

*Fuel gas piping system* means the arrangement of piping, tubing, fittings, connectors, valves and devices designed and intended to supply or control the flow of fuel gas to the appliance(s).

*Fuel oil piping system* means the arrangement of piping, tubing, fittings, connectors, valves and devices designed and intended to supply or control the flow of fuel oil to the appliance(s).

*Gas clothes dryer* means a device used to dry wet laundry by means of heat derived from the combustion of fuel gases.

*Gas refrigerator* means a gas-burning appliance which is designed to extract heat from a suitable chamber.

*Gas supply connection* means the terminal end or connection to which a gas supply connector is attached.

*Gas supply connector, manufactured home* means a listed flexible connector designed for connecting the manufactured home to the gas supply source.

*Gas vents* means factory-built vent piping and vent fittings listed by an approved testing agency, that are assembled and used in accordance with the terms of their listings, for conveying flue gases to the outside atmosphere.

(1) *Type B gas vent* means a gas vent for venting gas appliances with draft hoods and other gas appliances listed for use with Type B gas vents.

(2) *Type BW gas vent* means a gas vent for venting listed gas-fired vented wall furnaces.

*Heat producing appliance* means all heating and cooking appliances and fuel burning appliances.

*Heating appliance* means an appliance for comfort heating or for domestic water heating.

*Liquefied petroleum gases.* The terms *Liquefied petroleum gases*, *LPG* and *LP-Gas* as used in this standard shall mean and include any material which is composed predominantly of any of the following hydrocarbons, or mixtures of them: propane, propylene butanes (normal butane or isobutane), and butylenes.

*Plenum* means an air compartment which is part of an air-distributing system, to which one or more ducts or outlets are connected.

(1) Furnace supply plenum is a plenum attached directly to, or an inte-

gral part of, the air supply outlet of the furnace.

(2) Furnace return plenum is a plenum attached directly to, or an integral part of, the return inlet of the furnace.

*Quick-disconnect device* means a hand-operated device which provides a means for connecting and disconnecting a gas supply or connecting gas systems and which is equipped with an automatic means to shut off the gas supply when the device is disconnected.

*Readily accessible* means direct access without the necessity of removing any panel, door, or similar obstruction.

*Roof jack* means that portion of a manufactured home heater flue or vent assembly, including the cap, insulating means, flashing, and ceiling plate, located in and above the roof of a manufactured home.

*Sealed combustion system appliance* means an appliance which by its inherent design is constructed so that all air supplied for combustion, the combustion system of the appliance, and all products of combustion are completely isolated from the atmosphere of the space in which it is installed.

*Water heater* means an appliance for heating water for domestic purposes other than for space heating.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 52 FR 4586, Feb. 12, 1987; 58 FR 55015, Oct. 25, 1993]

**§ 3280.703 Minimum standards.**

Heating, cooling and fuel burning appliances and systems in manufactured homes shall be free of defects, and shall conform to applicable standards in the following table unless otherwise specified in this standard. (See § 3280.4) When more than one standard is referenced, compliance with any one such standard shall meet the requirements of this standard.

APPLIANCES

Central Cooling Air Conditioners—UL 465—Seventh Edition-1987 With Revisions through December 24, 1987.

Liquid Fuel-Burning Heating Appliances for Manufactured Homes and Recreational Vehicle—UL 307A—Sixth Edition-1990, With Revisions through August 21, 1990.

Electrical Air Heaters—UL 1025—Second Edition-1987 With Revisions July 13, 1989, February 6, 1990 and December 3, 1991.

Electric Baseboard Heating Equipment—UL 1042-Third Edition-1987 With Revision July 15, 1993.

Electric Central Air Heating Equipment—UL 1096-Fourth Edition-1986 With Revisions July 16, 1986 and January 30, 1988.

Gas Burning Heating Appliances for Mobile Homes and Recreational Vehicles—UL 307B-First Edition-1982 With Revision May 18, 1987.

Gas Clothes Dryers Vol. 1, Type 1 Clothes Dryers—ANSI Z21.5.1-1992.

