



First Revision No. 15-NFPA 54-2021 [Global Input]

The phrase "by the authority having jurisdiction" is redundant when used with the term "approved" and is being revised in several sections. See attached Word Document.

Supplemental Information

<u>File Name</u>	<u>Description</u> <u>Approved</u>
PI_75_76_77.docx	For staff use
54_Global_FR-15_for_ballot.docx	For ballot

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 17:19:25 EDT 2021

Committee Statement

Committee Statement: The phrase "by the authority having jurisdiction" is redundant when used with the term "approved" and is being revised in several sections

Response Message: FR-15-NFPA 54-2021

[Public Input No. 75-NFPA 54-2021 \[Section No. 5.5.7.5\]](#)

[Public Input No. 76-NFPA 54-2021 \[Section No. 7.3.5.2\]](#)

[Public Input No. 77-NFPA 54-2021 \[Section No. 8.1.1.3\]](#)

5.5.7.5 Metallic Pipe Fittings.

Metallic fittings shall comply with the following:

1. Threaded fittings in sizes larger than 4 in. (100 mm) shall not be used.
2. Fittings used with steel, stainless steel, or wrought-iron pipe shall be steel, stainless steel, copper alloy, malleable iron, or cast iron.
3. Fittings used with copper or copper alloy pipe shall be copper or copper alloy.
4. Fittings used with aluminum alloy pipe shall be aluminum alloy.
5. *Cast-Iron Fittings.* Cast-iron fittings shall comply with the following:
 1. Flanges shall be permitted.
 2. Bushings shall not be used.
 3. Fittings shall not be used in systems containing flammable gas–air mixtures.
 4. Fittings in sizes 4 in. (100 mm) and larger shall not be used indoors unless approved ~~by the authority having jurisdiction.~~
 5. Fittings in sizes 6 in. (150 mm) and larger shall not be used unless approved ~~by the authority having jurisdiction.~~
6. *Aluminum Alloy Fittings.* Threads shall not form the joint seal.
7. *Zinc–Aluminum Alloy Fittings.* Fittings shall not be used in systems containing flammable gas–air mixtures.
8. *Special Fittings.* Fittings such as couplings, proprietary-type joints, saddle tees, gland-type compression fittings, and flared, flareless, or compression-type tubing fittings shall be as follows:
 1. Used within the fitting manufacturer's pressure–temperature recommendations
 2. Used within the service conditions anticipated with respect to vibration, fatigue, thermal expansion, or contraction
 3. Acceptable to the authority having jurisdiction
9. When pipe fittings are drilled and tapped in the field, the operation shall be in accordance with the following:
 1. The operation shall be performed on systems having operating pressures of 5 psi (34 kPa) or less.
 2. The operation shall be performed by the gas supplier or their designated representative.
 3. The drilling and tapping operation shall be performed in accordance with written procedures prepared by the gas supplier.
 4. The fittings shall be located outdoors.
 5. The tapped fitting assembly shall be inspected and proven to be free of leaks.

7.3.5.2 Other Occupancies.

Gas piping in non-industrial occupancies shall not be embedded in concrete floor slabs unless in accordance with 7.3.5.2.1 through 7.3.5.2.5

7.3.5.2.1

The installation is approved

7.3.5.2.2

~~In other than industrial occupancies and where approved by the authority having jurisdiction, g~~
~~Embedded gas piping embedded in concrete floor slabs constructed with Portland cement shall~~
be surrounded with a minimum of 1 1/2 in. (38 mm) of concrete. ~~and~~

7.3.5.2.3

Embedded gas piping shall not be in physical contact with other metallic structures such as reinforcing rods or electrically neutral conductors.

7.3.5.2.4

All piping, fittings, and risers shall be protected against corrosion in accordance with 7.2.2.

7.3.5.2.5

Piping shall not be embedded in concrete slabs containing quickset additives or cinder aggregate.

8.1.1.3

Where repairs or additions are made following the pressure test, the affected piping shall be tested.

8.1.1.4 Minor repairs and additions shall not be ~~are not~~ required to be pressure tested, provided that the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other leak-detecting methods approved ~~by the authority having jurisdiction~~.

8.1.1.54

Where new branches are installed to new appliance(s), only the newly installed branch(es) shall be required to be pressure tested.

8.1.1.6

~~Connections between the new piping and the existing piping shall be tested with a noncorrosive leak-detecting fluid or approved leak-detecting methods.~~

8.1.1.75

A piping system shall be tested as a complete unit or in sections.

8.1.1.8

Under no circumstances shall a valve in a line be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, unless a double block and bleed valve system is installed.

8.1.1.9

A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve closing mechanism, is designed to safely withstand the pressure.



First Revision No. 33-NFPA 54-2021 [Section No. 1.1.1.1(E)]

(E)

Requirements for piping systems shall include design, materials, components, fabrication, assembly, installation, testing, inspection, purging, operation, and maintenance.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 13:52:45 EDT 2021

Committee Statement

Committee Statement: This document applies to purging of piping systems and is being added to the scope for clarity.

Response Message: FR-33-NFPA 54-2021

Public Input No. 21-NFPA 54-2021 [Section No. 1.1.1.1(E)]



First Revision No. 34-NFPA 54-2021 [Section No. 1.1.1.1(F)]

(F)

Requirements for appliances, equipment, and related accessories shall include installation, combustion, and air, ventilation air, and venting.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 13:58:27 EDT 2021

Committee Statement

Committee Statement: The intent of the committee is to reference combustion air and not the process of combustion.

Response Message: FR-34-NFPA 54-2021

[Public Input No. 22-NFPA 54-2021 \[Section No. 1.1.1.1\(F\)\]](#)



First Revision No. 1-NFPA 54-2021 [Sections 2.2, 2.3]

2.2 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2024 2024 edition.

NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*, 2018 2021 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen–Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2018 2023 edition.

NFPA 52, *Vehicular Natural Gas Fuel Systems Code*, 2019 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2023 edition.

NFPA 70[®], *National Electrical Code*[®], 2020 2023 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*, 2019 edition.

NFPA 88A, *Standard for Parking Structures*, 2019 2023 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2021 2024 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2021 2024 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2021 2024 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances*, 2019 2024 edition.

NFPA 409, *Standard on Aircraft Hangars*, 2016 2022 edition.

NFPA 780, *Standard for the Installation of Lightning Protection Systems*, 2020 2023 edition.

NFPA 853, *Standard for the Installation of Stationary Fuel Cell Power Systems*, 2020 edition.

NFPA 1192, *Standard on Recreational Vehicles*, 2021 edition.

2.3 Other Publications.

2.3.1 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990, (800) 843-2763. www.asme.org

ANSI/ASME B1.20.1, *Pipe Threads, General Purpose, Inch*, 2013 (R2018).

ANSI/ASME B16.1, *Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250*, 2015 2020.

ANSI/ASME B16.5, *Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard*, 2017 2020.

ANSI/ASME B16.20, *Metallic Gaskets for Pipe Flanges: Ring-Joint, Spiral-Wound and Jacketed*, 2017.

ANSI/ASME B16.21, *Nonmetallic Flat Gaskets for Pipe Flanges*, 2016.

ANSI/ASME B16.24, *Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500, and 2500*, 2016.

ANSI/ASME B16.33, *Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 175 psi (Sizes NPS 1/2 through NPS 2)*, 2012 (R2017).

ANSI/ASME B16.42, *Ductile Iron Pipe Flanges and Flanged Fittings: Classes 150 and 300*, 2016.

ANSI/ASME B16.44, *Manually Operated Metallic Gas Valves for Use in Above Ground Piping Systems up to 5 psi*, 2012 (R2017).

ANSI/ASME B16.47, *Large Diameter Steel Flanges: NPS 26 through NPS 60 Metric/Inch Standard*, 2017 2020.

ANSI/ASME B36.10M, *Welded and Seamless Wrought Steel Pipe*, 2018.

2.3.2 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, (610) 832-9585. www.astm.org

ASTM A53, *Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless*, 2018 2020 .

ASTM A106, *Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service*, 2019 2019a .

ASTM A254, *Standard Specification for Copper-Brazed Steel Tubing*, 2012, reaffirmed 2019 .

ASTM A268, *Standard Specification for Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing for General Service*, 2010, reaffirmed 2016 2020 .

ASTM A269, *Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service*, 2015a, reaffirmed 2019 .

ASTM A312, *Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes*, 2018a 2021 .

ASTM B88, *Standard Specification for Seamless Copper Water Tube*, 2016 2020 .

