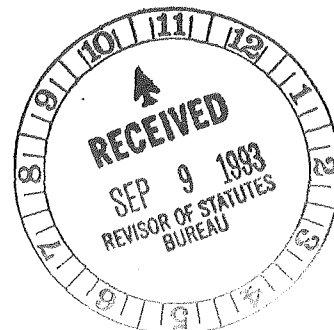


RULES CERTIFICATE



STATE OF WISCONSIN)
) SS
DEPT. OF INDUSTRY,)
LABOR & HUMAN RELATIONS)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Carol Skornicka, Secretary of the Department of Industry,
Labor and Human Relations, and custodian of the official records of said department, do hereby certify that
the annexed rule(s) relating to plumbing
(Subject)
were duly approved and adopted by this department on September 9, 1993
(Date)

I further certify that said copy has been compared by me with the original on file in the department
and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set
my hand and affixed the official seal of the
department at 8:30 a.m.
in the city of Madison, this 9th
day of September A.D. 19 93.

Carol Skornicka
Secretary

ORDER OF ADOPTION

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section(s)

ss. 101.02 (1) and 145.02 (2)

Stats., the Department of Industry, Labor and Human Relations creates; amends;

repeals and recreates; repeals and adopts rules of Wisconsin Administrative Code chapter(s):

ILHR 81-87

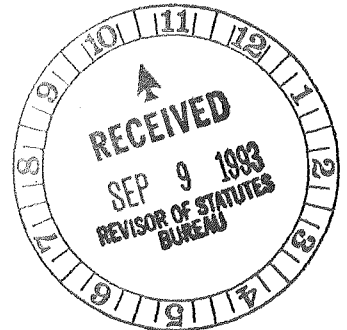
(Number)

Plumbing Code

(Title)

The attached rules shall take effect on the first day of the month following publication


in the Wisconsin Administrative Register pursuant to section 227.22, Stats.



Adopted at Madison, Wisconsin this

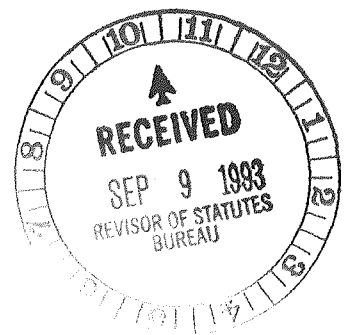
date: September 9, 1993

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN
RELATIONS


Secretary



RULES in FINAL DRAFT FORM



Rule No.: _____ Chapters ILHR 81, 82, and 84
Relating to: _____ Plumbing
Clearinghouse Rule No.: _____ 92-183

The Wisconsin Department of Industry, Labor and Human Relations proposes an order to repeal ILHR Table 82.30-1 Note e, 82.30 (11) (b) 1 b, 82.31 (16) (h), 82.33 (9) (k), 82.34 (5) (b) 3 e, 82.34 (5) (c) (intro.), 82.40 (3) (b) 1 b and c, ILHR Table 84.30-10a, 84.30 (6) (a) 1, and 84.30 (6) (c) 1;

to renumber ILHR 82.21 (1) (a), 82.30 (11) (b) 1 c, 82.34 (5) (b) 3 f, ILHR 84.30 (6) (a) 2 and 3, 84.30 (6) (c) 2 and 3, and ILHR A-84.20 (3);

to amend ILHR 81.34 (6), ILHR 82.21 (1) (d) 2 (intro.), Table 82.30-1, Table 82.30-1 Note f, 82.30 (7) (a) and (b), 82.30 (11) (c) 1 a, 82.30 (12) (e) 1, 82.31 (6) (c) and (7) (b), 82.31 (10) (intro.), (a), (b) 1 and (e), 82.31 (13) (a) 1 c, 82.31 (13) (c) (intro.), 1 and 4, 82.33 (8) (d) 1 and 2, 82.33 (9) (g) 3 b, 82.34 (4) (a) 2 c and g, 82.34 (4) (a) 3 a, 82.34 (5) (b) 1 f and j and 3 a, 82.34 (5) (c) 1, 82.34 (8) (a) 2 c, 82.36 (3) (b) 1, 82.36 (3) (c) 1 a, 82.36 (13) (b) 1 and (c), 82.36 (14) (title), 82.40 (7) (c), 82.40 (8) (a), 82.51 (2) (d), ILHR 83.13 (7), 83.15 (2) (i) 1, 83.15 (5) (d) 1 b, 83.18 (7) (e) 1 b, ILHR 84.20 (5) (n) 1 b and c, Tables 84.30-2, 84.30-3, 84.30-6, 84.30-8 and 84.30-9, 84.40 (1) (a), and Table 84.60-5;

to repeal and recreate ILHR 82.21 (1) (d) 1 (intro.), 82.34 (5) (a) 1, 82.35 (3) (j), 82.35 (5) (a) 2 c, Table 82.60, ILHR 84.30 (5) (b) 3, and 84.30 (6) (f);

and to create ILHR 82.11 (47m), 82.21 (1) (a) 2, 82.30 (10) (a) 5, 82.33 (10), 82.34 (5) (b) 3 a Note, 82.36 (11) (a) 5, 82.40 (5) (d) 1 Note, Table 82.40-9, ILHR 84.20 (5) (n) 1 d, 84.20 (5) (n) 3 d Note, 84.30 (5) (b) 4, and 84.30 (13m), relating to plumbing.

