

CITY AND COUNTY OF DENVER	POLICY	DENVER FIRE DEPARTMENT
Subject: <b>COMPRESSED GAS</b>		
Reference: <b>IFC, Denver Amendments, NFPA</b>		
Approved:  Joseph L. Gonzales, Division Chief, Fire Prevention and Investigation Division		
Number: <b>IFC- 3001-1</b>	Effective Date: <b>February 1, 2012</b>	Page <b>1 of 5</b>

**This policy is meant to provide basic information for most common conditions and situations. In any given occupancy, all other Fire Code requirements will be enforced. The Fire Inspector will address these during a premise inspection. Questions can be addressed by contacting the Fire Prevention Division between 6:30 a.m. and 4:30 p.m. at 720-913-3474 or at [FLAMMABLES@DENVERGOV.ORG](mailto:FLAMMABLES@DENVERGOV.ORG). Walk-in hours for PERMITS are Monday-Friday, 6:30 a.m. to 9:00 a.m. ONLY at 745 West Colfax Ave, First Floor.**

## **I. SCOPE**

This policy covers the use and storage of compressed gas within the City and County of Denver, including: flammable gas (except propane-LPG), oxidizers (including oxygen) and inert and/or simple asphyxiants (eg. CO<sub>2</sub> / Argon / Nitrogen)

## **II. PERMITS**

A permit shall be obtained from the Denver Fire Department, Fire Prevention Division. The permit shall be kept on site for inspection. To obtain a permit, the following information must be provided:

- Business name, phone number, fax number, and address
- Contact name, phone number, and fax number
- Property/business owner name, phone number, fax number, and address
- Site address
- List the use of the compressed gas, i.e. welding
- List the number of cylinders; include the volume, in cubic feet, of each individual cylinder, tank
- List total cubic feet of each compressed gas on site; include inside and outside use and/or storage
- **Diagram of site location indicating compressed gas use/storage area**
- Show distances from all buildings, property lines, utility poles, power lines, etc. (For storage area, include distance from all building openings: windows, doors, vents, etc).
- Presence/Absence of Code-complying, functional sprinkler system
- **PLAN SUBMITTAL**

To obtain the required permit(s), the Business owner or Company Representative must complete the Compressed Gas Permit application form. For annual renewal of permit, attach a copy of previous permit(s), along with information detailing any changes, and attach permit fee. Make check payable to Denver Manager of Revenue.

**Mail-in to:** Denver Fire Department  
Fire Prevention Division - Permits  
745 W. Colfax Avenue  
Denver, CO 80204

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**Walk-in** permits: Monday – Friday, 6:30 a.m. to 9:00 a.m. **ONLY** at 745 West Colfax Avenue – First Floor.

**COST AND CONDITIONS OF PERMIT**

**Compressed Gases Storage/Use Chart:**

- Flammable (excluding propane) 200 Cubic feet = 1 unit
- Oxidizer (including oxygen) 504 Cubic feet = 1 unit
- Inert and/or Simple Asphyxiant 6,000 Cubic feet = 1 unit
- Other Health Hazard (CO2 enrichment) 650 Cubic feet = 1 unit

**Permit Fee Calculation Table:**

**Number of Units PERMIT FEE**

1 to 10 \$175.00 for the first unit plus \$5.55 for each additional unit or fraction thereof up to and including 10 units

11 to 50 \$225.00 for the first 10 units plus \$1.25 for each additional unit or fraction thereof up to and including 50 units

51 to 100 \$275.00 for the first 50 units plus \$1.50 for each additional unit or fraction thereof up to and including 100 units

101 to 200 \$350.00 for the first 100 units plus \$1.25 for each additional unit or fraction thereof up to and including 200 units

201 to 500 \$475.00 for the first 200 units plus \$0.58 for each additional unit or fraction thereof up to and including 500 units

501 and more \$650.00

Make check payable to “**Denver Manager of Finance.**”

**III. SITE INSPECTION**

Upon approval of Compressed Gas Use/Storage permit, a Denver Fire Department Fire Prevention Inspector will conduct a field inspection of the site. Compliance with **all** Fire Code

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requirements shall be maintained at all times. Permit shall be posted on site. Permit is valid for business/property owner, time frame, and site address indicated on the permit. Permit will be revoked if:

1. Any of the conditions or limitations set forth in the permit has been violated.
2. Compliance with written order has not been achieved.
3. False statements or misrepresentations of information provided in the permit application are found.
4. The permit is issued in error, in violation of City ordinance or the Fire Code.