ASTM B210, *Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes*, 2019 2019a .

ASTM B241, *Standard Specification for Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube*, 2016.

ASTM B280, *Standard Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service*, 2018 2020 .

ASTM D2513, *Standard Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing, and Fittings*, 2018a 2020 .

ASTM E136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*, 2019 2019a .

ASTM E2652, *Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C*, 2018.

ASTM F1973, *Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems*, 2013, reaffirmed 2018.

ASTM F2509, *Standard Specification for Field-Assembled Anodeless Riser Kits for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing*, 2015, reaffirmed 2019 .

ASTM F2945, *Standard Specification for Polyamide 11 Gas Pressure Pipe, Tubing, and Fittings*, 2018.

2.3.3 CSA Group Publications.

CSA Group, 178 Rexdale Boulevard, Toronto, ON M9W 1R3, Canada, (216) 524-4990.
www.csagroup.org

ANSI/CSA FC 1, *Fuel Cell Technologies — Part 3-100: Stationary Fuel Cell Power Systems — Safety*, 2014, reaffirmed 2018.

ANSI/CSA NGV 5.1, *Residential Fueling Appliances*, 2016, reaffirmed 2020 .

ANSI/CSA NVG 5.2, *Vehicle Fueling Appliances (VFA)*, 2017.

ANSI LC 1/CSA 6.26, *Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing (CSST)*, 2018.

ANSI LC 4/CSA 6.32, *Press-Connect Metallic Fittings for Use in Fuel Gas Distribution Systems*, 2012, reaffirmed 2016.

ANSI Z21.1/CSA 1.1, *Household Cooking Gas Appliances*, 2018.

ANSI Z21.5.1/CSA 7.1, *Gas Clothes Dryers, Volume I, Type 1 Clothes Dryers*, 2017.

ANSI Z21.5.2/CSA 7.2, *Gas Clothes Dryers, Volume II, Type 2 Clothes Dryers*, 2016.

ANSI Z21.8, *Installation of Domestic Gas Conversion Burners*, 1994, reaffirmed 2017.

ANSI Z21.10.1/CSA 4.1, *Gas Water Heaters, Volume I, Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less*, 2017 2019 .

ANSI Z21.10.3/CSA 4.3, *Gas Water Heaters, Volume III, Storage Water Heaters with Input Ratings Above 75,000 Btu per Hour, Circulating or Instantaneous*, 2017 2019 .

ANSI Z21.11.2, *Gas-Fired Room Heaters — Volume II, Unvented Room Heaters*, 2016 2019 .

ANSI Z21.13/CSA 4.9, *Gas-Fired Low-Pressure Steam and Hot Water Boilers*, 2017.

ANSI Z21.15/CSA 9.1, *Manually operated gas valves for appliances, appliance connector valves and hose end valves*, 2009, reaffirmed 2014.

ANSI Z21.18/CSA 6.3, *Gas Appliance Pressure Regulators*, 2007, ~~reaffirmed 2016~~ 2019 .

ANSI Z21.19/CSA 1.4, *Refrigerators Using Gas Fuel*, 2014.

ANSI Z21.22/CSA 4.4, *Relief Valves for Hot Water Supply Systems*, 2015, reaffirmed 2020 .

ANSI Z21.24/CSA 6.10, *Connectors for Gas Appliances*, 2015, reaffirmed 2020 .

ANSI Z21.40.1/CSA 2.91, *Gas-Fired Heat Activated Air Conditioning and Heat Pump Appliances*, 1996, reaffirmed 2017.

ANSI Z21.40.2/CSA 2.92, *Air Conditioning and Heat Pump Appliances (Internal Combustion)*, 1996, reaffirmed 2017.

ANSI Z21.41/CSA 6.9, *Quick-Disconnect Devices for Use with Gas Fuel Appliances*, 2014, reaffirmed 2019 .

ANSI Z21.47/CSA 2.3, *Gas-Fired Central Furnaces*, 2016 2021 .

ANSI Z21.50/CSA 2.22, *Vented Decorative Gas Appliances*, 2019.

ANSI Z21.54/CSA 8.4, *Gas Hose Connectors for Portable Outdoor Gas-Fired Appliances*, 2019.

ANSI Z21.56/CSA 4.7, *Gas-Fired Pool Heaters*, 2017.

ANSI Z21.58/CSA 1.6, *Outdoor Cooking Gas Appliances*, 2018.

ANSI Z21.60/CSA 2.26, *Decorative Gas Appliances for Installation in Solid-Fuel Burning Fireplaces*, 2017.

ANSI Z21.69/CSA 6.16, *Connectors for Movable Gas Appliances*, 2015, reaffirmed 2020 .

ANSI Z21.75/CSA 6.27, *Connectors for Outdoor Gas Appliances and Manufactured Homes*, 2016, reaffirmed 2021 .

ANSI Z21.80/CSA 6.22, *Line Pressure Regulators*, 2019.

ANSI Z21.86/CSA 2.32, *Vented Gas-Fired Space Heating Appliances*, 2016.

ANSI Z21.88/CSA 2.33, *Vented Gas Fireplace Heaters*, 2017.

ANSI Z21.89/CSA 1.18, *Outdoor Cooking Specialty Gas Appliances*, 2017.

ANSI Z21.90/CSA 6.24, *Gas Convenience Outlets and Optional Enclosures*, 2015 2019.

ANSI Z21.93/CSA 6.30, *Excess Flow Valves for Natural and LP-Gas with Pressures Up to 5 psig*, 2017.

ANSI Z21.97/CSA 2.41, *Outdoor Decorative Gas Appliances*, 2017.

ANSI Z83.4/CSA 3.7, *Non-Recirculating Direct Gas-Fired Heating and Forced Ventilation Appliances for Commercial and Industrial Application*, 2017.

ANSI Z83.8/CSA 2.6, *Gas Unit Heaters, as Gas Packaged Heaters, Gas Utility Heaters, and Gas-Fired Duct Furnaces*, 2016.

ANSI Z83.11/CSA 1.8, *Gas Food Service Equipment*, 2016, reaffirmed 2021.

ANSI Z83.18, *Recirculating Direct Gas-Fired Heating and Forced Ventilation Appliances for Commercial and Industrial Application*, 2017, reaffirmed 2021.

ANSI Z83.19/CSA 2.35, *Gas-Fired High-Intensity Infrared Heaters*, 2017.

ANSI Z83.20/CSA 2.34, *Gas-Fired Tubular and Low-Intensity Infrared Heaters*, 2016.

ANSI Z83.26/CSA 2.27, *Gas-Fired Outdoor Infrared Patio Heaters*, 2014 2020.

2.3.4 MSS Publications.

Manufacturers Standardization Society (MSS) of the Valve and Fittings Industry, 127 Park Street, NE, Vienna, VA 22180-4602, (703) 281-6613. www.msshq.org

ANSI/MSS SP-58, *Pipe Hangers and Supports — Materials, Design, Manufacture, Selection, Application, and Installation*, 2018.

2.3.5 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096. www.ul.com

UL 103, ~~*Chimneys, Factory-Built*~~, *Chimneys for Residential Type and Building Heating Appliances*, 2010, revised 2017.

UL 353, *Limit Controls*, 1994.

UL 378, *Draft Equipment*, 2006, revised 2013.

UL 441, *Gas Vents*, 2016 2019.

UL 467, *Grounding and Bonding Equipment*, 2013.

UL 641, *Type L Low-Temperature Venting Systems*, 2010, revised 2018.

UL 651, *Schedule 40 and 80 Rigid PVC Conduit and Fittings*, 2011, revised 2018 2019.

UL 959, *Medium Heat Appliance Factory-Built Chimneys*, 2010, revised 2014 2019.

UL 1738, *Venting Systems for Gas Burning Appliances, Categories II, III and IV*, 2010, revised 2014 2021.

UL 1777, *Chimney Liners*, 2015, revised 2019.

UL 2158A, *Clothes Dryer Transition Ducts*, 2013, revised 2017.

UL 2561, *1400 Degree Fahrenheit Factory-Built Chimneys*, 2016, revised 2018.

UL 2989, *Outline of Investigation for Tracer Wire*, 2017.

UL 60730-2-6, *Automatic Electrical Controls for Household and Similar Use; Part 2: Particular Requirements for Automatic Electrical Pressure Sensing Controls Including Mechanical Requirements*, 2016.

~~UL 378, *Draft Equipment*, 2006, revised 2013.~~

2.3.6 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC
20401-0001. www.gpo.gov

Title 49, Code of Federal Regulations, Part 192, "Transportation of Natural and Other Gas by Pipeline: Minimum Federal Standards."