Gas Fired Absorption Summer Air Conditioning Appliances—ANSI Z21.40.1-1981, With Addenda Z21.40.1a-1982.

Gas-Fired Central Furnaces [Except Direct Vent System Central Furnaces]—ANSI Z21.47-1990, With Addendum Z21.47a-1990 and Z21.47b-1992.

Household Cooking Gas Appliances ANSI Z21.1-1990 With Addenda Z21.1a-1991 and Z21.1b-1993.

Refrigerators Using Gas Fuel—ANSI Z21.19-1990, With Addenda Z21.19a-1992.

Gas Water Heaters Vol. 1, Storage Water Heaters With Input Ratings of 75,000 BTU per hour or Less—ANSI Z21.10.1-1990, With Addendum Z21.10.1a-1991 and Z21.10.1b-1992.

Household Electric Storage Tank Water Heaters—UL 174-Seventh Edition-1989 With Revisions May 8, 1990 and January 22, 1991.

## FERROUS PIPE AND FITTINGS

Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless—ASTM A53-93.

Standard Specification for Electric-Resistance-Welded Coiled Steel Tubing for Gas and Fuel Oil Lines—\*ASTM A539-90a.

Pipe Threads, General Purpose (Inch)—ANSI/ASME B1.20.1-1983.

Welding and Seamless Wrought Steel Pipe—ANSI/ASME B36.10-1979.

## NONFERROUS PIPE, TUBING AND FITTINGS

Standard Specification for Seamless Copper Water Tube—ASTM B88-93.

Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service—ASTM B280-93.

Metal Connectors for Gas Appliances—ANSI Z21.24-1987, With Addenda Z21.24a 1990 and Z21.24b-1992.

Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves—ANSI Z21.15-1992.

Standard for Gas Supply Connectors for Manufactured Homes—IAPMO TSC 9-92.

Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tubes—ASTM B251-93.

Standard Specification for Seamless Copper Pipe, Standard Sizes—ASTM B42-93.

Direct Vent Central Furnaces—ANSI Z21.64-1990, With Addenda Z21.64a-1992.

## Miscellaneous

Factory-Made Air Ducts and Connectors—UL 181-Seventh Edition-1990, With Revision November 20, 1990.

Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service, and Marine Use—UL 109-Fifth Edition-1993.

Pigtails and Flexible Hose Connectors for LP-Gas—UL 569-Sixth Edition-1990.

Roof Jacks for Manufactured Homes and Recreational Vehicles—UL 311-Seventh Edition-1990.

Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems—ANSI Z21.22-1986, With Addenda Z21.22a-1990.

Automatic Gas Ignition Systems and Components—ANSI Z21.20-1989, With Addendum Z21.20a-1991 and Z21.20b-1992.

Automatic Valves for Gas Appliances—ANSI Z21.21-1987, With Addendum Z21.21a-1989 and Z21.21b-1992.

Gas Appliance Thermostats—ANSI Z21.23-1989, With Addenda Z21.23a-1991.

Gas Vents—UL 441-Seventh Edition-1991.

Installation of Oil-Burning Equipment, NFPA 31-1992 Edition.

The following sections are applicable:

1-1  
1-2  
1-3  
1-4 except 1-4.1  
1-5.1  
1-5.2  
1-5.4.2  
1-5.4.3  
1-5.5  
1-5.6  
1-6  
1-7.2 except 1-7.2.4  
1-8  
1-9  
1-10.1  
3-1.1  
3-1.3  
3-1.4  
3-1.5  
3-1.6  
3-10  
4-1.3  
4-1.4  
4-1.5  
4-2  
4-3 except 4-3.2  
4-4 except 4-4.2, 4-4.5.4, 4-4.6  
4-4.7, 4-4.9 and 4-4.10 Appendices B, C, and E

National Fuel Gas Code—NFPA 54-1992 ANSI 223.1.

Warm Air Heating and Air Conditioning Systems, 1993 Edition, NFPA-90B.

