



Designation: D7660 – 20

Standard Guide for Conducting Internal Pressure Tests on United Nations (UN) Packagings¹

This standard is issued under the fixed designation D7660; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This guide is intended to provide a standardized method and a set of basic instructions for performing internal and hydrostatic pressure testing on packaging designs intended for shipping liquids in accordance with the United States Department of Transportation Title 49 Code of Federal Regulations (CFR) and the United Nations Recommendations on the Transport of Dangerous Goods (UN).

1.2 This guide provides information to help clarify various terms used as part of the United Nations (UN) certification process that may assist in determining the applicable test.

1.3 This guide provides the suggested minimum information that should be documented when conducting pressure testing.

1.4 This guide provides information for recommended equipment and fittings for conducting pressure tests.

1.5 This guide is based on the current information contained in 49 CFR, §173.27 and §178.605.

1.6 When testing packaging designs intended for hazardous materials (dangerous goods), the user of this guide shall be trained in accordance with 49 CFR §172.700 and other applicable hazardous materials regulations such as the ICAO Technical Instructions, IMDG Code, and carrier rules such as the IATA Dangerous Goods Regulations.

1.7 *Units*—The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.8 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.9 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

D4919 Guide for Testing of Hazardous Materials (Dangerous Goods) Packagings

D4991 Test Method for Leakage Testing of Empty Rigid Containers by Vacuum Method

D8134 Guide for Conducting Internal Hydrostatic Pressure Tests on United Nations (UN) IBC Design Types

2.2 Federal Standard:³

U.S. Department of Transportation Code of Federal Regulations Title 49, Transportation (49 CFR) Parts 100-185

2.3 UN Standard:⁴

UN United Nations Recommendations on the Transport of Dangerous Goods, Model Regulations (UN Orange Book)

2.4 IATA Standard:⁵

IATA International Air Transport Association (IATA) Dangerous Goods Regulations

2.5 ICAO Standard:⁶

ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9371 (website: <https://www.phmsa.dot.gov/phmsa-regulations>).

⁴ Available from the UN Economic Commission for Europe, Information Service, Palais des Nations, CH-1211 Geneva 10 Switzerland (website: <http://www.unece.org/trans/danger/danger.htm>).

⁵ Available from the International Air Transport Association (IATA), 800 Place Victoria PO Box 113 Montreal - H4Z 1M1 Quebec - Canada (website: <http://www.iata.org>).

⁶ Available from the International Civil Aviation Organization, (ICAO) 999 University Street, Montréal, Quebec H3C 5H7, Canada (website: <http://www.icao.org/>).

¹ This guide is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.22 on Hazardous Materials.

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*A Summary of Changes section appears at the end of this standard