2.3.7 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Aug 31 11:58:29 EDT 2021

Committee Statement

Committee Statement: Reference standards are being updated to the latest edition year.

Response Message: FR-1-NFPA 54-2021

[Public Input No. 124-NFPA 54-2021 \[Section No. 2.2\]](#)

[Public Input No. 116-NFPA 54-2021 \[Section No. 2.2\]](#)

[Public Input No. 118-NFPA 54-2021 \[Section No. 2.3.5\]](#)



First Revision No. 35-NFPA 54-2021 [Section No. 3.3.4.4.2]

3.3.4.4.2 Gas Counter Appliance.

An appliance such as a gas coffee brewer and coffee urn and any appurtenant water heating appliance, food and dish warmer, hot plate, and griddle.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 14:35:58 EDT 2021

Committee Statement

Committee Statement: The term is not used in the code and is being deleted.

Response Message: FR-35-NFPA 54-2021

[Public Input No. 25-NFPA 54-2021 \[Section No. 3.3.4.4.2\]](#)



First Revision No. 36-NFPA 54-2021 [Section No. 3.3.4.5]

3.3.4.5 Gas Counter Appliances.

See 3.3.4.4.2 .

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 14:38:02 EDT 2021

Committee Statement

Committee Statement: The term is not used in the code and is being deleted.

Response Message: FR-36-NFPA 54-2021

[Public Input No. 26-NFPA 54-2021 \[Section No. 3.3.4.5\]](#)



First Revision No. 37-NFPA 54-2021 [Section No. 3.3.4.6]

3.3.4.5 Household Cooking Appliance.

An appliance for domestic food preparation, providing at least one function of (1) top or surface cooking, (2) oven cooking, or (3) broiling.

~~3.3.4.6.1~~ Household Broiler Cooking Appliance.

~~A unit that cooks primarily by radiated heat.~~

~~3.3.4.6.2~~ Household Built-In Unit Cooking Appliance.

~~A unit designed to be recessed into, placed upon, or attached to the construction of a building, but not for installation on the floor.~~

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 14:42:12 EDT 2021

Committee Statement

Committee Statement: The terms are deleted as they are not used in the Code.

Response Message: FR-37-NFPA 54-2021

Public Input No. 27-NFPA 54-2021 [Section No. 3.3.4.6]



First Revision No. 38-NFPA 54-2021 [Section No. 3.3.48]

3.3.48 Gas Convenience Outlet.

A permanently ~~mounted~~ installed, hand-operated device providing a means for connecting and disconnecting an appliance or an appliance connector to the gas supply piping.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 14:48:47 EDT 2021

Committee Statement

Committee Statement: Installed is the preferred term used widely elsewhere in the Code.

Response Message: FR-38-NFPA 54-2021

Public Input No. 30-NFPA 54-2021 [Section No. 3.3.48]



First Revision No. 39-NFPA 54-2021 [Section No. 3.3.58]

3.3.58 Hot Plate.

~~A fuel gas-burning An~~ appliance consisting of one or more open-top-type burners installed on ~~supported by~~ short legs or a base. ~~See 3.3.4.4.2, Gas Counter Appliance.~~

3.3.58.1 Domestic Hot Plate.

~~A fuel gas-burning appliance consisting of one or more open-top-type burners installed on short legs or a base.~~

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Tue Sep 21 14:56:38 EDT 2021

Committee Statement

Committee Statement: The definition of gas counter appliance is deleted as it is not used in the code. The term "domestic hot plate" is not used in the Code however "hot plate" is used.

Response Message: FR-39-NFPA 54-2021

[Public Input No. 32-NFPA 54-2021 \[Section No. 3.3.58\]](#)



First Revision No. 20-NFPA 54-2021 [New Section after 3.3.60]

3.3.61 Interruption of Service.

Disconnection or discontinuation of fuel gas to the point of delivery.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 16:12:29 EDT 2021

Committee Statement

Committee Statement: A definition is needed to ensure that code users understand the committee's intent of the term.

Response Message: FR-20-NFPA 54-2021

Public Input No. 34-NFPA 54-2021 [New Section after 3.3.60]



First Revision No. 40-NFPA 54-2021 [Section No. 3.3.64.2]

3.3.65.2 Noncombustible Material.

A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. See Section 4.4 .

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 15:15:34 EDT 2021

Committee Statement

Committee Statement: The material in section 4.4 is a more complete description of what noncombustible materials are and therefore avoid conflict the definition here now references section 4.4.

Response Message: FR-40-NFPA 54-2021

[Public Input No. 17-NFPA 54-2021 \[Section No. 3.3.64.2\]](#)



First Revision No. 42-NFPA 54-2021 [Section No. 3.3.97]

3.3.98 Tubing.

Semirigid conduit of copper, steel, aluminum, corrugated stainless steel tubing (CSST), polyethylene, or plastic polyamide.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 15:51:55 EDT 2021

Committee Statement

Committee Statement: Only certain types of plastic are allowed by the code to be tubing materials.

Response Message: FR-42-NFPA 54-2021

Public Input No. 35-NFPA 54-2021 [Section No. 3.3.97]



First Revision No. 3-NFPA 54-2021 [Section No. 5.1.1]

5.1.1 Installation of Piping System.

~~Where required by the authority having jurisdiction, a piping sketch or plan shall be prepared before proceeding with the installation. The plan shall show the proposed location of piping, the size of different branches, the various load demands, and the location of the point of delivery.~~

5.1.1.1

Where required by the authority having jurisdiction, a piping sketch or plan shall be prepared before proceeding with the installation.

5.1.1.2

The plan in 5.1.1.1 shall show the proposed location of piping, the size of different branches, the various load demands, ~~and~~ the location of the point of delivery, the location of isolation valves, and accommodations for meeting the safe purging requirements as required in Chapter 8.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 13 13:53:47 EDT 2021

Committee Statement

Committee Statement: Where plans are required in a piping system, the provisions to identify isolation valves and purge the system need to be included on the design.

Response Message: FR-3-NFPA 54-2021

Public Input No. 31-NFPA 54-2021 [Section No. 5.1.1]



First Revision No. 5-NFPA 54-2021 [Section No. 5.1.2]

5.1.2 Addition to Existing System.

~~When additional appliances are being connected to a gas piping system, the existing piping shall be checked to determine whether it has adequate capacity. If the capacity of the system is determined to be inadequate for the additional appliances, the existing system shall be enlarged as required, or separate gas piping of adequate capacity shall be provided.~~

5.1.2.1

When additional appliances are being connected to a gas piping system, the existing piping shall be checked to determine whether it has adequate capacity.

5.1.2.2

If the capacity of the system is determined to be inadequate for the additional appliances, ~~the existing system shall be enlarged as required, or separate gas piping of adequate capacity shall be provided.~~ one or more of the following modifications shall be made to provide required minimum gas pressures to each appliance:

- (1) The existing system is enlarged as required.
- (2) Separate gas piping of adequate capacity is provided.
- (3) The gas pressure is increased within the limitations of the existing piping system and connected appliances.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 13 14:30:02 EDT 2021

Committee Statement

Committee Statement: The existing language did not address the option of increasing pressure or pressure drop which is commonly used in commercial applications.

Response Message: FR-5-NFPA 54-2021

[Public Input No. 39-NFPA 54-2021 \[Section No. 5.1.2\]](#)

[Public Input No. 42-NFPA 54-2021 \[New Section after 5.1.2\]](#)



First Revision No. 6-NFPA 54-2021 [Section No. 5.5.5]

5.5.5 Workmanship and Defects.

~~Gas pipe, tubing, and fittings at the time of installation shall be clear and free from cutting burrs and defects in structure or threading and shall be thoroughly brushed and chip and scale blown. Defects in pipe, tubing, and fittings shall not be repaired. Defective pipe, tubing, and fittings shall be replaced.~~ meet the following requirements:

- (1) Gas pipe, tubing, and fittings shall be clear and free from cutting burrs and visible defects in structure or threading.
- (2) Gas pipe, tubing, and fittings shall be thoroughly cleaned to remove chip, scale, and debris.
- (3) Visible defects in pipe, tubing, and fittings shall not be repaired.
- (4) Pipe, tubing, and fittings with visible defects shall be replaced.

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Mon Sep 13 16:08:49 EDT 2021

Committee Statement

Committee Statement: The requirement is being broken out into separate items per the NFPA Manual of Style. The pipe, tubing, and fittings need to be cleaned of chip, scale, and debris prior to being put into use. Visible defects are all that can be expected of installers at the time of installation.

