

Codes and Standards Citations for Hydrogen Fuel

ANNUAL INSPECTIONS

CGA G-5.4, Standard for Hydrogen Piping Systems at Consumer Locations
(Compressed Gas Association 2005)

7.0 Maintenance and Repair

CGA G-5.5, Hydrogen Vent Systems (Compressed Gas Association 2004)

9 Maintenance

IFC (International Code Council 2006)

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907.2 Inspection, Testing, and Maintenance

2206.2.1.1 Inventory Control for Underground Tanks

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3205.4 Filling and Dispensing

NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

9.2.15 General System Requirements

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ASME B31.3, Process Piping (American Society of Mechanical Engineers 2006)

F323.4(5) Specific Material Considerations-Metals

IX K305 Pipe

ASME B31.12, Hydrogen Piping and Pipelines

CGA G-5.4, Standard for Hydrogen Piping Systems at Consumer Locations
(Compressed Gas Association 2005)

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5.0 Installation

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5.2 Piping Installation Above Ground Installation

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IFC (International Code Council 2006)

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International Fuel Gas Code (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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9.9 System Testing

NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and

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Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

11.2.3 Piping, Tubing, and Fittings

CGA H-3 Cryogenic Hydrogen Storage (Compressed Gas Association 2006)

10.0 External piping

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CGA S-1.3, PRD Standards Part 3 - Stationary Storage Containers for Compressed Gases (Compressed Gas Association 2005)

5.3.2 Nonliquid Compressed Gases

IFC (International Code Council 2006)

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International Fuel Gas Code (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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ASME B31.3, Process Piping (American Society of Mechanical Engineers 2006)

IX K306 Fittings, Bends, and Branch Connections

IX K307 Valves and Specialty Components

CGA G-5.4, Standard for Hydrogen Piping Systems at Consumer Locations (Compressed Gas Association 2005)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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CGA G-5.5, Hydrogen Vent Systems (Compressed Gas Association 2004)

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IFC (International Code Council 2006)

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International Fuel Gas Code (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

- 5.5 Vent Pipe Termination

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9.3.3.3 Indoors

NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

10.2.1.1 Pressure-Relief Devices

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International Building Code (International Code Council 2009)

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IFC (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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IFC (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

- 7.1.4 Security

Storage Containers

CGA PS-20, Direct Burial of Gaseous Hydrogen Storage Tanks (Compressed Gas Association 2006)

CGA PS-21, Adjacent Storage of Compressed Hydrogen and Other Flammable Gases (Compressed Gas Association 2005)

IFC (International Code Council 2006)

- 2703.2.1 Design and Construction of Containers, Cylinders, and Tanks
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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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- International Fire Code (International Code Council 2006)
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- NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)
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NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages (National Fire Protection Association 2003)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

5.11 Vehicle Fueling Connection

SAE J2600, Compressed Hydrogen Surface Vehicle Refueling Connection Devices (Society of Automotive Engineers 2002)

DISPENSING, OPERATIONS, AND MAINTENANCE SAFETY Gaseous Hydrogen

CGA G-5.5, Hydrogen Vent Systems (Compressed Gas Association 2004)

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IFC (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

- 4.1 Permits
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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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IFC (International Code Council 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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IFC (International Code Council 2006)

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NFPA 30A, Code for Motor Fuel Dispensing Facilities and Repair Garages (National Fire Protection Association 2003)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

10.3 Location of Gaseous Hydrogen Systems

SETBACKS AND FOOTPRINTS

Liquid Systems

IFC (International Code Council 2006)

2209.3.1 Separation from Outdoor Exposure Hazards

NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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IFC (International Code Council 2006)

2209.3.1 Separation from Outdoor Exposure Hazards

NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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CGA P-1, Safe Handling of Compressed Gases in Containers (Compressed Gas Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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CGA P-12, Safe Handling of Cryogenic Liquids (Compressed Gas Association 2005)

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IFC (International Code Council 2006)

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NFPA 52, Vehicular Fuel Systems Code (National Fire Protection Association 2006)

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and

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Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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8.3.5 Overfilling

8.13.1.2 Attended Delivery

8.13.10.3 Filling and Dispensing

Natural Gas

ASME B31.8, Gas Transmission and Distribution Systems (American Society of Mechanical Engineers 2003)

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2209.3 Location on Property

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NFPA 55, Standard for Storage, Use and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders and Tanks (National Fire Protection Association 2005)

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