ANALYSIS OF RULES

Statutory authority: ss. 101.02 (1) and 145.02 (2), Stats.
Statutes interpreted: s. 145.02 (1), Stats.

Under s. 145.02, Stats., the Department of Industry, Labor and Human Relations has the responsibility of safeguarding public health and the waters of the state relative to the construction, installation and maintenance of plumbing. One mechanism of the Department to fulfill this responsibility has been the promulgation of the state plumbing code, chapters ILHR 81-87.

The proposed rules do not represent a comprehensive review and revision of plumbing code. Rather the proposed rules address several issues, problems and questions which have been brought to the attention of the Department. The objectives of these proposed rules are to:

- Expand the types of materials acceptable for certain plumbing applications;
- Provide consistency within the plumbing code in light of recent code revisions concerning private sewage systems;
- Provide additional alternatives for designing and installing plumbing;
- Clarify existing requirements; and
- Correct typographical and cross-referencing errors.

The proposed rules will:

- Convert the continuing education units for plumbing inspectors to be consistent with that for plumbers;
- Provide a definition for cold water;
- Recognizes laboratory testing in accordance with product standards in lieu of field testing joints for stormwater building sewers and interceptor;
- Reduce the drainage fixture value and minimum trap size for scullery sinks;
- Revise the minimum trap sizes for food waste grinders to reflect the tail pieces provided for the appliances;
- Clarify some of the installation requirements for drain connections relative to stacks;
- Clarify the types of penetrations which may occur for top of sumps;
- Clarify the minimum installation depth for building sewers;
- Revise the installation of yoke vents and relief vents to be consistent with other vents;
- Recognize circuit venting for any type of plumbing fixtures not just floor outlet fixtures;
- Expand the concept for wet venting floor outlet fixtures to include carrier water closets;
- Expand the types of materials acceptable for certain installations such as vents penetrating grade and the inlets and outlets for interceptors;
- Recognize more types of acceptable receptors for indirect waste piping from water treatment devices;
- Revise the setbacks limitations for grease interceptors to be consistent with similar requirements in ch. ILHR 83;
- Recognize the capabilities of interior grease interceptors;
- Clarify cleanout requirements for fixture drains and traps;
- Clarify the installation requirements for frost sleeves for stormwater systems;
- Recognize crosslinked polyethylene as an acceptable material for water supply systems; and

- Revise joint tightness performance criteria to reflect the capabilities of storm building sewers and storm private interceptor sewers.
- Revise the minimum support spacing requirements for pipes;
- Recognize cellular core PVC as an acceptable material for vent and drain systems;
- Repeal the minimum Cv factors for water supply valves and establish new specifications for valve sizing; and
- Replace the specifications standards for safig materials with a general performance standard.

SECTION 1. ILHR 81.34 (6) is amended to read:

ILHR 81.34 (6) The certification of an inspector may be renewed in accordance with requirements of sub. (1). Certification renewal shall be contingent on participation and completion of ~~20-units~~ 6 hours of credit annually in on-going approved education programs.

SECTION 2. ILHR 82.11 (47m) is created to read:

ILHR 82.11 (47m) "Cold water" means water at a temperature less than 85°F.

SECTION 3. ILHR 82.21 (1) (a) is renumbered 82.21 (1) (a) 1.

SECTION 4. ILHR 82.21 (1) (a) 2 is created to read:

ILHR 82.21 (1) (a) 2. 'Storm building sewer'. a. Field testing the installation of a storm building sewer and a storm private interceptor main sewer is not required.

b. The joints and connections to be employed for storm building sewer piping shall conform with s. ILHR 84.40 (1) (a).

SECTION 5. ILHR 82.21 (1) (d) 1 (intro.) is repealed and recreated to read:

ILHR 82.21 (1) (d) Testing provisions. 1. 'General'. The testing of plumbing installations shall be conducted in accordance with this paragraph.