Response Message: FR-6-NFPA 54-2021

Public Input No. 45-NFPA 54-2021 [Section No. 5.5.5]



First Revision No. 7-NFPA 54-2021 [Section No. 5.5.6.2]

5.5.6.2 Damaged Threads.

~~Pipe with threads that are stripped, chipped, corroded, or otherwise damaged shall not be used. Where a weld opens during the operation of cutting or threading, that portion of the pipe shall not be used.~~

5.5.6.2.1

Pipe with threads that are stripped, chipped, corroded, or otherwise damaged shall not be used.

5.5.6.2.2

Where a weld opens during the operation of cutting or threading, that portion of the pipe shall not be used.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 13 16:47:07 EDT 2021

Committee Statement

Committee Statement: Requirements are being broken out to comply with the NFPA Manual of Style.

Response Message: FR-7-NFPA 54-2021

[Public Input No. 47-NFPA 54-2021 \[New Section after 5.5.6.2\]](#)

[Public Input No. 46-NFPA 54-2021 \[Section No. 5.5.6.2\]](#)



First Revision No. 8-NFPA 54-2021 [Section No. 5.5.7 [Excluding any Sub-Sections]]

The type of piping joint used shall ~~be suitable for the pressure and temperature conditions and shall be selected giving consideration to joint tightness and mechanical strength under the service conditions. The joint shall be able to sustain the maximum end force due to the internal pressure and any additional forces due to temperature expansion or contraction, vibration, fatigue, or the weight of the pipe and its contents. conform to the following:~~

- (1) Be suitable for the pressure and temperature conditions
- (2) Be selected giving consideration to joint tightness and mechanical strength under the service conditions
- (3) The joint shall be Be able to sustain the maximum end force due to the internal pressure and any additional forces due to forces inclusive of temperature expansion or contraction, vibration, fatigue, internal pressure, or the weight of the pipe and its contents

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 13 16:52:51 EDT 2021

Committee Statement

Committee Statement: The requirements have been broken out to comply with the NFPA manual of style.

Response Message: FR-8-NFPA 54-2021

Public Input No. 54-NFPA 54-2021 [Section No. 5.5.7 [Excluding any Sub-Sections]]



First Revision No. 9-NFPA 54-2021 [New Section after 5.5.10.4]

5.5.10.5

When flanges are separated and before gaskets are replaced, the following shall be met:

- (1) Flange surfaces shall be inspected for pitting, corrosion, and other surface defects.
- (2) Flanges that contain pitting, corrosion, and other surface defects on faces shall be repaired or replaced.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 13:59:07 EDT 2021

Committee Statement

Committee Statement: Flange surfaces need to be inspected and repaired or replaced if any damage is found.

Response Message: FR-9-NFPA 54-2021

Public Input No. 48-NFPA 54-2021 [New Section after 5.5.10.4]



First Revision No. 10-NFPA 54-2021 [Section No. 5.6.2.2]

5.6.2.2*

Gas meters shall not be placed where they will be subjected to damage, ~~such as adjacent to a driveway, under a fire escape, in public passages, halls, or where they will be subject to excessive corrosion or vibration .~~

A.5.6.2.2

Locations that might subject gas meters to damage include those adjacent to a driveway, under a fire escape, in areas subject to ice or water damage, in public passages, in halls, or where they will be subject to excessive corrosion or vibration.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 14:09:48 EDT 2021

Committee Statement

Committee Statement: The list of examples is relocated to Annex A as it is not a conclusive list of locations gas meters can be subject to damage.

Response Message: FR-10-NFPA 54-2021

Public Input No. 55-NFPA 54-2021 [Section No. 5.6.2.2]



First Revision No. 11-NFPA 54-2021 [Section No. 5.6.3]

5.6.3 Supports.

~~Gas meters shall be supported or connected to rigid piping so as not to exert a strain on the meters. Where flexible connectors are used to connect a gas meter to downstream piping at mobile homes in mobile home parks, the meter shall be supported by a post or bracket placed in a firm footing or by other means providing equivalent support.~~

5.6.3.1

Gas meters shall be supported or connected to rigid piping so as not to exert a strain on the meters.

5.6.3.2

Where flexible connectors are used to connect a gas meter to downstream piping at ~~mobile~~ manufactured homes in ~~mobile~~ manufactured home parks, the meter shall be supported by a post or bracket placed in a firm footing or by other means providing equivalent support.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 14:19:57 EDT 2021

Committee Statement

Committee Statement: Manufactured housing is the correct term.

Response Message: FR-11-NFPA 54-2021

Public Input No. 56-NFPA 54-2021 [Section No. 5.6.3]



First Revision No. 16-NFPA 54-2021 [New Section after 5.7.6]

5.7.7 Regulator Removal.

A union shall be installed either upstream or downstream of a regulator with threaded pipe connections.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 15:27:25 EDT 2021

Committee Statement

Committee Statement: A requirement for a union upstream or downstream of a threaded regulator is added to facilitate regulator removal. Flanged regulators do not require a union for replacement.

Response Message: FR-16-NFPA 54-2021

[Public Input No. 13-NFPA 54-2021 \[New Section after 5.7.6\]](#)



First Revision No. 12-NFPA 54-2021 [Section No. 5.14]

5.14 Pressure Regulator and Pressure Control Venting.

The venting of the atmospheric side of diaphragms in line pressure regulators, gas appliance regulators, and gas pressure limit controls shall be in accordance with all of the following:

- (1) An independent vent pipe to the outdoors, sized in accordance with the device manufacturer's instructions, shall be provided where the location of a device is such that a discharge of fuel gas will cause a hazard. ~~For devices other than appliance regulators, vents are not required to be independent where the vents are connected to a common manifold designed in accordance with engineering methods to minimize backpressure in the event of diaphragm failure and such design is approved.~~

~~*Exception No. 1: A regulator and vent limiting means combination listed as complying with ANSI Z21.80/CSA 6.22, Line Pressure Regulators, shall not be required to be vented to the outdoors.*~~

~~*Exception No. 2: A listed gas appliance regulator factory equipped with a vent limiting device is not required to be vented to the outdoors.*~~

- (2) For devices other than appliance regulators, vents ~~are~~ shall not ~~be~~ required to be independent where the vents are connected to a common manifold designed in accordance with engineering methods to minimize backpressure in the event of diaphragm failure and such design is approved.
- (3) A regulator and vent limiting means combination listed ~~as complying in accordance~~ with ANSI Z21.80/CSA 6.22, *Line Pressure Regulators*, shall not be required to be vented to the outdoors.
- (4) A listed gas appliance regulator factory equipped with a vent limiting device is not required to be vented to the outdoors.
- (5) A listed gas pressure limit control that is factory equipped with a vent limiting device and in accordance with UL 353, *Limit Controls*, or UL 60730-2-6, *Automatic Electrical Controls for Household and Similar Use, Part 2*, shall not be required to be vented to the outdoors.
- (6) Materials for vent piping shall be in accordance with Section 5.5.
- (7) The vent terminus shall be designed to prevent the entry of water, insects, and other foreign matter that could cause blockage.
- (8) Vent piping shall be installed to minimize static loads and bending moments placed on the regulators and gas pressure control devices.
- (9) Vents shall terminate not less than 3 ft (0.9 m) from a possible source of ignition.
- (10) At locations where a vent termination could be submerged during floods or snow accumulations, an antiflood-type breather vent fitting shall be installed, or the vent terminal shall be located above the height of the expected flood waters or snow.
- (11) Vent piping from pressure regulators and gas pressure controls shall not be connected to a common manifold that serves a bleed line from a diaphragm-type gas valve.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 14:53:14 EDT 2021

Committee Statement

Committee Statement: UL 353 and UL 60730-2-6 are two standards under which gas pressure switches are listed, and both of these standards have provisions for vent limiting device termination locations.

Response Message: FR-12-NFPA 54-2021

[Public Input No. 19-NFPA 54-2021 \[Section No. 5.14\]](#)



First Revision No. 50-NFPA 54-2021 [Section No. 6.1]

6.1* Pipe Sizing Methods.