#### IV. SPECIFICS AND CONDITIONS:

1. "NO SMOKING" and "FLAMMABLE" signs shall be posted in approved locations and smoking prohibition enforced. **2009 IFC 2703.7.1 & (2)**
2. A portable fire extinguisher of at least 3A-40 BC in size shall be located within 30 feet of compressed gas use/storage. **2009 IFC Table 906.3(2)**
3. No smoking, open flame, or ignition sources shall be allowed within 25 feet of compressed gas use/storage. **2009 IFC 2703.7.1 (2)**
4. No storage shall be allowed within 10 feet of building exits. **2009 IFC 3809.4**
5. Storage areas shall be kept clear of dry vegetation and combustible materials for a minimum distance of 10 feet **2009 IFC 3003.7.2**
6. Cylinders stored outside shall not be placed on the ground (earth) or on surfaces where water can accumulate **2009 IFC 3003.13**
7. Storage areas shall be permitted to be covered with canopies of noncombustible construction: outdoor storage areas shall have a minimum of 25% of the perimeter open to the atmosphere **2009 IFC 3003.14 & NFPA**
8. Where applicable, storage areas shall have appropriate leak detection. (Hydro-carbon, O<sub>2</sub>, CO<sub>2</sub> etc.)
9. Heated indoor storage areas shall be arranged so that cylinders or other containers cannot be spot heated or heated above 125 degrees F (**NFPA 55**) by heating appliance.
10. Compressed gas cylinders must be segregated from any incompatible or combustible materials storage by a minimum distance of 20 feet. **2009 IFC 2703.9.8(1)**
11. Permits are required to store, transport on site, dispense, use, or handle compressed gases in excess of quantities specified in **2009 IFC Section 105** and **the Denver Amendments**.
12. Compressed gas containers, cylinders, tanks, and systems shall be marked in accordance with nationally recognized standards and in accordance with IFC Chapter 30. **2009 IFC 3003.4.1, CGA C-7, NFPA 704.**
13. Compressed gas containers, cylinders, tanks, and systems shall be secured against accidental dislodgement and against access by unauthorized personnel. **2009 IFC 3003.5**
14. Compressed gas containers, cylinders, tanks, and systems which could be exposed to physical damage shall be protected. Guard post or other means shall be provided to protect compressed gas containers, cylinders, tanks, and systems from vehicular

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damage indoors and outdoors. When such guards are provided, see **2009 IFC Section 312** for design criteria.

15. Compressed gas containers, cylinders, and tanks shall be secured to prevent falling due to contact, vibration, or seismic activity. Securing of compressed gas containers, cylinders, and tanks shall be by one of the following methods: (**2009 IFC 3003.5.3 (1-4)**)
  - a. Securing containers, cylinders, and tanks to a fixed object with one or more restraints.
  - b. Securing containers, cylinders, and tanks on a cart or other mobile device designed for the movement of compressed gas containers, cylinders, or tanks.
  - c. Nesting of compressed gas containers, cylinders, and tanks at container filling or servicing facilities or seller's warehouses not accessible to the public. Nesting shall be allowed provided the nested containers, cylinders, or tanks, if dislodged, do not obstruct the required means of egress.
  - d. Securing of compressed gas containers, cylinders, and tanks to or within a rack, framework, cabinet, or similar assembly designed for such use.
  
16. Compressed gas containers, cylinders, and tanks designed for valve protection caps or other protection devices shall have the caps or devices attached. When outlet caps or plugs are installed, they shall be in place. **2009 IFC 3003.6**
17. Incompatible materials in storage and storage of materials that are incompatible with materials in use shall be separated when the stored materials are in containers having a capacity of more than 5 pounds or 0.5 gallon. Separation shall be accomplished according to **2009 IFC Section 2703.9.8.**
18. Guard posts or other approved means shall be provided to protect storage tanks and connected piping, valves and fittings, dispensing areas, and use areas subject to vehicular damage. When guard posts are installed, the posts shall be: (**2009 IFC Section 312**)
  - a. Constructed of steel not less than 4 inches in diameter and concrete filled
  - b. Spaced not more than 4 feet between posts on center
  - c. Set not less than 3 feet deep in a concrete footing of not less than a 15-inch diameter
  - d. Set with the top of posts not less than 3 feet above ground, and
  - e. Located not less than 3 feet from tank or cylinders

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## **COMPRESSD GAS PERMIT APPLICATION**

**THIS FORM SHALL BE COMPLETED AND SIGNED BY A REPRESENTATIVE OF THE PROPERTY (SITE) APPLYING FOR THE PERMIT(S). IT SHALL BE RETURNED TO THE FIRE PREVENTION AND INVESTIGATION DIVISION OFFICE, FLAMMABLES SECTION. MAKE CHECK PAYABLE TO DENVER MANAGER OF REVENUE.**

NAME OF BUSINESS: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_ CITY, STATE, ZIP \_\_\_\_\_

PERMIT SITE ADDRESS: \_\_\_\_\_ DENVER, CO. ZIP \_\_\_\_\_

CONTACT'S NAME: \_\_\_\_\_

CONTACT'S PHONE NUMBER: \_\_\_\_\_ FAX: \_\_\_\_\_

START DATE: \_\_\_\_\_ FEE: \_\_\_\_\_

HOURS OF OPERATION: \_\_\_\_\_ TO \_\_\_\_\_

CYLINDER(S) SIZE: \_\_\_\_\_

CYLINDER CONTENTS \_\_\_\_\_ INTENDED USE \_\_\_\_\_

NUMBER OF CYLINDERS \_\_\_\_\_ TOTAL QUANTITY \_\_\_\_\_

PROVIDE A PLOT DIAGRAM (SKETCH OF SITE) SHOWING THE LAYOUT OF THE PROPERTY AND BUILDING, INCLUDING PROPERTY LINES, BUILDING FLOOR LAYOUT, ROADS, VEHICLE ACCESS POINTS, FIRE EXTINGUISHER LOCATION, DISPENSER (PUMP) LOCATIONS, EMERGENCY SHUTOFFS, FUEL STORAGE TANK LOCATIONS AND LP-GAS STORAGE AREAS.

I UNDERSTAND THAT DENVER FIRE PREVENTION DIVISION PERSONNEL WILL CONDUCT A SITE INSPECTION, AND IF THE INSTALLATION DOES NOT COMPLY WITH THE DENVER FIRE CODE (2009 INTERNATIONAL FIRE CODE WITH CITY AMENDMENTS), THE PERMIT MAY BE REVOKED WITHOUT A REFUND.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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**END OF DOCUMENT**