SECTION 6. ILHR 82.21 (1) (d) 2 (intro.) is amended to read:

ILHR 82.21 (1) (d) 2. 'Sanitary building sewer and sanitary private interceptor main sewer'. A sanitary building sewer and a sanitary private interceptor main sewer ~~shall be inspected before being covered and~~ shall be tested for leaks and defects with water or air before or after being covered in accordance with either subpar. a. or b. The test for leaks and defects may be applied to the entire building sewer or private interceptor main sewer or in sections. For the purposes of this subdivision, the testing of a building sewer or private interceptor main sewer is not required to include the manholes serving the sewer.

SECTION 7. ILHR 82.30 Table 82.30-1 is amended to read:

Table 82.30-1
DRAINAGE FIXTURE UNIT VALUES
(Partial Table)

Type of Fixture	Drainage Fixture Unit Value (dfu)	Trap Size Minimum Diameter (in inches)
Sinks,		
Food Waste Grinder, commercial 2 HP or less	2	1-1/2 or 2 ^e f
Food Waste Grinder, commercial 3 HP or more	3	3 f
.		
.		
Scullery, pots and pans - 4 compartments or less	3	2 f

SECTION 8. ILHR 82.30 Table 82.30-1 Note e is repealed.

SECTION 9. ILHR 82.30 Table 82.30-1 Note f is amended to read:

ILHR 82.30 Table 82.30-1 Note f. Trap size corresponds to the size of the receptor drain outlet.

SECTION 10. ILHR 82.30 (7) (a) and (b) are amended to read:

ILHR 82.30 (7) (a) A horizontal branch drain shall may not connect to a ~~building-drain~~ downstream from the base fitting of a drain stack 2 inches or larger in diameter within the distance equal to 10 pipe diameters of the building drain to which the horizontal branch drain connects.

(b) A ~~combination-drain-and-vent~~ building drain branch or building subdrain branch shall may not connect to a building drain or building subdrain downstream from the base fitting of a drain stack 2 inches or larger in diameter within the distance equal to 20 pipe diameters of the building drain or building subdrain.

SECTION 11. ILHR 82.30 (10) (a) 5 is created to read:

ILHR 82.30 (10) (a) 5. 'Removable covers'. Penetrations through the top of removable sump covers shall be limited to those for the electrical supply, the vent piping and the discharge piping for the pump or pumps.

SECTION 12. ILHR 82.30 (11) (b) 1 b is repealed and 82.30 (11) (b) 1 c is renumbered 82.30 (11) (b) 1 b.

SECTION 13. ILHR 82.30 (11) (c) 1 a is amended to read:

ILHR 82.30 (11) (c) 1. a. The top of a building sewer shall be located at a depth of not less than 42 inches below finished grade, except as provided in subpar. b. or ~~as approved by the department~~ subd. 2.

SECTION 14. ILHR 82.30 (12) (e) 1 is amended to read:

ILHR 82.30 (12) (e) 1. Provided with frost protection in accordance with sub. (11) ~~(b)~~ (c); and

SECTION 15. ILHR 82.31 (6) (c) and (7) (b) are amended to read:

ILHR 82.31 (6) (c) The connection of the yoke vent to another vent shall be not less than 42 38 inches above the next higher floor level where plumbing fixtures are installed that discharge into the drain stack.

(7) (b) The connection of the relief vent to another vent shall be not less than 42 38 inches above the next higher floor level where plumbing fixtures are installed that discharge through the building drain.

SECTION 16. ILHR 82.31 (10) (intro.), (a), (b) 1 and (e) are amended to read:

ILHR 82.31 (10) CIRCUIT VENTING. In lieu of providing individual vents, a horizontal drain to which at least 2 but not more than 8 wall outlet fixtures or at least 2 but not more than 8 floor outlet fixtures, other than blowout type fixtures and wall-outlet carrier type water closets, are connected in battery to the same horizontal branch drain, may be vented by a circuit vent in accordance with pars. (a) to (e).

(a) The circuit vent shall connect to the horizontal drain at a point between the 2 most upstream, ~~floor-outlet~~ fixtures.

(b) 1. A circuit vented horizontal drain into which 4 or more ~~floor outlet~~ fixtures discharge shall be provided with a relief vent. The relief vent shall connect to the circuit vented horizontal drain downstream of the most downstream fixture drain which is vented by the circuit vent and upstream of any other drain connections.

(e) ~~Only~~ Additional wall outlet fixtures with a drainage fixture unit value of one or less which are served by individual vents or common vents may discharge into a horizontal drain served by a circuit vent.

SECTION 17. ILHR 82.31 (13) (a) 1 c is amended to read:

ILHR 82.31 (13) (a) 1. c. ~~The entire-vertical~~ drain between the 2 fixtures shall be at least one pipe size larger than the upper fixture drain, but not smaller than ~~the-lower-fixture-drain~~ 2 inches in diameter.