The following sections are applicable:  
2-2.4  
2-3.6  
Table 3-1.3, Section B  
4-1.6

## § 3280.704

## 24 CFR Ch. XX (4-1-04 Edition)

Standard for the Storage and Handling of Liquefied Petroleum Gases, 1992 Edition—NFPA-58.

Flares for Tubing (1972)—SAE-J533b.

Chimneys, Factory-Built Residential Type and Building Heating Appliance—UL 103—Seventh Edition—1989 With Revision February 23, 1989.

Factory-Built Fireplaces—UL 127—Sixth Edition With Revisions January 4, 1989, June 10, 1991, June 29, 1992.

Room Heaters Solid-Fuel Type—UL 1482—Third Edition—1988 With Revision September 13, 1988.

Fireplace Stoves—UL 737—Sixth Edition—1988 With Revisions September 19, 1988, July 10, 1990 and June 10, 1991.

Unitary Air-Conditioning and Air-Source Heat Pump Equipment—ANSI/ARI 210/240-89.

AGA Requirements for Gas Connectors for Connection of Fixed Appliances for Outdoor Installation, Park Trailers and Manufactured (Mobile) Homes to the Gas Supply—No. 3-87.

[58 FR 55015, Oct. 25, 1993]

### § 3280.704 Fuel supply systems.

(a) *LP-Gas system design and service line pressure.* (1) Systems shall be of the vapor-withdrawal type.

(2) Gas, at a pressure not over 14 inches water column (½ psi), shall be delivered from the system into the gas supply connection.

(b) *LP-gas containers*—(1) *Maximum capacity.* No more than two containers having an individual water capacity of not more than 105 pounds (approximately 45 pounds LP-gas capacity), shall be installed on or in a compartment of any manufactured home.

(2) *Construction of containers.* Containers shall be constructed and marked in accordance with the specifications for LP-Gas Containers of the U.S. Department of Transportation (DOT) or the Rules for Construction of Pressure Vessels 1986, ASME Boiler and Pressure Vessel Code section VIII, Division 1 ASME Containers shall have a design pressure of at least 312.5 psig.

(i) Container supply systems shall be arranged for vapor withdrawal only.

(ii) Container openings for vapor withdrawal shall be located in the vapor space when the container is in service or shall be provided with a suitable internal withdrawal tube which communicates with the vapor space on or near the highest point in the container when it is mounted in service

position, with the vehicle on a level surface. Containers shall be permanently and legibly marked in a conspicuous manner on the outside to show the correct mounting position and the position of the service outlet connection. The method of mounting in place shall be such as to minimize the possibility of an incorrect positioning of the container.

(3) *Location of LP-gas containers and systems.* (i) LP-gas containers shall not be installed, nor shall provisions be made for installing or storing any LP-gas container, even temporarily, inside any manufactured home except for listed, completely self-contained hand torches, lanterns, or similar equipment with containers having a maximum water capacity of not more than 2½ pounds (approximately one pound LP-gas capacity).

(ii) Containers, control valves, and regulating equipment, when installed, shall be mounted on the “A” frame of the manufactured home, or installed in a compartment that is vaportight to the inside of the manufactured home and accessible only from the outside. The compartment shall be ventilated at top and bottom to facilitate diffusion of vapors. The compartment shall be ventilated with two vents having an aggregate area of not less than two percent of the floor area of the compartment and shall open unrestricted to the outside atmosphere. The required vents shall be equally distributed between the floor and ceiling of the compartment. If the lower vent is located in the access door or wall, the bottom edge of the vent shall be flush with the floor level of the compartment. The top vent shall be located in the access door or wall with the bottom of the vent not more than 12 inches below the ceiling level of the compartment. All vents shall have an unrestricted discharge to the outside atmosphere. Access doors or panels of compartments shall not be equipped with locks or require special tools or knowledge to open.

(iii) Permanent and removable fuel containers shall be securely mounted to prevent jarring loose, slipping or rotating and the fastenings shall be designed and constructed to withstand static loading in any direction equal to