC Energy Worksheet used to show compliance with the envelope insulation requirements of ss. Comm 22.21 to 22.28. Copies of the worksheets may be obtained from the Department of Commerce, Safety & Buildings Division, P.O. Box 2509, Madison, WI 53701. Other forms or software may be used when approved by the department. WIScheck software may be used to show compliance and is

available from the Safety & Buildings page on the Department of Commerce Website www.commerce.state.wi.us

SECTION 96. Comm 22.25 is amended to read:

Comm 22.25 Floors over unheated spaces. The combined thermal transmittance value U_o of the gross area of floors that are over unheated spaces and of floors over outdoor air, such as overhangs, ~~and~~ shall not exceed the values given in Table 22.21. Equation 3 in s. Comm 22.31 (1) shall be used to determine acceptable combinations to meet this requirement.

SECTION 97. Comm 22.27 (2) is repealed and recreated to read:

Comm 22.27 (2) (a) The vertical wall insulation shall extend from the top of the wall to at least the inside ground surface.

(b) Where the vertical wall insulation stops less than 12 inches below the outside finish ground level, crawl space wall insulation shall extend horizontally and vertically downward a minimum total distance of 24-inches linearly from the outside finish ground level.

SECTION 98. Comm 22.28 (2) is repealed and recreated to read:

Comm 22.28 (2) (a) Except as provided in par. (b), the insulation shall extend to the level of the basement floor.

(b) Changes in the exterior insulation area and basement wall minimum thermal transmittance may be included as part of a trade-off allowed under the method of design by system analysis or other approved compliance method.

(c) If interior insulation is used for code compliance, it shall extend the full height of the wall from basement floor to the underside of the joists above unless tradeoffs are justified by supporting calculations that consider lateral heat conduction in the wall.

SECTION 99. Comm 22.31 (5) is repealed and recreated to read:

Comm 22.31 (5) VALUES. Unless otherwise specified in this chapter, the thermal transmittance and resistance values used in heat gain and loss calculations shall be determined by one of the following methods:

(a) The values shall be those given in the ASHRAE Handbook of Fundamentals as adopted under s. Comm 20.24 (5).

Note: See the appendix under "Typical Thermal Properties of Building Materials" for the ASHRAE values.

(b) 1. Testing to a nationally-recognized test standard by an independent third party that is submitted for department review and approval under s. Comm 20.18.

2. The testing shall verify the claimed thermal resistance for the specific application of the product or assembly.

3. For foam plastic insulation that uses a blowing agent other than air, the independent third party tests shall use samples that have been aged for the equivalent of 5 years or until the R-value has stabilized.

SECTION 100. Comm 22.33 Note is repealed and recreated to read:

Comm 22.33 **Note:** The department recognizes the use of tradeoffs between higher efficiency furnaces and lower insulation levels. See appendix for an example of the UDC Energy Worksheet. Copies of the worksheet may be obtained from the Department of Commerce, Safety & Buildings Division, P.O. Box 2509, Madison, WI 53701. Other forms or software may be used when approved by the department. WIScheck software may be used to show compliance and is available from the Safety & Buildings page on the Department of Commerce Website www.commerce.state.wi.us

SECTION 101. Comm 23.02 (3) (a) is repealed and recreated to read:

Comm 23.02 (3) VENTILATION. (a) *General.* All exhaust vents shall terminate outside the structure.

SECTION 102. Comm 23.02 (3) (b) and (c) are renumbered Comm 23.02 (3) (c) and (d).

SECTION 103. Comm 23.02 (3) (b) is created to read:

Comm 23.02 (3) (b) *Balancing.* 1. 'General.' Except as provided under subd. 2., mechanical ventilation systems shall be balanced.

2. 'Exception.' Passive intake air ducts providing makeup air for intermittent exhaust fans shall be sized to provide at least 40% of the total air that would be exhausted with all intermittent exhaust ventilation in the dwelling operating simultaneously.

3. 'Kitchen range hoods.' a. Kitchen range hoods that exhaust air from the kitchen area are considered as exhaust ventilation for balancing and makeup purposes.

b. Kitchen range hoods that are listed and installed to recirculate air without exhausting it are not required to be balanced.

4. 'Infiltration.' a. Infiltration may be considered as makeup air for balancing purposes only where there are no naturally vented space- or water-heating appliances in the dwelling.

b. For the purpose of complying with this subdivision, naturally vented space- or water-heating appliances are those that take combustion or dilution air from inside the dwelling, including unsealed fireplaces and draft hood appliances with power venting.

Note: Whole-house fans that are used in the summer to bring cool night air in through open windows and exhaust into the attic are considered to be a supplemental cooling system rather than part of the ventilation system.

Note: See s. Comm 22.14 for additional requirements on mechanical ventilation.

SECTION 104. Comm 23.04 (title) is amended to read:

Comm 23.04 (title) **Types and location of equipment.**

SECTION 105. Comm 23.04 (1) (e) is repealed.