SECTION 18. ILHR 82.31 (13) (c) (title), (intro.), 1 and 4 are amended to read:

ILHR 82.31 (13) (c) (title) Other types of wet vents. An individual vent serving a floor outlet fixture, a common vent serving floor outlet fixtures, a circuit vent, a relief vent serving a circuit vented drain or a relief vent serving a wet vented horizontal drain may serve as a wet vent in accordance with subs. 1. to 4.

1. ~~One-or~~ No more than 2 wall outlet fixtures, each fixture with a drainage fixture unit value of one or less, may have their fixture drains connected individually into the individual vent, common vent, circuit vent or relief vent ~~serving-the-floor-outlet-fixtures~~ thereby forming a wet vent.

4. The fixtures discharging into the wet vent shall be located on the same floor level as the ~~floor-outlet~~ fixtures served by the wet vent.

SECTION 19. ILHR 82.31 (16) (h) is repealed.

SECTION 20. ILHR 82.33 (8) (d) 1 and 2 are amended to read:

ILHR 82.33 (8) (d) 1. The indirect waste piping of a portable dishwasher or point-of-use water treatment device may discharge into a kitchen sink of a dwelling unit.

2. The indirect waste piping of an automatic clothes washer or water treatment device may discharge into a laundry tray.

SECTION 21. ILHR 82.33 (9) (g) 3 b is amended to read:

ILHR 82.33 (9) (g) 3. b. The indirect waste piping draining a novelty box or ice compartment ~~shall~~ may not discharge or connect to the ~~indirect~~ indirect waste piping or local waste piping of any other fixture, appliance or device other than a novelty box or ice compartment.

SECTION 22. ILHR 82.33 (9) (k) is repealed.

SECTION 23. ILHR 82.33 (10) is created to read:

ILHR 82.33 (10) WATER TREATMENT DEVICES. The waste discharge of a water treatment device to the drain system shall be protected in accordance with s. ILHR 82.41 with respect to cross connection control.

SECTION 24. ILHR 82.34 (4) (a) 2 c and g are amended to read:

ILHR 82.34 (4) (a) 2. c. The outlet for a catch basin shall be at least 4 inches in diameter. The outlet shall be submerged to form a trap with a water seal of at least 6 inches. The bottom of the trap's water seal shall be at least 18 inches above the bottom of the catch basin. ~~The outlet pipe shall be of cast iron material, if installed inside the catch basin.~~

g. Where the outlet for a catch basin is installed so that the waterline is more than 12 inches below the floor level, a local vent pipe of at least 4 inches in diameter shall be provided. The local vent pipe shall connect to the catch basin at least 2 inches above the waterline and shall terminate in accordance with s. ILHR 82.31 (16) or to the outside of the building with a ~~cast iron~~ return bend fitting or vent cap terminating at least one foot above grade.

SECTION 25. ILHR 82.34 (4) (a) 3 a is amended to read:

ILHR 82.34 (4) (a) 3. a. Each open grate trench which is to serve floor areas subject to vehicular traffic shall discharge to a catch basin by means of a fixture drain of at least 4 inches in diameter.

SECTION 26. ILHR 82.34 (5) (a) 1 is repealed and recreated to read:

ILHR 82.34 (5) (a) 1. 'Public sewers'. All new, altered or remodeled plumbing systems which discharge to public sewers shall be provided with one or more exterior grease interceptors or one or more interior grease interceptors.

a. Where one or more exterior grease interceptors are provided all and only kitchen wastes shall be discharged to an exterior interceptor.

b. Where one or more interior grease interceptors are provided the wastes from a food waste grinder or a sanitizing compartment of a sink, or both, may bypass the interceptor or interceptors.

SECTION 27. ILHR 82.34 (5) (b) 1 f and j, and 3 a are amended to read:

ILHR 82.34 (5) (b) 1. f. Inlets and outlets. The inlet and outlet openings of interceptor tanks or tank compartments shall be provided with ~~cast-iron~~, open-end sanitary tee fittings or baffles ~~of approved materials~~, so designed and constructed as to distribute the flow and retain the grease in the tank or tank compartments. ~~The inlet and outlet openings shall be provided with steps or other provisions to prevent the insertion of drain piping beyond the inside wall of interceptor tank.~~ The sanitary tee fittings or baffles shall extend at least 6 inches above the liquid level. At least 2 inches of clear space shall be provided above the top of the sanitary tee fittings or baffles. The sanitary tee fitting or baffle at the inlet opening shall extend below the liquid level of the tank a distance equal to 1/3 of the total liquid depth. The sanitary tee fitting or baffle at the outlet opening shall extend below the liquid level of the tank a distance equal to 2/3 of the total liquid depth. The waterline in the interceptor shall be at least 2 inches below the horizontal drain discharging to the interceptor.

j. Inspection opening. An inlet outlet opening which does not have a manhole opening as specified in subpar. g. shall be provided with an airtight inspection opening located over the inlet or outlet. The inspection opening shall be ~~a cast-iron pipe~~ at least 4 inches in diameter. The inspection opening shall terminate at or above grade.