Where the pipe size is to be determined using any of the methods in 6.1.2 through 6.1.4, the diameter of each pipe segment shall be obtained from the pipe sizing tables in Section 6.2, or Section 6.3, the sizing tables included in a listed piping system manufacturer's installation instructions, or from the sizing equations in Section 6.4. For SI units, $1 \text{ ft}^3 = 0.028 \text{ m}^3$, $1 \text{ ft} = 0.305 \text{ m}$, $1 \text{ in. w.c.} = 0.249 \text{ kPa}$, $1 \text{ psi} = 6.894 \text{ kPa}$, $1000 \text{ Btu/hr} = 0.293 \text{ kW}$.

6.1.1 US to SI Conversions.

For SI units, the following shall apply: $1 \text{ ft}^3 = 0.028 \text{ m}^3$, $1 \text{ ft} = 0.305 \text{ m}$, $1 \text{ in. w.c.} = 0.249 \text{ kPa}$, $1 \text{ psi} = 6.894 \text{ kPa}$, $1000 \text{ Btu/hr} = 0.293 \text{ kW}$.

6.1.2* 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.

6.1.3* Branch Length Method.

Pipe shall be sized as follows:

- (1) 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.
- (2) 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.

6.1.4 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.

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Thu Oct 14 09:13:03 EDT 2021

Committee Statement

Committee Statement: To make 6.1 consistent with the 5.3.3 as CSST manufacturer's design and installation guides can be used to size piping system in accordance with the methods in chapter 6.

Response Message: FR-50-NFPA 54-2021

Public Input No. 10-NFPA 54-2021 [Section No. 6.1 [Excluding any Sub-Sections]]



First Revision No. 44-NFPA 54-2021 [Section No. 7.1.7.3.1]

7.1.7.3.1

The tracer shall be one of the following:

- (1) A product specifically designed for that purpose
- (2) Insulated copper conductor not less than 14 AWG
- (3) Tracer wire listed and labeled in accordance with UL 2989, *Outline of Investigation for Tracer Wire*

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 16:29:32 EDT 2021

Committee Statement

Committee Statement: Tracer wire in accordance with UL 2989 is an acceptable material to be used as a tracer for fuel gas piping systems.

Response Message: FR-44-NFPA 54-2021

Public Input No. 119-NFPA 54-2021 [Section No. 7.1.7.3.1]



First Revision No. 14-NFPA 54-2021 [Section No. 7.11.5.2]

7.11.5.2 Electrical Requirements.

~~Where gas-mixing machines are installed in well-ventilated areas, the type of electrical equipment shall be in accordance with *NFPA 70* for general service conditions unless other hazards in the area prevail. Where gas-mixing machines are installed in small detached buildings or cutoff rooms, the electrical equipment and wiring shall be installed in accordance with *NFPA 70* for hazardous locations (Articles 500 and 501, Class I, Division 2).~~

7.11.5.2.1

Where gas-mixing machines are installed in well-ventilated areas, the type of electrical equipment shall be in accordance with *NFPA 70* for general service conditions unclassified areas unless other hazards in require classification of the area prevail

7.11.5.2.2

Where gas-mixing machines are installed in small detached buildings or cutoff rooms, the electrical equipment and wiring small detached building or cutoff room shall be installed in accordance with *NFPA 70* for hazardous locations (Articles 500 and 501, classified Class I, Division 2.)

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Thu Sep 16 16:55:44 EDT 2021

Committee Statement

Committee Statement: The requirement is revised to use terminology consistent with the National Electrical Code as this is an electrical requirement. The term “general service” is not used in the National Electrical Code and is replaced with the more appropriate term “unclassified area”.

Response Message: FR-14-NFPA 54-2021

[Public Input No. 59-NFPA 54-2021 \[Section No. 7.11.5.2\]](#)



First Revision No. 17-NFPA 54-2021 [Section No. 7.12.1]

7.12.1 Pipe and Tubing Other than CSST.

~~Each aboveground portion of a gas piping system, other than CSST, that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path. Gas piping, other than CSST, shall be considered to be bonded when it is connected to appliances that are connected to the appliance grounding conductor of the circuit supplying that appliance.~~

7.12.1.1

Each aboveground portion of a gas piping system, other than CSST, that is likely to become energized shall be electrically continuous and bonded to an effective ground-fault current path.

7.12.1.2

Gas piping, other than CSST, shall be considered to be bonded ~~when~~ where it is connected to one or more appliances that are connected to the ~~appliance~~ equipment grounding conductor of the circuit supplying that the appliance(s).

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 15:32:27 EDT 2021

Committee Statement

Committee Statement: 7.12.1 is updated to indicate that a single appliance within the gas piping system connected to the grounding conductor is sufficient to serve to bond the gas piping system. The paragraph is also updated to change 'appliance grounding conductor' to 'equipment grounding conductor' to make the language consistent with NFPA 70, National Electrical Code®.

Response Message: FR-17-NFPA 54-2021

[Public Input No. 8-NFPA 54-2021 \[Section No. 7.12.1\]](#)



First Revision No. 18-NFPA 54-2021 [Section No. 7.12.3]

7.12.3 Arc-Resistant Jacketed CSST.

~~CSST listed with an arc-resistant jacket or coating system in accordance with ANSI LC 1/CSA 6.26, *Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing*, 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 7.12.2 shall apply. Arc-resistant jacketed CSST shall be considered to be bonded when it is connected to appliances that are connected to the appliance grounding conductor of the circuit supplying that appliance.~~

7.12.3.1

~~CSST listed with an arc-resistant jacket or coating system shall be listed as arc-resistant in accordance with ANSI LC 1/CSA 6.26, *Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing*.~~

7.12.3.2

Arc-resistant jacketed CSST shall be electrically continuous and bonded to an effective ground fault current path.

7.12.3.3

Arc-resistant jacketed CSST shall be considered to be bonded ~~when~~ where it is connected to one or more appliances that are connected to the appliance equipment grounding conductor of the circuit supplying ~~that appliance~~ the appliance(s).

7.12.3.4

Where any CSST ~~component of~~ fused in a piping system does not have an arc-resistant jacket or coating system, the bonding requirements of 7.12.2 shall apply.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 15:50:16 EDT 2021

Committee Statement

Committee Statement: The requirement is updated to indicate that a single appliance withing the gas piping system connected to the grounding conductor is sufficient to serve to bond the gas piping system. The same paragraphs are also updated to change 'appliance grounding conductor' to 'equipment grounding conductor' to make the language consistent with NFPA 70, National Electrical Code.

Response Message: FR-18-NFPA 54-2021

[Public Input No. 9-NFPA 54-2021 \[Section No. 7.12.3\]](#)



First Revision No. 19-NFPA 54-2021 [Section No. 7.14.2]

7.14.2

~~Any essential safety control depending on electric current as the operating medium shall be of a type that shuts off (fail safe) the flow of gas in the event of current~~ Electrically operated safety devices shall fail safe and shut off the flow of gas in the event of electrical power failure.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 16:00:55 EDT 2021

Committee Statement

Committee Statement: The section was revised to delete the definition of fail safe which is generally understood.

Response Message: FR-19-NFPA 54-2021

[Public Input No. 61-NFPA 54-2021 \[Section No. 7.14.2\]](#)



First Revision No. 21-NFPA 54-2021 [Section No. 8.1.4.2]

8.1.4.2

The test pressure to be used shall be no less than 1½ times the proposed maximum working pressure, but not less than 3 psi (20 kPa), ~~irrespective of design pressure~~ . Where the test pressure exceeds 125 psi (862 kPa), 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.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 16:43:10 EDT 2021

Committee Statement

Committee Statement: The phrase “irrespective of design pressure” is deleted as it is not needed. The 3 psi limit is clear.

Response Message: FR-21-NFPA 54-2021

[Public Input No. 62-NFPA 54-2021 \[Section No. 8.1.4.2\]](#)



First Revision No. 22-NFPA 54-2021 [Section No. 8.1.5.2]

8.1.5.2

The leakage shall be located by means of ~~an approved gas~~ a listed combustible gas detector, a noncorrosive leak detection fluid, or other approved leak detection methods.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Fri Sep 17 16:45:40 EDT 2021

Committee Statement

Committee Statement: The term “gas detector” is not consistent with the use of “combustible gas indicator” and “combustible gas detector” in 8.3, Purging. Approved is deleted and listed is substituted to be consistent with 8.3.3.2 which requires listing of combustible gas detectors.

Response Message: FR-22-NFPA 54-2021

[Public Input No. 63-NFPA 54-2021 \[Section No. 8.1.5.2\]](#)



First Revision No. 43-NFPA 54-2021 [New Section after 8.3.3]

8.3.4 Abandoned Fuel Gas Piping.

Where fuel gas piping is removed from service for an indefinite time period, it shall be purged.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 16:17:39 EDT 2021

Committee Statement

Committee Statement: The committee is aware of several incidents in which fuel gas piping had been abandoned in place without purging the pipe of fuel gas which can lead to a hazardous condition.