SECTION 106. Comm 23.04 (4) is created to read:

Comm 23.04 (4) LOCATION. (a) *Enclosed spaces.* Except as provided in par. (c), no space heating or water heating appliance shall be installed in a bedroom bathroom, closet, or garage unless listed for such installation.

(b) *Garages.* Appliances installed in garages shall have burners and burner ignition devices located at least 18 inches above the floor and shall be protected or located so the furnace is not subject to damage from a vehicle.

(c) *Exceptions.* 1. Vented decorative gas appliances and decorative gas appliances for installation in vented fireplaces may be installed in bedrooms or bathrooms only when both of the following conditions are met:

a. The volume of the space in which the appliance is located is not less than 50 cubic feet per 1000 Btu/h of the combined input rating of all fuel burning appliances installed in that space. The space may be made up of more than one room if the rooms are connected through doorway openings without doors.

b. The vapor retarder is not continuous on walls and ceilings exposed to the outside atmosphere as allowed under s. Comm 22.22.

2. Water heaters may be installed in a closet located in a bathroom or bedroom where the closet is used exclusively for the water heater, where the enclosed space has a weather-stripped solid door with a self-closing device, and where all air for combustion is obtained from the outdoors.

Note: Section Comm 23.06 still requires combustion air to be provided to the appliance.

SECTION 107. Comm 23.045 (2) (b) is repealed.

SECTION 108. Comm 23.045 (2) (c) is renumbered (2) (b) and amended to read:

Comm 23.045 (2) (b) Garages. Solid-fuel-burning-appliances ~~shall~~ may not be installed in a garage ~~unless listed for such use~~.

SECTION 109. Comm 23.045 (3) (a) 1. Note is created to read:

Comm 23.045 (3) (a) 1. **Note:** Products listed and labeled as complying with UL 103 - "Type HT" meet this requirement. UL 103 uses several temperature ranges for different products but only the "Type HT"-designated products have met the 2100°F testing requirement.

SECTION 110. Comm 23.06 is repealed and recreated to read:

Comm 23.06 Combustion air. (1) SCOPE. (a) Naturally vented appliances and other appliances that require air for combustion and dilution of flue gases to be taken from within the building shall comply with this section.

(b) Appliances that are provided with a direct supply of outside air for combustion in accordance with the manufacturer's installation instructions and listing are not required to comply with this section.

(c) Where the appliance listing and manufacturer's instructions are more stringent than the provisions of this section, the listing and manufacturer's instructions apply.

(2) METHODS FOR PROVIDING AIR. Air for combustion and dilution shall be provided in accordance with one of the following:

(a) If the vapor retarder is not continuous on walls and ceilings exposed to the outside atmosphere as allowed by s. Comm 22.22, air may be provided from inside the building in accordance with sub. (3).

(b) Air may be provided from outside the building in accordance with sub. (4).

(c) The appliance may be installed in accordance with its listing and manufacturer's instructions. Where all walls and ceilings exposed to the outside atmosphere are provided with a continuous vapor retarder, any requirements for unusually tight construction shall be met.

(d) An engineered system providing an adequate supply of air for combustion ventilation and dilution of flue gases may be installed if approved by the department.

(3) AIR FROM INSIDE THE BUILDING. (a) 1. The equipment shall be located in a space with a volume not less than 50 cubic feet per 1000 Btu/h of the combined input rating of all fuel burning appliances drawing combustion and dilution air from that space.

2. The space may be made up of more than one room if the rooms are connected through doorways without doors or connected through sets of openings described in par. (b).

(b) 1. When needed to connect rooms, two openings shall be provided, one within 1 foot of the ceiling of the room and one within one foot of the floor.

2. The net free area of openings shall be calculated in accordance with sub. (5).

3. The net free area of each opening shall be a minimum of one square inch per 1000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the communicating rooms, but shall be not less than 100 square inches.

(4) AIR FROM OUTSIDE THE BUILDING. (a) When air for combustion and dilution is provided from outside the building, as allowed under sub. (2) (b), one of the methods specified in pars. (b) to (d) shall be used.

(b) Openings may be provided to connect rooms containing appliances to the outdoors.

1. a. Two openings shall be provided, one within one foot of the ceiling of the room and one within one foot of the floor.

b. Openings may connect directly to the outdoors or to the outdoors through a horizontal or vertical duct.

c. The net free area of openings shall be calculated in accordance with sub. (5).

2. The net free area of each direct opening to the outdoors not using a duct shall be a minimum of one square inch per 4000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the room.

3. a. The net free area of each opening connected to the outdoors through a horizontal duct shall be a minimum of one square inch per 2000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the room.

b. The cross sectional area of the duct shall be equal to or greater than the required size of the opening.

4. a. The net free area of each opening connected to the outdoors through a vertical duct shall be a minimum of one square inch per 4000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the room.

b. The cross sectional area of the duct shall be equal to or greater than the required size of the opening.

(c) 1. Where all appliances drawing air for combustion and dilution from the room are gas appliances, air may be provided via a single opening to connect the room to the outdoors in accordance with this paragraph.