3. 'Installation'. a. Grease interceptor tanks shall ~~may~~ not be located within 5 feet of a building or any portion of the building or swimming pool; 5 10 feet of a water service; 2 feet of a lot line; 10 feet of a cistern; ~~15 feet of a pool~~; or 25 feet of a reservoir or high water mark of a lake, stream, pond or flowage.

SECTION 28. ILHR 82.34 (5) (b) 3 a Note is created to read:

Note: The department of natural resources under ch. NR 113 requires a minimum setback of 25 feet between a grease interceptor and a well.

SECTION 29. ILHR 82.34 (5) (b) 3 e is repealed.

SECTION 30. ILHR 82.34 (5) (b) 3 f is renumbered 82.34 (5) (b) 3 e.

SECTION 31. ILHR 82.34 (5) (c) (intro.) is repealed.

SECTION 32. ILHR 82.34 (5) (c) 1 is amended to read:

ILHR 82.34 (5) (c) 1. 'Flow rating'. An interior grease interceptor shall be capable of accommodating a flow of at least 15 gallons per minute, but not less than the manufacturer's specifications.

SECTION 33. ILHR 82.34 (8) (a) 2 c is amended to read:

ILHR 82.34 (8) (a) 2. c. The outlet for an in-line interceptor shall be at least 4 inches in diameter. The outlet shall be submerged to form a trap with a water seal of at least 6 inches. The bottom of the trap's water seal shall be at least 18 inches above the bottom of the interceptor. ~~The outlet pipe shall be of cast iron material, if installed inside the interceptor.~~

SECTION 34. ILHR 82.35 (3) (j) is repealed and recreated to read:

ILHR 82.35 (3) (j) Traps and fixture drains. 1. All traps shall be constructed or installed so that stoppages may be removed from the traps and the horizontal portions of fixtures drains.

2. If a trap is not accessible for removal or does not contain a removable dip, a cleanout or a removable inlet shall be installed to enable cleaning of the trap passageway and the horizontal portions of the fixture drain.

SECTION 35. ILHR 82.35 (5) (a) 2 c is repealed and recreated to read:

ILHR 82.36 (5) (a) 2. c. The bottom of the frost sleeve shall terminate 6 to 12 inches above the top of the drain piping or at least 6 inches below the predicted frost depth in accordance with s. ILHR 82.30 Table 82.30-6.

SECTION 36. ILHR 82.36 (3) (b) 1 is amended to read:

ILHR 82.36 (3) (b) Other disposal methods. 1. Where no storm sewer system or combined sanitary-storm sewer system is available or adequate to receive the anticipated load, the final disposal of the storm water, surface water, groundwater and or clear water wastes shall be discharged in accordance with local governmental requirements. If the final disposal of such waters or wastes is by means of subsurface discharge, documentation shall be submitted to this department to determine whether the method of disposal is acceptable.

SECTION 37. ILHR 82.36 (3) (c) 1 a is amended to read:

ILHR 82.36 (3) (c) 1. a. Except as provided in ~~subd. 3~~ subpar. b., where a sanitary sewer system and a storm system are available the drain piping for storm water or clear water wastes may not connect to any part of the sanitary drain system.

SECTION 38. ILHR 82.36 (11) (a) 5 is created to read:

ILHR 82.36 (11) (a) 5. 'Removable covers'. Penetrations through the top of removable sump covers shall be limited to those for the electrical supply, the vent piping and the discharge piping for the pump or pumps.

SECTION 39. ILHR 82.36 (13) (b) 1 and (c) are amended to read:

ILHR 82.36 (13) (b) 1. The connection of a storm water leader discharging to a storm building sewer shall be made above the finished grade. ~~That portion of the piping from the leader to at least one foot below grade shall be of cast iron.~~

(c) Others requirements. 1. The elevation of storm building drains shall comply with s. ~~ILHR 82.30-(11)-(a)-1,~~ 82.30 (11) (b) 1.

2. Storm building drains subject to backflow or backwater shall be protected in accordance with s. ~~ILHR 82.30-(11)-(a)-2,~~ 82.30 (11) (b) 2.

3. The location of storm building drains and building sewers shall be in accordance with s. ~~ILHR 82.30-(11)-(e)~~ 82.30 (11) (d).

4. Storm building drains and building sewers shall be installed in accordance with s. ~~ILHR 82.30-(11)-(d)~~ 82.30 (11) (e).

5. Storm building sewers shall be connected to main sewers in accordance with s. ~~ILHR 82.30-(11)-(e)~~ 82.30 (11) (f).

SECTION 40. ILHR 82.36 (14) (title) is amended to read:

ILHR 82.36 (14) (title) WASTES.

