

February 25, 2015



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 14778  
(SECOND REVISION)

**EXPIRATION DATE: January 31, 2019**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Metalcraft/Sea-Fire Marine Inc.  
Baltimore, MD
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of certain non-DOT specification welded steel cylinders containing a Division 2.2 compressed gas for export only. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
  - c. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.301, 173.304 and 173.304a in that the use of a non-DOT specification cylinder is not authorized, except as specified herein.
5. BASIS: This special permit is based on the application of Metalcraft/Sea-Fire Marine Inc. dated October 1, 2014 submitted in accordance with § 107.109.

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6. HAZARDOUS MATERIALS (49 CFR § 172.101):

| <b>Hazardous Materials Description</b>      |                               |                              |                      |
|---|-------------------------------|------------------------------|----------------------|
| <b>Proper Shipping Name</b>                 | <b>Hazard Class/ Division</b> | <b>Identification Number</b> | <b>Packing Group</b> |
| Heptafluoropropane or Refrigerant gas R 227 | 2.2                           | UN3296                       | N/A                  |
| Compressed gas, n.o.s.                      | 2.2                           | UN1956                       | N/A                  |

7. SAFETY CONTROL MEASURES:a. PACKAGING -

(1) Packaging prescribed is a non-DOT specification welded cylinder similar to DOT Specification 4BW, § 178.61, designed and manufactured in accordance with the Sea-Fire specification and Drawing Nos. 130-400 through 130-406, and 130-707 through 130-713, on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA).

(2) Each cylinder design, manufacture and testing is accordance with European standard, EN 84-527-EEC and conforms to the following design qualification criteria:

(i) Maximum Service Pressure is 34.5 bar (500 psig);

(ii) Maximum water volume 183 Liter (402 lb);

(iii) Minimum design test pressure ( $t_{min}$ ) is greater than or equal to two times the service pressure;

(iv) Minimum burst pressure is greater than or equal to four (4) times the service pressure;

(v) All Welded joints meet or exceed 85% weld efficiency.

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(3) Materials - Two types of steel are authorized under this special permit, P355N and P355NB. The requirements for these steels are specified in European Standards EN 10028-3 and EN100120. The closest US-equivalent to this steel is considered to be ASTM A662 Grade C.

(4) Each cylinder is equipped with a pressure relief device meeting the requirements specified in § 173.301(f).

(5) For each new design the following test must be completed:

(i) Hydrostatic Test - Each cylinder must successfully withstand a hydrostatic test to a pressure equal to two times the marked service pressure as described in section 9.3 of ISO 4706-1;

(ii) Burst Test - Two cylinders must be hydrostatically burst without evidence of fragmentation as described in section 9.2.3 of ISO 4706-1. Cylinders subjected to the burst test must withstand a pressure of at least 4 times the marked service pressure without failure.

b. OPERATIONAL CONTROLS -

(1) Cylinders authorized under this special permit are limited to the Div. 2.2 material specified in paragraph 6 above and are for export only.

(2) Test record - the manufacturer of the cylinder covered by this special permit must retain the test reports required by this special permit as long as the cylinders are authorized for use.

(3) Batch Testing - cylinders made under this special permit are subjected to batch testing as described in Section 10.2 of ISO 4706-1.

(4) Each cylinder valve must be equipped with a protective cap as described in the application on file with OHMSPA during transportation.

(5) When shipped, cylinders must be in a vertical orientation with the valve assembly on top.

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c. REQUALIFICATION -

(1) Each cylinder must be requalified for use by using the proof pressure test and visual inspection methods in accordance with § 180.209(e) and 180.209(g) as prescribed for DOT Specification 4BW cylinders that are used for non-corrosive service. Cylinders subjected to action of fire must be condemned.

(2) Requalification must be performed by a qualified re-tester approved by the OHMSPA.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in Paragraph 6, only in conformance with the terms of this special permit.

b. A person who is not the holder of this special permit, but receives a package covered by this special permit, may re-offer it for transportation provided no modification or change is made to the package and it is offered for transportation in conformance with this special permit and the HMR.

c. A current copy of this special permit must be maintained at each facility where the package is offered or re-offered for transportation as well as at the re-qualifier.

d. Each packaging manufactured under the authority of this special permit must be marked with a registration symbol designated by the Office of Hazardous Materials Special Permits Approvals Program for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each manufacturing facility at which this packaging is manufactured and must be made available to a DOT representative upon request.

f. Each cylinder must be plainly and durably marked "DOT-SP 14778" followed by the service pressure as specified in § 172.301(c).

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9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, and cargo aircraft only.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
  - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
  - o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

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12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm). Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

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