2. a. The opening shall be located within 1 foot of the ceiling of the room.

b. The opening may connect directly to the outdoors, may connect to the outdoors through a horizontal duct, or may connect to the outdoors through a vertical duct.

c. The net free area of openings shall be calculated in accordance with sub. (5).

3. a. The net free area of the opening shall be a minimum of one square inch per 3000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the room, and not less than the combined cross sectional flow areas of the appliance flue collars or draft hood outlets.

b. The cross sectional area of the duct shall be equal to or greater than the required size of the opening.

4. The appliances shall have a minimum clearance to the surfaces of the room of one inch at the sides and back of the appliance and 6 inches at the front of the appliance.

(d) 1. A combination of openings to the outside and openings to other rooms may be used in accordance with this paragraph.

2. a. One opening shall connect directly to the outdoors, connect to the outdoors through a horizontal duct, or connect to the outdoors through a vertical duct.

b. The net free area of the opening shall be calculated in accordance with sub. (5).

c. The net free area of the opening shall be a minimum of one square inch per 5000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the room.

d. The cross sectional area of a duct, if used, shall be equal to or greater than the required size of the opening.

3. a. The equipment shall be located in a space with a volume not less than 50 cubic feet per 1000 Btu/h of the combined input rating of all fuel burning appliances installed in that space.

b. The space may be made up of more than one room if the rooms are connected through openings without doors or connected through sets of openings described in subd. 3.

4. a. When needed to connect rooms, two openings shall be provided, one within 1 foot of the ceiling of the room and one within one foot of the floor.

b. The net free area of openings shall be calculated in accordance with sub. (5).

c. The net free area of each opening shall be a minimum of one square inch per 1000 Btu/h of combined input rating of the fuel burning appliances drawing combustion and dilution air from the communicating rooms, but shall be not less than 100 square inches.

(5) NET FREE AREA CALCULATION. (a) The required size of openings for combustion and dilution air shall be based on the net free area of each opening.

(b) The net free area of an opening shall be that specified by the manufacturer of the opening covering or by a source approved by the department.

(c) In the absence of such information, openings covered with metal louvers shall be deemed to have a net free area of 75 percent of the area of the opening, and openings covered with wood louvers shall be deemed to have a net free area of 25 percent of the area of the opening.

(6) INTERLOCKING OF DAMPERS. (a) Where the combustion air openings are provided with volume, smoke or fire dampers, the dampers shall be electronically interlocked with the firing cycle of the appliances served, so as to prevent operation of any appliance that draws combustion and dilution air from the room when any of the dampers are closed.

(b) Manually operated dampers shall not be installed in combustion air openings.

(7) SIMULTANEOUS OPERATION. (a) The equipment and appliances within every room containing fuel-burning appliances shall be installed so as to allow the free circulation of air.

(b) Provisions shall be made to allow for the simultaneous operation of mechanical exhaust systems, fireplaces, clothes dryers or other equipment and appliances operating in the same room or space from which combustion air and dilution air is being drawn. The provisions shall prevent the operation of the appliances, equipment and systems from affecting the supply of combustion and dilution air.

Note: Wood typically has a heating value of 8600 BTU per pound.

SECTION 111. Comm 23.062 is created to read:

Comm 23.062 Mechanical draft systems. Where a mechanical draft system, such as a fan is used, provision shall be made to prevent the flow of gas to the main burners when the draft system is not performing so as to satisfy the operating requirements of the system for safe performance.

SECTION 112. Comm 23.14 (3) is created to read:

Comm 23.14 (3) VENTING SYSTEM LOCATION. (a) A venting system shall terminate at least 3 feet above any forced air inlet located within 10 feet horizontally. This provision does not apply to the combustion air intake of a direct-vent appliance.

(b) The venting system of other than a direct-vent appliance shall terminate at least 4 feet below, 4 feet horizontally from, or one foot above any door , window, or gravity air inlet into any building. The bottom of the vent shall be located at least 12 inches above grade.

(c) The vent terminal of a direct-vent appliance with an input of 10,000 Btu per hour or less shall be located at least 6 inches from any air opening into a building.

(d) The vent terminal of a direct-vent appliance with an input over 10,000 Btu per hour but not over 50,000 Btu per hour shall be shall be located at least 9 inches from any air opening into a building.

(e) The vent terminal of a direct-vent appliance with an input over 50,000 Btu per hour shall be shall be located at least 12 inches from any air opening into a building.

(f) The bottom of the vent terminal and the air intake of a direct-vent appliance shall be located at least 12 inches above grade.

(g) The exit terminal of a mechanical draft system shall be not less than 7 feet above grade where located within 3 feet of a public walkway that is intended for use by the general public.

[Note to Revisor Please correct the following typographical errors:
1. Comm 21.05 (5) (a); change the second "in" to "is".
2. Comm 21.08 (3) (a); remove the "and" at the end of the paragraph.
3. Comm 21.08 (5) (intro.); remove the "3/4" at the end.]

Pursuant to s. 227.22 (2) (b), Stats., these rules shall take effect on April 1, 2001.