Response Message: FR-43-NFPA 54-2021

[Public Input No. 80-NFPA 54-2021 \[New Section after 8.1.1\]](#)



First Revision No. 23-NFPA 54-2021 [Section No. 9.1.6.2]

9.1.6.2

~~Non-direct-vent appliances installed in beauty shops, barber shops, or other facilities where chemicals that generate corrosive or flammable products such as aerosol sprays are routinely used shall be located in a mechanical room separate or partitioned off from other areas with provisions for combustion and dilution air from outdoors. Direct vent appliances in such facilities shall be in accordance with the appliance manufacturer's installation instructions. Where chemicals that generate corrosive or flammable products such as aerosol sprays are routinely used, one of the following shall apply to fired appliances where these chemicals can enter combustion air:~~

- ~~(1) Fired appliances shall be located in a mechanical room separate or partitioned off from other areas with provisions for combustion and dilution air from outdoors.~~
- ~~(2) The appliances shall be direct vent and installed in accordance with the appliance manufacturer's installation instructions.~~

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 13:16:16 EDT 2021

Committee Statement

Committee Statement: This revision was made to emphasize that this requirement applies to many more areas that barber shops and or beauty shops and provide two equivalent remedies for installation of appliances in these areas.

Response Message: FR-23-NFPA 54-2021

[Public Input No. 49-NFPA 54-2021 \[Section No. 9.1.6.2\]](#)



First Revision No. 24-NFPA 54-2021 [Section No. 9.1.15]

9.1.15 Extra Device or Attachment.

No device or attachment shall be installed on any appliance that could in any way impair impairs the combustion of gas.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 14:03:56 EDT 2021

Committee Statement

Committee Statement: An unnecessary modifier is deleted.

Response Message: FR-24-NFPA 54-2021

Public Input No. 65-NFPA 54-2021 [Section No. 9.1.15]



First Revision No. 25-NFPA 54-2021 [Section No. 9.2.1]

9.2.1* Accessibility for Service.

All appliances shall be located with respect to building construction and other equipment so as to permit access to the appliance. Sufficient clearance shall be maintained to permit cleaning of heating surfaces; the replacement of filters, blowers, motors, burners, controls, and vent connections; the lubrication of moving parts where necessary; the adjustment and cleaning of burners and pilots; and the proper functioning of explosion vents, if provided. For attic installation, the passageway and servicing area adjacent to the appliance shall be floored.

A.9.2.1

Sufficient clearance shall be maintained to permit Service of appliances includes cleaning of heating surfaces; the replacement of filters, blowers, motors, burners, controls, and vent connections; the lubrication of moving parts where necessary; the adjustment and cleaning of burners and pilots; and the proper functioning of explosion vents, if provided; and other required service procedures .

9.2.1.1

All appliances shall be located with respect to building construction and other equipment so as to permit access to the appliance.

9.2.1.2

Clearances shall be maintained to permit servicing the appliance.

9.2.1.3

The passageway to and the servicing area adjacent to attic appliances shall be provided with flooring.

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Mon Sep 20 14:30:36 EDT 2021

Committee Statement

Committee Statement: Editorial revisions and relocation of specific examples to Annex A. The paragraph is separated as multiple requirements are included.

Response Message: FR-25-NFPA 54-2021

[Public Input No. 66-NFPA 54-2021 \[Section No. 9.2.1\]](#)

[Public Input No. 85-NFPA 54-2021 \[Section No. 9.2.1\]](#)



First Revision No. 26-NFPA 54-2021 [Section No. 9.7.3]

9.7.3 Electrical Circuit.

The electrical circuit employed for operating the automatic main gas control valve, automatic pilot, room temperature thermostat, limit control, or other electrical devices used with the appliances shall be in accordance with the wiring diagrams ~~certified or approved~~ provided by the original appliance manufacturer.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 14:55:03 EDT 2021

Committee Statement

Committee Statement: There is no indication of who can certify the wiring diagram, or what the AHJ should use to determine if the wiring diagram is acceptable. The wiring diagrams need to be provided as part of the manufacturer's packaging.

Response Message: FR-26-NFPA 54-2021

[Public Input No. 67-NFPA 54-2021 \[Section No. 9.7.3\]](#)



First Revision No. 27-NFPA 54-2021 [Section No. 10.12.3]

10.12.3 Clearance for Appliances.

~~Food service counter appliances, where installed on combustibles surfaces, shall be installed with a minimum horizontal clearance of 6 in. (150 mm) from combustibles material, except that at least a 2 in. (50 mm) clearance shall be maintained between a draft hood and combustibles material. Food service counter appliances listed for installation at lesser clearances shall be installed in accordance with the manufacturer's installation instructions.~~

10.12.3.1

Food service counter appliances, where installed on combustibles surfaces, shall be installed with a minimum horizontal clearance of 6 in. (150 mm) from combustibles material.

10.12.3.2

The clearance between a food service counter appliance draft hood and combustibles material shall be at least 2 in. (50 mm).

10.12.3.3

Food service counter appliances listed for installation at lesser clearances shall be installed in accordance with the manufacturer's installation instructions.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 15:22:47 EDT 2021

Committee Statement

Committee Statement: The requirements have been broken out to comply with the NFPA Manual of Style.

Response Message: FR-27-NFPA 54-2021

Public Input No. 71-NFPA 54-2021 [Section No. 10.12.3]



First Revision No. 28-NFPA 54-2021 [Section No. 10.26.5]

10.26.5 Temperature Limiting Devices.

~~A water heater installation or a~~ The installation of water heaters and hot water storage vessel installation vessels shall be provided with overtemperature protection by means of ~~an~~ approved, a listed device installed in accordance with the manufacturer's installation instructions.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 15:42:31 EDT 2021

Committee Statement

Committee Statement: The device does not need to be approved by an AHJ as the intent is only to have a listed device be installed.

Response Message: FR-28-NFPA 54-2021

[Public Input No. 69-NFPA 54-2021 \[Section No. 10.26.5\]](#)



First Revision No. 29-NFPA 54-2021 [Section No. 11.6]

11.6* Checking the Draft.

Draft hood-equipped appliances shall be checked to verify that there is no draft hood spillage after 5 minutes of main burner operation. under the following conditions:

- (1) The building or structure envelope is complete and intact, and all openings to the outdoors are closed.
- (2) All combustion air systems and openings are in place.
- (3) All air-exhausting appliances, power-vented appliances, and exhaust fans are operating.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Mon Sep 20 15:49:03 EDT 2021

Committee Statement

Committee Statement: The draft needs to be checked under the anticipated adverse conditions of the final configuration.

Response Message: FR-29-NFPA 54-2021

Public Input No. 114-NFPA 54-2021 [Section No. 11.6]



First Revision No. 31-NFPA 54-2021 [Section No. 12.15]

12.15 ~~Automatically Operated Vent Dampers~~ Automatic Vent Damper .

An automatically-operated automatic vent damper shall be listed.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Tue Sep 21 13:09:28 EDT 2021

Committee Statement

Committee Statement: Title and text revised to match the definition in chapter 3.

Response Message: FR-31-NFPA 54-2021

Public Input No. 74-NFPA 54-2021 [Section No. 12.15]



First Revision No. 32-NFPA 54-2021 [New Section after D.1]

D.2

Where accumulation of gas inside a building is detected by odor or by activation of a combustible gas detector or system designed and installed in accordance with NFPA 715 , the procedures in Section D.1 should be followed.

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Tue Sep 21 13:18:16 EDT 2021

Committee Statement

Committee Statement: Annex D needs to include recommended actions in response to odor recognition and combustible gas detector and systems, the latter designed and installed in accordance with NFPA Standard 715. The Technical Committee believes that the requirement for installation of residential fuel gas detectors belongs in the respective building code or fire code and is placing it in the non-mandatory annex section to appropriately reference the NFPA installation standard.

Response Message: FR-32-NFPA 54-2021

[Public Input No. 117-NFPA 54-2021 \[New Section after D.1\]](#)

[Public Input No. 125-NFPA 54-2021 \[New Section after D.1\]](#)



First Revision No. 49-NFPA 54-2021 [Section No. J.1]



J.1

The following sample ordinance is provided to assist a jurisdiction in the adoption of this code and is not part of this code.

