

air in or between drainage and vent systems.

Secondary vent means any vent other than the main vent or those serving each toilet.

Sewage means any liquid waste containing animal or vegetable matter in suspension or solution, and may include liquids containing chemicals in solution.

Siphonage means the loss of water seal from fixture traps resulting from partial vacuum in the drainage system which may be of either of the following two types, or a combination of the two:

(a) Self-siphonage resulting from vacuum in a fixture drain generated solely by the discharge of the fixture served by that drain, or,

(b) Induced siphonage resulting from vacuum in the drainage system generated by the discharge of one or more fixtures other than the one under observation.

Trap means a fitting or device designed and constructed to provide a liquid seal that will prevent the back passage of air without materially affecting the flow of liquid waste through it.

Trap arm means the portion of a fixture drain between a trap and its vent.

Trap seal means the vertical depth of liquid that a trap will retain.

Vacuum breaker. See *backflow preventer*.

Vent cap means the device or fitting which protects the vent pipe from foreign substance with an opening to the atmosphere equal to the area of the vent it serves.

Vent system means that part of a piping installation which provides circulation of air within a drainage system.

Vertical pipe means any pipe or fitting which makes an angle of not more than 45 degrees with the vertical.

Water closet drain means that part of the drainage piping which receives the discharge from each individual water closet.

Water connection means the fitting or point of connection for the manufactured home water distribution system designed for connection to a water supply.

Water connector means the removable extension connecting the manufactured home water distribution system to the water supply.

Water distribution system means potable water piping within or permanently attached to the manufactured home.

Wet vent means a vent which also serves as a drain for one or more fixtures.

Wet vented drainage system means the specially designed system of drain piping that also vents one or more plumbing fixtures by means of a common waste and vent pipe.

Whirlpool bathtub means a plumbing appliance consisting of a bathtub fixture which is equipped and fitted with a circulation piping system, pump, and other appurtenances and is so designed to accept, circulate, and discharge bathtub water upon each use.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 52 FR 4584, Feb. 12, 1987; 52 FR 47553, Dec. 15, 1987; 58 FR 55012, Oct. 25, 1993]

§ 3280.603 General requirements.

(a) *Minimum requirements*. Any plumbing system installed in a manufactured home shall conform, at least, with the provisions of this subpart.

(1) *General*. The plumbing system shall be of durable material, free from defective workmanship, and so designed and constructed as to give satisfactory service for a reasonable life expectancy.

(2) *Conservation*. Water closets shall be selected and adjusted to use the minimum quantity of water consistent with proper performance and cleaning.

(3) *Connection to drainage system*. All plumbing, fixtures, drains, appurtenances, and appliances designed or used to receive or discharge liquid waste or sewage shall be connected to the manufactured home drainage system in a manner provided by this standard.

(4) *Workmanship*. All design, construction, and workmanship shall be in conformance with accepted engineering practices and shall be of such character as to secure the results sought to be obtained by this standard.

(5) *Components*. Plumbing materials, devices, fixtures, fittings, equipment, appliances, appurtenance, and accessories intended for use in or attached to a manufactured home shall conform

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to one of the applicable standards referenced in § 3280.604. Where an applicable standard is not referenced, or an alternative recognized standard is utilized, the plumbing component shall be listed by a nationally recognized testing laboratory, inspection agency or other qualified organization as suitable for the intended use.

(6) *Prohibited fittings and practices.* (i) Drainage or vent piping shall not be drilled and tapped for the purpose of making connections.

(ii) Except as specifically provided elsewhere in this standard, vent pipes shall not be used as waste or drain pipes.

(iii) Fittings, connections, devices, or methods of installation that obstruct or retard the flow of sewage, or air in the drainage or venting systems in an amount greater than the normal frictional resistance to flow shall not be used unless their use is acceptable in this standard or their use is accepted as having a desirable and acceptable function of ultimate benefit to the proper and continued functioning of the plumbing system.

(iv) Cracks, holes, or other imperfections in materials shall not be concealed by welding, brazing, or soldering or by paint, wax, tar, or other leak-sealing or repairing agents.

(v) Piping, fixtures or equipment shall be located so as not to interfere with the normal use or with the normal operation and use of windows, doors or other required facilities.

(vi) Galvanized pipe shall not be bent or welded.

(7) *Alignment of fittings.* All valves, pipes, and fittings shall be installed in correct relationship to the direction of flow.

(b) *Protective requirements.* (1) Cutting structural members. Structural members shall not be unnecessarily or carelessly weakened by cutting or notching.

(2) *Exposed piping.* All piping, pipe threads, hangers, and support exposed to the weather, water, mud, and road hazard, and subject to damage therefrom, shall be painted, coated, wrapped, or otherwise protected from deterioration.

(3) *Road damage.* Pipes, supports, drains, outlets, or drain hoses shall not

extend or protrude in a manner where they could be unduly subjected to damage during transit.

(4) *Freezing.* All piping and fixtures subject to freezing temperatures shall be insulated or protected to prevent freezing, under normal occupancy. The manufacturer shall provide:

(i) Written installation instructions for the method(s) required for compliance to this section;

(ii) A statement in his installation instructions that if heat tape is used it shall be listed for use with manufactured homes;

(iii) A receptacle outlet for the use of a heat tape located on the underside of the manufactured home within 2 feet of the water supply inlet. The receptacle outlet provided shall not be placed on a branch circuit which is protected by a ground fault circuit interrupter.

(5) All piping, except the fixture trap, shall be designed to allow drainage.

(6) *Rodent resistance.* All exterior openings around piping and equipment shall be sealed to resist the entrance of rodents.

(7) Piping and electrical wiring shall not pass through the same holes in walls, floors or roofs. Plastic piping shall not be exposed to heat in excess of manufacturers recommendation or radiation from heat producing appliances.

[40 FR 58752, Dec. 18, 1975, as amended at 42 FR 54383, Oct. 5, 1977. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 58 FR 55012, Oct. 25, 1993]

§ 3280.604 Materials.

(a) *Minimum standards.* Materials, devices, fixtures, fittings, equipment, appliances, appurtenances and accessories shall conform to one of the standards in the following table and be free from defects. Where an appropriate standard is not indicated in the table or a standard not indicated in the table is preferred, the item may be used if it is listed. A listing is also required when so specified in other sections of this subpart.

(b) Where more than one standard is referenced for a particular material or component, compliance with only one of those standards is acceptable. Exceptions: