

**Advisory Alert**  
**June, 2009**

**Upcoming October 1, 2009 Compliance Date for Outer Packagings that Meet  
Certain Flame Penetration and Thermal Resistance Requirements when  
Transported Aboard Aircraft**

This advisory is intended to alert persons that after September 30, 2009, cylinders of compressed oxygen and other oxidizing gases and packages of chemical oxygen generators must be placed in outer packagings that meet certain flame penetration and thermal resistance requirements when transported aboard an aircraft.

PHMSA adopted the outer packaging requirement in a final rule developed in cooperation with the Federal Aviation Administration and published January 31, 2007.

We indicated in a subsequent September 28, 2007 final rule that PHMSA and FAA planned to closely monitor the availability of the required outer packagings and would consider an extension of the October 1, 2009 compliance date if we determine that a sufficient supply of the required outer packagings is not available. We have determined there are currently a sufficient number of packaging manufacturers available to supply the required outer packagings. Therefore, we are not extending the October 1, 2009 compliance date.

After September 30, 2009, cylinders of compressed oxygen and other oxidizing gases and packages of chemical oxygen generators must be placed in rigid outer packagings that meet the specified flame penetration and thermal resistance requirements when transported aboard an aircraft and certain additional requirements.

- A. For a cylinder containing compressed oxygen and other oxidizing gases intended for transportation by aircraft, the following requirements apply:
1. The cylinder must be placed in a rigid outer packaging that is capable of passing, as demonstrated by design testing, the Flame Penetration Resistance Test in Appendix E to 49 CFR Part 178.
  2. The cylinder and the outer packaging must be capable of passing, as demonstrated by design testing, the Thermal Resistance Test specified in Appendix D to 49 CFR Part 178.
  3. The cylinder and the outer packaging must both be marked and labeled in accordance with Subparts D and E of 49 CFR Part 172. The additional marking, "DOT31FP" is allowed to indicate that the cylinder and the outer packaging are

4. Prior to each shipment, the package must be visually inspected to verify that all features of the packaging are in good condition, including all latches, hinges, seams, and other features, and that the packaging is free from perforations, cracks, dents, or other abrasions that may negatively affect the flame penetration resistance and thermal resistance characteristics of the packaging.
  5. A cylinder of compressed oxygen that has been furnished by an aircraft operator to a passenger in accordance with 14 CFR §§121.574, 125.219, or 135.91 is excepted from the outer packaging requirements of paragraph (f)(3) of § 173.302.
- B. For a chemical oxygen generator and a chemical oxygen generator installed in equipment and intended for transportation by cargo-only aircraft, the following requirements apply:
1. The device must be placed in a rigid outer packaging that is capable of passing the Flame Penetration Resistance Test in Appendix E to 49 CFR Part 178 and the Thermal Resistance Test specified in Appendix D to 49 CFR Part 178.
  2. None of the following conditions may occur when one generator in the package is actuated:
    - a. Actuation of other generators in the package;
    - b. Ignition of the packaging materials; and
    - c. A temperature above 100 °C (212 °F) on the outside surface temperature of the package.
  3. All features of the packaging must be in good condition, including all latches, hinges, seams, and other features, and the packaging must be free from perforations, cracks, dents, or other abrasions that may negatively affect the flame penetration resistance and thermal resistance characteristics of the packaging, verified by a visual inspection of the package before each shipment.

The full text of these regulations can be found on the PHMSA website under “Regulations” at:

[http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Federal%20Regi ster%20Historical%20Files/72fr\\_2007/72fr-4442.pdf](http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Federal%20Regi ster%20Historical%20Files/72fr_2007/72fr-4442.pdf)

The following companies have indicated that they are prepared to manufacture outer packagings that conform to the specified thermal resistance and flame penetration requirements. No endorsement is intended of any product, service, or information by the inclusion of these companies or the exclusion of other companies from this advisory. PHMSA includes the below companies for information purposes only and is not endorsing the suitability of packagings manufactured as being in compliance with the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Purchasers of products and packagings of the below listed companies are solely responsible for complying with the HMR.

- Americase/Akro Fireguard  
POC: Bill Kinsala  
972-937-3629
  
- AirWard/AstroTech  
POC: Bob Logan  
713-558-5177
  
- Aviation Mobility  
POC: Jon Buff  
704-968-9010
  
- Bill Thompson Associates, Inc.  
POC: Neil Waldron  
661-295-4968
  
- DGM Consulting Resources  
POC: Myles Craig  
678-228-2235 x101
  
- HRD Aero Systems  
POC: Tom Salamone  
661-295-0670
  
- Jan-Al  
POC: Muffie Alejandro  
323-260-7212
  
- Viking Packaging Specialists  
POC: Dave Weilert  
800-788-8528