

Standard(s) approved by the Authority Having Jurisdiction (except that the use of alloy 5456 is prohibited) and shall be marked at each end of each length indicating compliance. Aluminum alloy pipe shall be coated to protect against external corrosion where it is in contact with masonry, plaster, or insulation or is subject to repeated wettings by such liquids as water, detergents, or sewage. [NFPA 54:5.6.2.5] Aluminum alloy pipe shall not be used in exterior locations or underground. [NFPA 54:5.6.2.6]

**1208.5.3 Metallic Tubing.** Seamless copper, aluminum alloy, or steel tubing shall not be used with gases corrosive to such material. [NFPA 54:5.6.3]

**1208.5.3.1** Steel tubing shall comply with ASTM A254, *Standard Specification for Copper Brazed Steel Tubing* or equivalent International Standard(s) approved by the Authority Having Jurisdiction. [NFPA 54:5.6.3.1]

**1208.5.3.2** Copper and brass tubing shall not be used if the gas contains more than an average of 0.7mg/100L (0.3 grains per 100ft.<sup>3</sup>) of hydrogen sulfide. Copper tubing shall comply with standard Type K or L of ASTM B88, *Specification for Seamless Copper Water Tube*, ASTM B280, *Specification for Seamless Copper Tube for Air-Conditioning and Refrigeration Field Service* or equivalent International Standard(s) approved by the Authority Having Jurisdiction. [NFPA 54:5.6.3.2]

**1208.5.3.3** Aluminum alloy tubing shall comply with ASTM B210, *Specification for Aluminum-Alloy Drawn Seamless Tubes*, ASTM B241, *Specification for Aluminum Alloy Seamless Pipe and Seamless Extruded Tube* or equivalent International Standard(s) approved by the Authority Having Jurisdiction. Aluminum alloy tubing shall be coated to protect against external corrosion where it is in contact with masonry, plaster, or insulation or is subject to repeated wettings by liquids such as water, detergent, or sewage. Aluminum alloy tubing shall not be used in exterior locations or underground. [NFPA 54:5.6.3.3]

**1208.5.3.4** Corrugated stainless steel tubing shall be tested and listed in compliance with the construction, installation, and performance requirements of CSA LC-1, *Standard for Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing* or equivalent

**TABLE 12-1**  
**Approximate Gas Input for Typical Appliances**  
**[NFPA 54: Table 5.4.2.1]**

Appliance	Input (Approximate) kW/h
<b>Space Heating Units</b>	
Warm air furnace	
Single family	29.3
Multifamily, per unit	17.6
Hydronic boiler	
Single Family	29.3
Multifamily, per unit	17.6
<b>Space- and Water-Heating Units</b>	
Hydronic boiler	
Single family	35.2
Multifamily, per unit	22
<b>Water-Heating Appliances</b>	
Water heater, automatic storage 113.6 to 151.4L tank	10.3
Water heater, automatic storage 189.3L tank	14.7
Water heater, automatic instantaneous	
Capacity at 7.5L/minute	41.9
Capacity at 15L/minute	83.5
Capacity at 22.7L/minute	125.6
Water heater, domestic, circulating or side-arm	10.3
<b>Cooking Appliances</b>	
Range, freestanding, domestic	19
Built-in oven or broiler unit, domestic	7.3
Built-in top unit, domestic	11.7
<b>Other Appliances</b>	
Refrigerator	0.9
Clothes dryer, Type 1 (domestic)	10.3
Gas fireplace direct vent	11.7
Gas log	23.4
Barbecue	11.7
Gaslight	0.7

SI: 1kW = 3.4 Btu; 1L = 0.26 gal.