ORDINANCE NO. _____

An ordinance of the *[jurisdiction]* adopting the 2021 2024 edition of NFPA 54/ANSI Z223.1, *National Fuel Gas Code*, documents listed in Chapter 2 of that code; prescribing regulations governing conditions hazardous to life and property from fire or explosion; providing for the issuance of permits and collection of fees; repealing Ordinance No. _____ of the *[jurisdiction]* and all other ordinances and parts of ordinances in conflict therewith; providing a penalty; providing a severability clause; and providing for publication; and providing an effective date.

BE IT ORDAINED BY THE *[governing body]* OF THE *[jurisdiction]*:

SECTION 1 That the *National Fuel Gas Code* and documents adopted by Chapter 2, three (3) copies of which are on file and are open to inspection by the public in the office of the *[jurisdiction's keeper of records]* of the *[jurisdiction]*, are hereby adopted and incorporated into this ordinance as fully as if set out at length herein, and from the date on which this ordinance shall take effect, the provisions thereof shall be controlling within the limits of the *[jurisdiction]*. The same are hereby adopted as the code of the *[jurisdiction]* for the purpose of prescribing regulations governing conditions hazardous to life and property from fire or explosion and providing for issuance of permits and collection of fees.

SECTION 2 Any person who shall violate any provision of this code or standard hereby adopted or fail to comply therewith; or who shall violate or fail to comply with any order made thereunder; or who shall build in violation of any detailed statement of specifications or plans submitted and approved thereunder; or failed to operate in accordance with any certificate or permit issued thereunder; and from which no appeal has been taken; or who shall fail to comply with such an order as affirmed or modified by or by a court of competent jurisdiction, within the time fixed herein, shall severally for each and every such violation and noncompliance, respectively, be guilty of a misdemeanor, punishable by a fine of not less than \$ _____ nor more than \$ _____ or by imprisonment for not less than _____ days nor more than _____ days or by both such fine and imprisonment. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified the application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions. Each day that prohibited conditions are maintained shall constitute a separate offense.

SECTION 3 Additions, insertions, and changes — that the 2021 2024 edition of NFPA 54/ANSI Z223.1, *National Fuel Gas Code*, is amended and changed in the following respects:

List Amendments

SECTION 4 That ordinance No. _____ of *[jurisdiction]* entitled *[fill in the title of the ordinance or ordinances in effect at the present time]* and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

SECTION 5 That if any section, subsection, sentence, clause, or phrase of this ordinance is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this ordinance. The *[governing body]* hereby declares that it would have passed this ordinance, and each section, subsection, clause, or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, and phrases be declared unconstitutional.

SECTION 6 That the *[jurisdiction's keeper of records]* is hereby ordered and directed to cause this ordinance to be published. [NOTE: An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.]

SECTION 7 That this ordinance and the rules, regulations, provisions, requirements, orders, and matters established and adopted hereby shall take effect and be in full force and effect *[time period]* from and after the date of its final passage and adoption.

Submitter Information Verification

Committee: NFG-AAA

Submittal Date: Wed Oct 13 10:48:21 EDT 2021

Committee Statement

Committee Statement: Edition year updated to the latest edition.

Response Message: FR-49-NFPA 54-2021



First Revision No. 2-NFPA 54-2021 [Sections K.1, K.2]

K.1 Referenced Publications.

The documents or portions thereof listed in this annex are referenced within the informational sections of this code and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

K.1.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 56, *Standard for Fire and Explosion Prevention During Cleaning and Purging of Flammable Gas Piping Systems*, 2020 2023 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2020 2023 edition.

NFPA 68, *Standard on Explosion Protection by Deflagration Venting*, 2018 2023 edition.

NFPA 70[®], *National Electrical Code*[®], 2020 2023 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2021 2024 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2021 2024 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2021 2024 edition.

NFPA 715, *Standard for the Installation of Fuel Gases Detection and Warning Equipment*, 2023 edition.

NFPA 780, *Standard for the Installation of Lightning Protection Systems*, 2020 2023 edition.

National Fuel Gas Code Handbook, 2018 2021 edition.

K.1.2 Other Publications.

K.1.2.1 API Publications.

American Petroleum Institute, 4220 L Street, NW, Washington, DC 20005-4070 200 Massachusetts Avenue NW, Suite 1100, Washington, DC 20001-5571 .

API STD 1104, *Welding Pipelines and Related Facilities*, 2013 2021 .

K.1.2.2 ASHRAE Publications.

ASHRAE, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329-2305, (404) 636-8400, 180 Technology Parkway, Peachtree Corners, GA 30092. www.ashrae.org

ASHRAE Handbook — Fundamentals, 2017 2021 .

ASHRAE Handbook — HVAC Systems and Equipment, 2016 2020 .

K.1.2.3 ASME Publications.

American Society of Mechanical Engineers, Two Park Avenue, New York, NY 10016-5990, (800) 843-2763. www.asme.org

Boiler and Pressure Vessel Code, Section IX and Section IV, 2015 2021 .

K.1.2.4 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, (610) 833-9585. www.astm.org

ASTM D2385, *Test Method for Hydrogen Sulfide and Mercaptan Sulfur in Natural Gas (Cadmium Sulfate — Iodometric Titration Method)*, 1981, reaffirmed 1990 (withdrawn 1995).

ASTM D2420, *Test Method of for Hydrogen Sulfide in Liquefied Petroleum (LP) Gases (Lead Acetate Method)*, 2013, reaffirmed 2018.

K.1.2.5 AWS Publications.

American Welding Society, 8669 NW 36 Street, #130, Miami, FL 33166-6672, (800) 443-9353. www.aws.org

AWS B2.1/B2.1M, *Specification for Welding Procedure and Performance Qualification*, 2014.

AWS B2.2/B2.2M, *Specification for Brazing Procedure and Performance Qualification*, 2016.

K.1.2.6 CSA Group Publications.

CSA Group, 178 Rexdale Boulevard, Toronto, ON M9W 1R3, Canada, (216) 524-4990. www.csagroup.org

ANSI Z21.13/CSA 4.9, *Gas-Fired Low Pressure Steam and Hot Water Boilers*, 2017.

ANSI Z21.50/CSA 2.22, *Vented Decorative Gas Appliances*, 2019.

ANSI Z21.60/CSA 2.26, *Decorative Gas Appliances for Installation in Solid-Fuel Burning Fireplaces*, 2017.

K.1.2.7 NACE Publications.

NACE International, 15835 Park Ten Place, Houston, TX 77084-4906. www.nace.org

NACE SP0169, *Control of External Corrosion on Underground or Submerged Metallic Piping Systems*, 2013.

K.1.2.8 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096. www.ul.com

UL 651, *Schedule 40 and 80, Type EB and A Rigid PVC Conduit and Fittings*, 2011, revised 2018 ~~2019~~.

UL 795, *Commercial-Industrial Gas Heating Equipment*, 2016, revised 2020.

K.1.2.9 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC 20401-0001. www.gpo.gov

Responding to Residential Carbon Monoxide Incidents, Guidelines for Fire and Other Emergency Response Personnel, U.S. Consumer Product Safety Commission, July 23, 2002.

K.1.2.10 Other Publications.

Piping Handbook, 2000, New York: McGraw-Hill Book Company.

Project Number 21323, *Validation of Installation Methods for CSST Gas Piping to Mitigate Indirect Lightning Related Damage*, Gas Technology Institute 2015.

K.2 Informational References.

The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

K.2.1 NFPA Publications.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 30, *Flammable and Combustible Liquids Code*, 2021 edition.

NFPA 59, *Utility LP-Gas Plant Code*, 2021 edition.

NFPA 61, *Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities*, 2020 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2019 2024 edition.

~~NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances*, 2019 edition.~~

NFPA 501A, *Standard for Fire Safety Criteria for Manufactured Home Installations, Sites, and Communities*, 2017 2021 edition.

K.2.2 CSA Group Publications.

CSA Group, 178 Rexdale Boulevard, Toronto, ON M9W 1R3, Canada, (216) 524-4990.
www.csagroup.org

~~ANSI/AGA NGV 3.1/CSA 12.3, Fuel System Components for Compressed Natural Gas Powered Vehicles, 2014, reaffirmed 2019~~ 2020 .

~~AGA/CSA NGV 1, Compressed Natural Gas Vehicle (NGV) Fueling Connection Devices, 2017.~~

~~ANSI/CSA FC 1, Fuel Cell Technologies — Part 3-100: Stationary fuel cell power systems — Safety, 2014, reaffirmed 2018.~~

~~ANSI/CSA NGV 2, Natural Gas Vehicle Fuel Containers, 2016~~ 2019 .