SECTION 41. ILHR 82.40 (3) (b) 1 b and c are repealed.

SECTION 42. ILHR 82.40 (5) (d) 1 Note is created to read:

ILHR 82.40 (5) (d) 1. Note: The temperature steam rating of a combination temperature and pressure relief valve is commonly referred to as the AGA temperature steam rating.

SECTION 43. ILHR 82.40 (7) (c) is amended to read:

ILHR 82.40 (7) (c) Maximum loading. The calculated load on any portion of the water distribution system may not exceed the limits specified in Tables ~~82.40-4 to 82.40-8~~ 82.40-9.

SECTION 44. ILHR 82.40 (8) (a) is amended to read:

ILHR 82.40 (8) (a) Frost protection. Adequate measures shall be taken to protect all portions of the water supply system from freezing. All private water mains and water services shall be installed below the predicted depths of frost specified in s. ~~ILHR 82.30-(11)-(a)-2-d,~~ 82.30 (11) (c) 2. d., Figure 82.30-1 and Table 82.30-6, unless other protective measures from freezing are taken.

SECTION 45. ILHR 82.40 Table 82.40-9 is created to read:

Table 82.40-9

MAXIMUM ALLOWABLE LOAD FOR CROSSLINKED POLYETHYLENE (PEX) TUBING
ASTM F876 AND F877

Pressure Loss Due to Friction (in lbs per 100 ft. of length)	Pipe Diameter (in inches)					
	1/2"		5/8"		3/4"	
	GPM	WSFU FT	GPM	WSFU FT	GPM	WSFU FT
0.5	0.5	0.5	1.0	1.0	1.5	1.5
1.0	0.5	0.5	1.5	1.5	2.0	2.0
2.0	1.0	1.0	2.0	2.0	3.0	3.0
3.0	1.5	1.5	2.5	2.5	3.5	3.5
4.0	1.5	1.5	2.5	2.5	4.0	4.0
5.0	2.0	2.0	3.0	3.0	4.5	5.0
6.0	2.0	2.0	3.5	3.5	5.0	6.0
7.0	2.0	2.0	4.0	4.0	5.5	6.0
8.0	2.5	2.5	4.0	4.0	6.0	7.0
9.0	2.5	2.5	4.5	5.0	6.5	8.0
10.0	2.5	2.5	4.5	5.0	7.0	9.0
11.0	3.0	3.0	5.0	6.0	7.5	9.5
12.0	3.0	3.0	5.0	6.0	7.5	9.5
13.0	3.0	3.0	5.5	6.5	8.0	10.0
14.0	3.0	3.0	5.5	6.5	8.5	11.0
15.0	3.5	3.5	5.5	6.5	8.5	11.0
16.0	3.5	3.5	6.0	7.0	9.0	12.0
17.0	3.5	3.5	6.0	7.0	NP	
18.0	3.5	3.5	6.5	8.0		
19.0	4.0	4.0	6.5	8.0		
20.0	4.0	4.0	NP			
21.0	4.0	4.0				
22.0	4.0	4.0				
23.0	4.0	4.0				
24.0	4.5	5.0				
25.0	4.5	5.0				
26.0	NP					

NOTE: WSFU means - water supply fixture units.
 GPM means - gallons per minute.
 FT means - predominately flush tank type water closets or washdown urinals.
 NP means - not permitted, velocities exceed eight feet per second.

For using this table, round the calculated pressure loss due to friction to the next higher number shown.

ILHR 82.40 (7) (f) and (g) specifies minimum sizes for water distribution piping.

SECTION 46. ILHR 82.51 (2) (d) is amended to read:

ILHR 82.51 (2) (d) Separation of water and sewer piping. Separation of water and sewer piping shall be in accordance with ~~s. ILHR 82.40 (2) (d)~~ ss. ILHR 82.30 (1) (d) and 82.40 (8) (b).

SECTION 47. ILHR 82.60 (2) Table 82.60 is repealed and recreated to read:

Table 82.60
SUPPORT SPACING

Material	Maximum Horizontal Spacing (feet)	Maximum Vertical Spacing (feet)
Acrylonitrile Butadiene Styrene (ABS)	4	10
Brass	10	10
Cast Iron	5 ^a	15
Copper or Copper-Alloy Pipe	12	10
Copper or Copper-Alloy Tubing:		
$\leq 1\text{-}1/4$ " diameter	6	10
$\geq 1\text{-}1/2$ " diameter	10	10
Chlorinated Polyvinyl Chloride (CPVC):		
≤ 1 " diameter	3	5 ^b
$\geq 1\text{-}1/4$ " diameter	4	6 ^b
Crosslinked Polyethylene (PEX)	2-2/3	4
Ductile Iron	5 ^a	15
Galvanized Steel	12	15
Lead	Continuous	4
Polybutylene (PB)	2-2/3	4
Polyvinyl Chloride	4	10
Stainless Steel	12	15

Note a. The maximum horizontal spacing for supports may be increased to 10 feet when 10-foot lengths of pipe are employed.

