

control of purging rate, and elimination of hazardous conditions. [NFPA 54:8.3.3]

1213.6.4 Placing Appliances in Operation.

After the piping has been placed in operation, appliances shall be purged and then placed in operation, as necessary. [NFPA 54:8.3.4]

1214.0 Interconnections Between Gas Piping Systems. [NFPA 54:5.3]

1214.1 Interconnections Supplying Separate Users. Where two or more meters, or two or more service regulators where meters are not provided, are located on the same premises and supply separate users, the gas-piping systems shall not be interconnected on the outlet side of the meters or service regulators. [NFPA 54:5.3.1]

1214.2 Interconnections for Standby Fuels. Where supplementary gas for standby use is connected downstream from a meter or a service regulator where a meter is not provided, a device to prevent backflow shall be installed. [NFPA 54:5.3.2.1] A three-way valve installed to admit the standby supply and at the same time shut off the regular supply shall be permitted to be used for this purpose. [NFPA 54:5.3.2.2]

1215.0 Required Gas Supply.

1215.1 The following regulations, as set forth in this section and in Section 1216.0, Required Gas Piping Size, shall be the standard for the installation of gas piping. Natural gas regulations and tables are based on the use of gas having a specific gravity of 0.6, supplied at 15cm to 20cm (6 in. to 8 in.) water column pressure at the outlet of the meter or regulator. For undiluted liquefied petroleum gas, gas piping shall be permitted to be sized at 28cm (11 in.) water column pressure at the outlet of the meter or regulator and specific gravity of 1.5.

Note: Where gas of a different specific gravity is to be delivered, the serving gas supplier should be contacted for specific gravity conversion factors to use in sizing piping systems from the pipe sizing tables in this chapter.

1215.2 The hourly volume of gas required at each piping outlet shall be taken as not less than the maximum hourly rating as specified by the manufacturer of the appliance or appliances to be connected to each such outlet.

1215.3 Where the gas appliances to be installed have not been definitely specified, Table 12-1 shall be permitted to be used as a reference to estimate requirements of typical appliances.

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To obtain the m^3/h (ft^3/h) of gas required, divide input of appliances by the average Watt (Btu) heating value per m^3 (ft^3) of the gas. The average W/m^3 (Btu/ft^3) of the gas in the area of the installation shall be permitted to be obtained from the serving gas supplier.

1215.4 The size of the supply piping outlet for any gas appliance shall be not less than 15mm (0.5 in.).

The size of any piping outlet for a mobile home shall be not less than 20mm (3/4 in.).

1216.0 Required Gas Piping Size.

1216.1 Pipe Sizing Methods. Where the pipe size is to be determined using any of the methods in Sections 1216.1.1 through 1216.1.3, the diameter of each pipe segment shall be obtained from the pipe-sizing tables in Section 1216.2 or from the sizing equations in Section 1216.3. [NFPA 54:6.1]

1216.1.1 Longest Length Method. The pipe size of each section of gas piping shall be determined using the longest length of piping from the point of delivery to the most remote outlet and the load of the section (see calculation example in Figure 12-2). [NFPA 54:6.1.1]

1216.1.2 Branch Length Method. Pipe shall be sized as follows [NFPA 54:6.1.2]:

- (A)** Pipe size of each section of the longest pipe run from the point of delivery to the most remote outlet shall be determined using the longest run of piping and the load of the section.
- (B)** The pipe size of each section of branch piping not previously sized shall be determined using the length of piping from the point of delivery to the most remote outlet in each branch and the load of the section.

1216.1.3 Hybrid Pressure. The pipe size for each section of higher-pressure gas piping shall be determined using the longest length of piping from the point of delivery to the most remote line pressure regulator. The pipe size from the line pressure regulator to each outlet shall be determined using the length of piping from the regulator to the most remote outlet served by the regulator. [NFPA 54:6.1.3]

1216.2 Tables for Sizing Gas-Piping Systems. Tables 12-7 through 12-40 shall be used to size gas piping in conjunction with one of the methods described in Sections 1216.1.1 through 1216.1.3. [NFPA 54:6.3]

1216.3 Sizing Equations. The inside diameter of smooth-wall pipe or tubing shall be determined by