~~ANSI/LC 2A, Direct Gas-Fired Circulating Heaters for Agricultural Animal Confinement Buildings, 1998, reaffirmed 2015~~ 2020 .

~~ANSI/LC 2, Direct Gas-Fired Circulating Heaters for Agricultural Animal Confinement Buildings, 1996, reaffirmed 2015~~ 2020 .

~~ANSI Z21.1/CSA 1.1, Household Cooking Gas Appliances, 2018.~~

~~ANSI Z21.5.1/CSA 7.1, Gas Clothes Dryers — Volume I — Type 1 Clothes Dryers, 2017.~~

~~ANSI Z21.5.2/CSA 7.2, Gas Clothes Dryers — Volume II — Type 2 Clothes Dryers, 2016.~~

~~ANSI Z21.10.1/CSA 4.1, Gas Water Heaters — Volume I — Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less, 2017.~~

~~ANSI Z21.10.3/CSA 4.3, Gas Water Heaters — Volume III — Storage Water Heaters with Input Ratings above 75,000 Btu per Hour, Circulating and Instantaneous, 2017.~~

~~ANSI Z21.11.2, Gas-Fired Room Heaters — Volume II — Unvented Room Heaters, 2016.~~

~~ANSI Z21.12, Draft Hoods, 1990, reaffirmed 2015~~ 2020 .

~~ANSI Z21.13/CSA 4.9, Gas-Fired Low-Pressure Steam and Hot Water Boilers, 2017.~~

~~ANSI Z21.15/CSA 9.1, Manually Operated Gas Valves for Appliances, Appliance Connector Valves, and Hose End Valves, 2009, reaffirmed 2014.~~

~~ANSI Z21.17/CSA 2.7, Domestic Gas Conversion Burners, 1998, reaffirmed 2014.~~

~~ANSI Z21.18/CSA 6.3, Gas Appliance Pressure Regulators, 2007, reaffirmed 2016.~~

~~ANSI Z21.19/CSA 1.4, Refrigerators Using Gas Fuel, 2014.~~

~~ANSI Z21.20/CSA C22.2 — No. 60730-2-5, Automatic Electrical Controls for Household and Similar Use — Part 2: Particular Requirements for Automatic Burner Ignition Systems and Components, 2014, reaffirmed 2019.~~

~~ANSI Z21.21/CSA 6.5, Automatic Valves for Gas Appliances, 2019.~~

~~ANSI Z21.22/CSA 4.4, Relief Valves for Hot Water Supply Systems, 2015.~~

~~ANSI Z21.23, Gas Appliance Thermostats, 2010, reaffirmed 2015~~ 2020 .

~~ANSI Z21.24/CSA 6.10, Connectors for Gas Appliances, 2015.~~

~~ANSI Z21.35/CSA 6.8, Pilot Gas Filters, 2005, reaffirmed 2015~~ 2020 .

~~ANSI Z21.40.1/CSA 2.91, Gas-Fired, Heat Activated Air-Conditioning and Heat Pump Appliances, 1996, reaffirmed 2017.~~

~~ANSI Z21.40.2/CSA 2.92, Gas-Fired, Work Activated Air-Conditioning and Heat Pump Appliances (Internal Combustion), 1996, reaffirmed 2017.~~

~~ANSI Z21.40.4/CSA 2.94, Performance Testing and Rating of Gas-Fired, Air-Conditioning and Heat Pump Appliances, 1996, reaffirmed 2017.~~

~~ANSI Z21.42, Gas-Fired Illuminating Appliances, 2013, reaffirmed 2018.~~

~~ANSI Z21.47/CSA 2.3, Gas-Fired Central Furnaces, 2016.~~

~~ANSI Z21.54/CSA 8.4, Gas Hose Connectors for Portable Outdoor Gas-Fired Appliances,~~

~~2019.~~

~~ANSI Z21.56/CSA 4.7, Gas-Fired Pool Heaters , 2017.~~

ANSI Z21.57, *Recreational Vehicle Cooking Gas Appliances*, 2010, reaffirmed 2021 .

ANSI Z21.58/CSA 1.6, *Outdoor Cooking Gas Appliances*, 2018.

~~ANSI Z21.60/CSA 2.26, Decorative Gas Appliances for Installation in Solid-Fuel Burning Fireplaces , 2017.~~

ANSI Z21.61, *Gas-Fired Toilets*, 1993, reaffirmed 2013.

ANSI Z21.66/CSA 6.14, *Automatic Vent Damper Devices for Use with Gas-Fired Appliances*, 2015, reaffirmed 2020 .

~~ANSI Z21.69/CSA 6.16, Connectors for Movable Gas Appliances , 2015.~~

ANSI Z21.71, *Automatic Intermittent Pilot Ignition Systems for Field Installations*, 1993, reaffirmed 2016.

ANSI Z21.77/CSA 6.23, *Manually-Operated Piezo-Electric Spark Gas Ignition Systems and Components*, 2005, reaffirmed 2015 2020 .

ANSI Z21.78/CSA 6.20, *Combination Gas Controls for Gas Appliances*, 2010, reaffirmed 2015 2020 .

ANSI Z21.84, *Manually Lighted, Natural Gas Decorative Gas Appliances for Installation in Solid-Fuel Burning Appliances*, 2017.

ANSI Z21.87/CSA 4.6, Automatic Gas Shutoff Devices for Hot Water Supply Systems , 2007, reaffirmed 2016.

~~ANSI Z21.86/CSA 2.32, Vented Gas-Fired Space Heating Appliances , 2016.~~

ANSI Z21.87/CSA 4.6, *Automatic Gas Shutoff Devices for Hot Water Supply Systems*, 2007, reaffirmed 2016.

ANSI Z21.88/CSA 2.33, *Vented Gas Fireplace Heaters*, 2017 2019 .

ANSI Z21.91, *Ventless Firebox Enclosures for Gas-Fired Unvented Decorative Room Heaters*, 2017 2020 .

~~ANSI Z83.4/CSA 3.7, Non-Recirculating Direct Gas-Fired Industrial Air Heaters , 2017.~~

~~ANSI Z83.8/CSA 2.6, Gas Unit Heaters, Gas Packaged Heaters, Gas Utility Heaters, and Gas-Fired Duct Furnaces , 2016.~~

~~ANSI Z83.11/CSA 1.8, Gas Food Service Equipment , 2016.~~

~~ANSI Z83.19/CSA 2.35, Gas-Fired High-Intensity Infrared Heaters , 2017.~~

~~ANSI Z83.20/CSA 2.34, Gas-Fired tubular and Low-Intensity Infrared Heaters , 2016.~~

ANSI Z83.21/CSA C 22.2 No.168, *Commercial Dishwashers*, 2016 2020 .

K.2.3 MSS Publications.

Manufacturers Standardization Society of the Valve and Fittings Industry, 127 Park Street, NE, Vienna, VA 22180-4602. www.msshq.org

MSS SP-6, *Standard Finishes for Contact Faces of Pipe Flanges and Connecting-End Flanges of Valves and Fittings*, 2017.

~~ANSI/MSS SP-58, Pipe Hangers and Supports — Materials, Design and Manufacture , 2018.~~

K.2.4 UL Publications.

~~Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.
www.ul.com~~

~~UL 103, *Chimneys, Factory-Built, Residential Type and Building Heating Appliances*, 2010,
revised 2017.~~

~~UL 441, *Gas Vents*, 2016.~~

~~UL 641, *Type L Low Temperature Venting Systems*, 2010, revised 2018.~~

~~UL 1738, *Venting Systems for Gas Burning Appliances, Categories II, III and IV*, 2010,
revised 2014.~~

~~UL 1777, *Chimney Liners*, 2015, revised 2019.~~

K.2.4 US Government Publications.

US Government Publishing Office, 732 North Capitol Street, NW, Washington, DC
20401-0001. www.gpo.gov

Title 24, Code of Federal Regulations, Part 3280, "*Manufactured Home Construction and
Safety Standard.*"

Submitter Information Verification

Committee: NFG-AAA

Submission Date: Tue Aug 31 14:03:36 EDT 2021

Committee Statement

Committee Statement: Reference standards are being updated to the latest edition years. Informational references that have been incorporated into the code have been removed as they are already referenced in the code in mandatory text.

Response Message: FR-2-NFPA 54-2021

[Public Input No. 120-NFPA 54-2021 \[Section No. K.1.2.8\]](#)