

INTERNATIONAL FUEL GAS CODE SIGNIFICANT CHANGE COMPARISON STUDY

IFGC-2012 AMENDED	IFGC-2015	IFGC-2018
	CHAPTER 1 SCOPE AND ADMINISTRATION	CHAPTER 1 SCOPE AND ADMINISTRATION
	<u>103.4.1 Legal defense.</u> New section	
	<u>106.1.1 Annual permit.</u> New section	
	<u>106.1.2 Annual permit.</u> New section.	
	SECTION 202 GENERAL DEFINITIONS	
		REGULATOR, MONITORING. New definition.
		REGULATOR, SERIES. New definition.
		TOILET, GAS-FIRED. New definition.
		UNIT HEATER. Definition rewritten.
	CHAPTER 3 GENERAL REGULATIONS	CHAPTER 3 GENERAL REGULATIONS
<u>301.1.2 LP-Gas installations.</u> Whenever there is a conflict between this code and NFPA 54 and B+NFOA 58 as adopted by the Nevada LP-Gas Boards for LP-Gas installations, the adopted codes of the Nevada LP-Gas Board shall govern.		
<u>301.16 Snow hazard.</u> On any new gas installation or reconnecting the gas service of an existing installation, gas meters above 5000 feet in elevation in Storey County or 6225 feet in elevation in Carson City and Washoe County must be protected from falling, sliding and accumulating of snow, unless the gas meter is installed in a protected location such as under an engineered deck, roof, or shed. Engineered decks, roofs, or sheds shall be enclosed on all sides		

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<u>when used to protect gas meters on the snow shedding sides of a structure as approved by the gas utility.</u>		
		<p>303.3 Prohibited locations. <u>6. A clothes dryer is installed in a residential bathroom or toilet room having a permanent opening with an area of not less than 100 square inches (0.06 m²) that communicates with a space outside of a sleeping room, bathroom, toiler room or storage closet.</u></p>
		<p>303.3.1 Fireplaces and decorative appliances in Group I-2, Condition 2 occupancies. <u>New section.</u></p>
		<p>304.5.3.1 Combining spaces on the same story. <u>Where combining surfaces on the same story, each shall have</u> Each opening shall have a minimum free area of 1 square inch per 1,000 Btu/h (2,200 mm²/kW) of the total input rating of all appliances in the space but not less than 100 square inched (0.06 m²). One <u>permanent</u> opening shall commence within 12 inches (305 mm) of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches (76 mm).</p>
	<p>306.6 Guards. <u>Exception: Guards are not required where permanent fall arrest/restraint anchorage connector devices that comply with ANSI/ASSE Z 359.1 are affixed for use during the entire lifetime of the roof</u></p>	

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	<p><u>covering. The devices shall be re-evaluated for possible replacement when the entire roof covering is replaced. The devices shall be placed not more than 10 feet (3048 mm) on center along the hip and ridge lines and placed not less than 10 feet (3048 mm) from edges and the open sides of walking surfaces.</u></p>	
	<p>307.6 Condensate pumps. <u>Condensate pumps located in uninhabitable spaces, such as attics and crawl spaces, connected to the appliance or equipment served such that when the pump fails, the appliance or equipment will be prevented from operating. Pumps shall be installed in accordance with manufacturer’s instructions.</u></p>	
	<p>310.1.1 CSST. <u>Corrugated stainless steel tubing (CSST) gas piping systems and piping systems containing one or more segments of CSST shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding system. The bonding jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall not be smaller than 6 AWG copper wire or equivalent. Gas piping systems that contain one or more</u></p>	<p>310.2 CSST. <u>This section applied to corrugated stainless steel tubing (CSST) that is not listed as arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26. CSST gas piping systems and piping systems containing one or more segments of CSST shall be electrically continuous and bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding system. The bonding jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall not be</u></p>

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	segments of CSST shall be bonded in accordance with this section.	smaller than 6 AWG copper wire or equivalent. Gas piping systems that contain one or more segments of CSST shall be bonded in accordance with this section.
	<u>310.1.1.1 Point of connection.</u> The bonding jumper shall connect to a metallic pipe, pipe fitting or CSST fitting.	310.1.1.1 310.2.1 Point of connection. The bonding jumper shall connect to a metallic pipe, pipe fitting or CSST fitting.
	<u>310.1.1.2 Size and material of jumper.</u> The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent.	310.1.1.2 Size and material of jumper. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent.
	<u>310.1.1.3 Bonding jumper length.</u> The length of the bonding jumper between the connection to a gas piping system and the connection to a ground electrode system shall not exceed 75 feet (22 860 mm). Any additional grounding electrodes used shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.	310.1.1.3 Bonding jumper length. The length of the bonding jumper between the connection to a gas piping system and the connection to a ground electrode system shall not exceed 75 feet (22 860 mm). Any additional grounding electrodes used installed to meet this requirement shall be bonded to the electrical service grounding electrode system or, where provided, the lightning protection grounding electrode system.
	<u>310.1.1.4 Bonding connections.</u> Bonding connections shall be in accordance with NFPA 70.	310.1.1.4 Bonding connections. Bonding connections shall be in accordance with NFPA 70.
	<u>310.1.1.5 Connection devices.</u> Devices used for making the bonding connections shall be listed for the application in accordance with UL467.	310.1.1.5 Connection devices. Devices used for making the bonding connections shall be listed for the application in accordance with UL467.
		<u>310.3 Arci-resistant CSST.</u> This section applies to corrugated stainless steel tubing (CSST) that is listed with arc-resistant jacket or coating

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		<p><u>system in accordance with ANSI LC 1/CSA 6.26. The CSST shall be electrically continuous and bonded to an effective ground fault current path. Where any CSST component of a piping system does not have an arc-resistant jacket or coating system, the bonding requirements of Section 310.2 shall apply. Arc-resistant-jacketed CSST shall be considered to be bonded where it is connected to an appliance that is connected to an appliance grounding conductor of the circuit that supplies that appliance.</u></p>
	<p>CHAPTER 4 GAS PIPING INSTALLATIONS</p>	<p>CHAPTER 4 GAS PIPING INSTALLATIONS</p>
		<p>401.9 Identification. Each length of pipe and tubing and each pipe fitting, utilized in a fuel gas system, shall bear the identification of the manufacturer.</p> <p>Exceptions:</p> <ol style="list-style-type: none"> <u>1. Steel pipe sections that are 2 feet (610 mm) and less in length and are cut from longer sections of pipe.</u> <u>2. Steel pipe fittings 2 inches and less in size.</u> <u>3. Where identification is provided on the product packaging or crating.</u> <u>4. Where other approved documentation is provided.</u>
		<p>401.10 Third-party testing and certificate Piping materials standards. <u>Piping, tubing and fittings shall manufactured to the applicable referenced standards, specifications and</u></p>

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		<u>performance criteria listed in Section 403 and shall be identified in accordance with Section 401.9.</u>
	TABLE 402.4(3). Amended	
	TABLE 402.4(4). Amended	
	403.4.3 Copper and brass copper alloy.	
	<p>403.10.4 Metallic fitting. 9. Where pipe fittings are drilled and tapped in the field, the operation shall be in accordance with all of the following: 9.1. The operation shall be performed on systems having operating pressures of 5 psi (34.5 kPa) or less. 9.2. The operation shall be performed by the gas supplier or the gas supplier’s designated representative. 9.3. The drilling and tapping operation shall be performed in accordance with written procedures prepared by the gas supplier. 9.4. The fittings shall be located outdoors. 9.5. The tapped fitting assembly shall be inspected and proven to be free of leakage.</p>	
	<u>403.12.1 Cast iron.</u> New section inserted.	
	<u>403.12.2 Steel.</u> New section inserted.	
	<u>403.12.3 Nonferrous.</u> New section inserted.	
	<u>403.12.4 Ductile iron.</u> New section inserted.	

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	<u>403.12.5 Raised face.</u> New section inserted.	
	<u>413.13.1 Metallic gaskets.</u> New section.	
	<u>413.13.2 Nonmetallic gaskets.</u> New section.	
	404.5 Piping Fittings in concealed locations. Section rewritten.	
	404.7 Protection against physical damage. Section rewritten.	
	<u>404.7.1 Piping through holes or notches.</u> New section.	
	<u>404.7.2 Piping installed in other locations.</u> New section.	
	<u>404.7.3 Shield plates.</u> New section.	
	<u>404.18 Pipe cleaning.</u> New section inserted.	
		<u>Section 402.5 Noncorrugated stainless steel tubing.</u> New section inserted.
		<u>403.5.2 Stainless steel.</u> New section inserted.
		<u>403.10.3 Stainless steel tubing joints.</u> New section inserted.
		<u>404.11.1 Prohibited use Galvanizing.</u> New section inserted.
		<u>404.11.2 Protective coatings Protection methods.</u> New section inserted.
		<u>404.11.3 Dissimilar metals.</u> New section inserted.
		<u>404.11.4 Protection of risers.</u> New section inserted.

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<p>406.4.1 Test pressure. The test pressure to be used shall be no less than 1-1/2 times the proposed maximum working pressure. But not less than 3 <u>25</u> psig (20 <u>172.4</u> kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe. <u>This test shall be made before any fixtures, appliances or shut-off valves have been attached and before being concealed.</u></p>		
<p>406.4.2 Test duration. Test duration shall be not less than 30 minutes <u>1/2</u> hour for each 500 cubic feet (14 m³) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28 m³) or a system in a single family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.</p>		
<p>406.6.2 Before turning gas on. During the process of turning gas on <u>into a system of new gas piping or into as system or portion of a gas system that has been restored after an interruption</u></p>		

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<p><u>of service</u>, the entire system shall be inspected to determine that there are no open fittings or ends and that all valves at unused outlets are closed and plugged or capped. <u>In the City of Fernley, City of Reno, City of Sparks, Storey County and Washoe County, a manometer test shall be made after all valves, unions, connectors and piping to the appliances are complete. A pressure test shall be made with the use of a manometer gauge measuring inches of water column. With all valves including gas cock and gas control valves in the open position, a pressure of at least eleven (11) to fifteen (15) inches of water column shall be measured for at least fifteen (15) minutes, with no perceptible drop in pressure.</u></p>		
<p><u>406.6.2.1 For medium pressure gas systems:</u> Where the appliance is rated for seven (7) to eleven (11) inches of water column, a manometer test of eleven (11) to fifteen (15) inches of water column will be conducted between the pressure regulating valve and the appliance and shall be measured for at least fifteen (15) minutes with no perceptible drop in pressure.</p>		

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<p><u>406.2.2 For appliances or equipment requiring pounds of gas pressure: A pressure test using a pressure gauge measuring in one tenth (1/10) increments shall be conducted on the gas train of that appliance or equipment. The pressure shall be equal to the appliance’s normal operating pressure for a period of thirty (30) minutes with no perceptible drop in pressure.</u></p>		
<p><u>406.2.3 Manometer testing. Manometer testing shall be performed by a person holding a valid Washoe County manometer card for which the number is to be provided at the time of the request for inspection. A visual manometer test to be witnessed by the authority having jurisdiction may be allowed by the Building Official. A manometer test does not need to be reported when the serving gas utility performs a manometer or clock test prior to providing service.</u></p>		
		<p><u>409.7 Shutoff valves in tubing systems. New section.</u></p>
	<p><u>410.2 MP regulators:</u> <u>7. Where connected to rigid piping, a union shall be installed within 1 foot (304 mm) of either side of the MP regulator.</u></p>	

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	<p>411.1 Connecting appliances. <u>8. Listed outdoor gas hose connectors in compliance with ANSI Z21.54 used to connect portable outdoor appliances. The gas hose connection shall be made only in the outdoor area where the appliance is used, and shall be to a gas piping supply at an appliance shutoff valve, a listed quick-disconnect device or listed gas convenience outlet.</u></p>	<p>411.1 Connecting appliances. <u>9. gas hose connectors for use in laboratories and educational facilities in accordance with Section 411.4.</u></p>
	<p>411.1.1 Commercial cooking appliances. Commercial cooking appliances installed on casters and appliances that are moved for cleaning and sanitation purposes shall be connected to the piping system with an appliance connector listed as complying with ANSI Z21.69 or in accordance with Item 1 or 3 of Section 411.1. <u>The commercial cooking appliance connector installation shall be configured in accordance with the manufacturer's instructions. Movement of appliances with casters shall be limited by a restraining device installed in accordance with the connector and appliance manufacturer's instructions.</u></p>	
		<p>411.4 Injection Bunsen-type burners. <u>Injection Bunsen-type burners used in laboratories and educational facilities shall be connected to a gas</u></p>

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		<u>supply system by either a listed or unlisted hose.</u>
	412.6 Location. Section rewritten.	
	412.7 Additional requirements for LP-gas dispensers and equipment. Section rewritten.	
	412.8.3 Vehicle impact protection. Section rewritten.	
	<u>412.8.4 Breakaway protection.</u> New section.	
	<u>412.9 Public fueling of motor vehicles.</u> New section.	
		413.3 Location of dispensing operations and equipment. Exception: 3. Residential fueling appliances and equipment shall be allowed to be installed indoors in accordance with the equipment manufacturer's instructions and Section 413.4.3.
		413.4.1 Listing and installation. Section rewritten.
		413.4.2 Outdoor installations Gas connections. New section.
		413.4.3 Indoor installations. Section rewritten.
	416.1 General Where required. Section rewritten.	
	416.2 Protection methods Pressure limitation requirements. Section rewritten.	

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	<u>416.2.1 Pressure under 14 inches w.c.</u> New section.	
	<u>416.2.2 Pressure over 14 inches w.c.</u> New section.	
	<u>416.2.3 Device capability.</u> New section.	
	<u>416.2.4 Failure detection.</u> New section.	
	<u>416.2.5 Relief valve.</u> New section.	
	416.3 Devices. Section rewritten.	
	CHAPTER 5 CHIMNEYS AND VENTS	CHAPTER 5 CHIMNEYS AND VENTS
	<u>503.4.1 Plastic pipe.</u> New section.	
	<u>503.8 Venting system termination location:</u> <u>5. Vent systems for Category IV appliances that terminate through an outside wall of a building and discharge flue gases perpendicular to the adjacent wall shall be located not less than 10 feet (3048 mm) horizontally from an operable opening in an adjacent building. this requirement shall not apply to vent terminals that are 2 feet (607 mm) or more above or 25 feet (7620 mm) or more below operable openings.</u>	
		<u>503.5.11 Insulation shield.</u> New section.
		<u>503.6.1 Materials.</u> New section inserted.
		<u>TABLE 503.8 THROGUH-THE-WALL, DIRECT-VENT TERMINATION CLEARANCES.</u> New table inserted.
	CHAPTER 6 SPECIFIC APPLIANCES	CHAPTER 6 SPECIFIC APPLIANCES

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	<p><u>614.5 Dryer exhaust duct power ventilators.</u> Domestic dryer exhaust duct power ventilators shall be listed and labeled to UL 705 for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with the manufacturer's instructions.</p>	
		<p><u>614.4.1 Exhaust termination outlet and passageway.</u> New section.</p>
	<p><u>614.8.4.3 Dryer exhaust duct power ventilator length.</u> The maximum length of the exhaust duct shall be determined by the dryer exhaust duct power ventilator manufacturer's installation instructions.</p>	
		<p>623.2 Prohibited location. Exceptions: <u>2. Where the installation is designed bay a licensed Professional Engineer, in compliance with the manufacturer's installation instructions.</u></p>