Note b. Mid-story guide is to be employed.

Note c. " \geq " means greater than or equal to.

" \leq " means less than or equal to.

SECTION 48. ILHR 83.13 (7) is amended to read:

ILHR 83.13 (7) FRESH AIR INLETS AND OBSERVATION PIPE. Fresh air observation inlets ~~of cast-iron~~ shall be provided and connected to the perforated distribution pipe with an approved fitting or junction box and be placed so as to assure a free flow of air throughout the entire installation. The vent pipes shall be at least 4 inches in diameter and extend at least 12 inches above the final grade and terminate with an approved vent cap. The observation pipe shall be perforated and extend to the bottom of the aggregate. See following sketch. Fresh air inlets shall be located at least 25 feet from any window, door or air intake of any building used for human habitation. A maximum of 4 distribution pipe lines may be served by one common 4-inch vent when interconnected by a common header pipe.

SECTION 49. ILHR 83.15 (2) (i) 1 is amended to read:

ILHR 83.15 (2) (i) 1. Be of a material as listed in ~~Table-84-30-2~~ s. ILHR 84.30 (2) for vent systems;

SECTION 50. ILHR 83.15 (5) (d) 1 b is amended to read:

ILHR 83.15 (5) (d) 1. b. Is of a material listed in ~~Table-84-30-2~~ s. ILHR 84.30 (2).

SECTION 51. ILHR 83.18 (7) (e) 1 b is amended to read:

ILHR 83.18 (7) (e) 1. b. Is of a material listed in ~~Table-84-30-2~~ s. ILHR 84.30 (2).

SECTION 52. ILHR 84.20 (5) (n) 1 b and c are amended to read:

ILHR 84.20 (5) (n) 1. b. American Gas Association; ~~and~~

c. American Society of Mechanical Engineers; and

SECTION 53. ILHR 84.20 (5) (n) 1 d is created to read:

ILHR 84.20 (5) (n) 1. d. ETL Testing Laboratories, Inc.

SECTION 54. ILHR 84.20 (5) (n) 3 d Note is created to read:

ILHR 84.20 (5) (n) 3 d Note: See s. ILHR 82.40 (5) (d) 1. concerning the sizing of temperature and pressure relief valves.

SECTION 55. ILHR 84.30 Tables 84.30-2, 84.30-3 and 84.30-6 are amended to read:

Table 84.30-2
UNDERGROUND DRAIN AND VENT PIPE AND TUBING
(Partial Table)

Material	Standard
Copper ^a Polyvinyl chloride (PVC)	ASTM B42; ASTM B88 ASTM D1785; ASTM D2665; ASTM D3034 ^b ; ASTM F891 ^c ;

Note a: Copper tubing, type M, may not be installed underground.

Note b: Limited to pipe with a SDR of 26 or less.

Note c: Limited to pipe weight of schedule 40.

Table 84.30-3
SANITARY BUILDING SEWER PIPE AND TUBING
(Partial Table)

Material	Standard
Copper ^a Polyvinyl chloride (PVC)	ASTM B42; ASTM B88 ASTM D1785; ASTM D2665; ASTM D3034; ASTM F891

Table 84.30-6
STORM BUILDING SEWER PIPE AND TUBING
(Partial Table)

Material	Standard
Polyvinyl chloride (PVC)	ASTM D1785; ASTM D2665; ASTM D3034; ASTM F891

SECTION 56. ILHR 84.30 (4) Table 84.30-8 is amended to read:

Table 84.30-8
PIPE AND TUBING FOR
WATER SERVICES AND PRIVATE WATER MAINS
(Partial Table)

Material	Standard
Copper ^b	ASTM B42; ASTM B88
<u>Crosslinked polyethylene (PEX)</u>	<u>ASTM F876; ASTM F877</u>
Ductile iron	ASTM A377; AWWA C115/A21.15 AWWA C151/A21.51

SECTION 57. ILHR 84.30 (4) Table 84.30-9 is amended to read:

Table 84.30-9
WATER DISTRIBUTION PIPE AND TUBING
(Partial Table)

Material	Standard
Cast iron	ASTM A377; AWWA C115/A21.15
Chlorinated polyvinyl chloride (CPVC) ^a	ASTM D2846; <u>ASTM F441^c</u>
Copper ^b	ASTM B42; ASTM B88
<u>Crosslinked polyethylene (PEX)</u>	<u>ASTM F876; ASTM F877</u>
Ductile iron	ASTM A377; AWWA C115/A21.15 AWWA C151/A21.51

^cUse is limited to pipe 2-1/2 inches or less in diameter.

SECTION 58. ILHR 84.30 (5) (b) 3 is repealed and recreated to read:

ILHR 84.30 (5) (b) 3. A control valve which serves 2 or more plumbing fixtures shall have, with the valve in a fully open position, a flow through passageway of not less than one nominal pipe size smaller than the nominal size of the piping connecting to the valve.

SECTION 59. ILHR 84.30 (5) (b) 4 is created to read:

ILHR 84.30 (5) (b) 4. A control valve which serves 2 or more plumbing fixtures may not be a globe type valve.

SECTION 60. ILHR 84.30 (5) Table 84.30-10a is repealed.

SECTION 61. ILHR 84.30 (6) (a) 1 is repealed and 84.30 (6) (a) 2 and 3 are renumbered 84.30 (6) (a) 1 and 2.

SECTION 62. ILHR 84.30 (6) (c) 1 is repealed and 84.30 (6) (c) 2 and 3 are renumbered 84.30 (6) (c) 1 and 2.

SECTION 63. ILHR 84.30 (6) (f) is repealed and recreated to read:

ILHR 84.30 (6) (f) Safing materials. Safing materials shall be made of materials which are waterproof when subjected to 2 feet of hydrostatic head. The material shall be recognized by the manufacturer for use as a safing material.

SECTION 64. ILHR 84.40 (1) (a) is amended to read:

ILHR 84.40 (1) (a) Tightness. Joints and connections in the plumbing system shall be watertight and gastight ~~for the pressure as required by test or the system design, whichever is greater, with the exception of perforated or open joint piping~~ or as required by the adopted product standard or department approval.

SECTION 65. ILHR 84.40 (13m) is created to read:

ILHR 84.40 (13m) PEX PLASTIC TUBING. Joints between crosslinked polyethylene plastic pipe, tubing or fittings shall be made in accordance with the manufacturer's instructions.

SECTION 66. ILHR 84.60 Table 84.60-5 is amended to read:

Table 84.60-5
(partial table)

ASTM	American Society for Testing and Materials 1916 Race Street Philadelphia, Pennsylvania 19103
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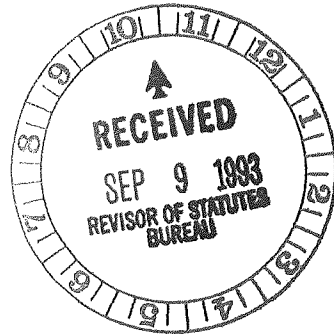
Standard Reference Number	Title
86. F876-90	<u>Crosslinked Polyethylene (PEX) Tubing, Specification for</u>
88. F877-89	<u>Crosslinked Polyethylene (PEX) Plastic Hot- and Cold- Water Distribution Systems, Specification for</u>
88. F891-90	<u>Coextruded Poly(Vinyl Chloride (PVC) Plastic Pipe with a Cellular Core, Specification for</u>

SECTION 67. ILHR A-84.20 (3) is renumbered A-84.20 (4).

(END)

EFFECTIVE DATE

Pursuant to s. 227.22 (2) (intro.), Stats., these rules shall take effect on the first day of the month following publication in the Wisconsin Administrative Register.



Tommy G. Thompson
Governor
Carol Skornicka
Secretary



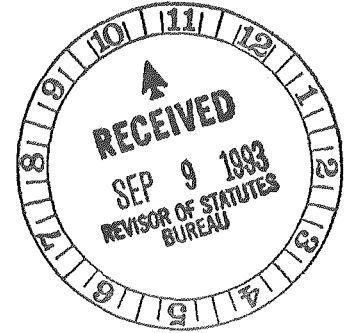
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State of Wisconsin Department of Industry, Labor and Human Relations

September 9, 1993

Gary Poulson
Assistant Revisor of Statutes
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Madison, Wisconsin 53703-3233

Douglas LaFollette
Secretary of State
10th Floor
30 West Mifflin Street
Madison, Wisconsin 53703



Dear Messrs. Poulson and LaFollette:

TRANSMITTAL OF RULE ADOPTION

CLEARINGHOUSE RULE NO. 92-183
RULE NO. Chapters ILHR 81, 82 and 84
RELATING TO: Plumbing

Pursuant to section 227.20, Stats., agencies are required to file a certified copy of every rule adopted by the agency with the offices of the Secretary of State and the Revisor of Statutes.

At this time, the following material is being submitted to you:

1. Order of Adoption.
2. Rules Certificate Form.
3. Rules in Final Draft Form.

Pursuant to section 227.114, Stats., a summary of the final regulatory flexibility analysis is included for permanent rules. A fiscal estimate and fiscal estimate worksheet is included with an emergency rule.

Respectfully submitted,


Carol Skornicka
Secretary