



Standard Specification for Heat-Shrink Cable Entry Seals (Metric)¹

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^{ε1} NOTE—Reapproved with editorial changes in October 2012.

1. Scope

1.1 This specification covers the general requirements for heat-shrink cable entry seals. Cable entry seals are intended for making electrical cable penetrations into connection boxes, bulkheads, or other enclosures. These devices are suitable for both thin wall enclosures up to 5 mm ($\frac{3}{16}$ in.) thick and thick-wall enclosures of 5 mm to 19 mm ($\frac{3}{16}$ in. to $\frac{3}{4}$ in.) thick.

1.2 Cable entry seals shall have factory-applied adhesive that provides the seal to wire and cable jackets.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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 and health practices and determine the applicability of regulatory limitations prior to its use.*

2. Referenced Documents

2.1 ASTM Standards:²

- D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
- D257 Test Methods for DC Resistance or Conductance of Insulating Materials
- D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension
- D570 Test Method for Water Absorption of Plastics
- D635 Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
- D747 Test Method for Apparent Bending Modulus of Plas-

- tics by Means of a Cantilever Beam
- D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
- D2240 Test Method for Rubber Property—Durometer Hardness
- D2671 Test Methods for Heat-Shrinkable Tubing for Electrical Use
- D2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics (Oxygen Index)
- D3149 Specification for Crosslinked Polyolefin Heat-Shrinkable Tubing for Electrical Insulation
- D4572 Test Method for Rubber Chemicals—Wet Sieve Analysis of Sulfur
- D4732 Specification for Cool-Application Filling Compounds for Telecommunications Wire and Cable

2.2 ASME Standard

- ASME B1.1 Unified Inch Screw Threads (UN and UNR Thread Form)³

2.3 NEMA Standards:⁴

- NEMA 250 Enclosures for Electrical Equipment (1000 Volts Max)

2.4 IEC Standard:

- IEC 68-2-6 Environmental Testing—Part 2: Tests—Test FC: Vibration (Sinusoidal) Sixth Edition⁵

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *heat-shrink cable entry seal, n*—heat-shrinkable tube making a watertight, fume-tight seal where cable connections boxes, bulkheads, or other enclosures.

3.1.2 *polyolefin, n*—a polymer made by the polymerization of hydrocarbon olefins or copolymerization olefins.

¹ This specification is under the jurisdiction of ASTM Committee F25 on Ships and Marine Technology and is the direct responsibility of Subcommittee F25.10 on Electrical.

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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 American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990, <http://www.asme.org>.

⁴ Available from National Electrical Manufacturers Association (NEMA), 1300 N. 17th St., Suite 1752, Rosslyn, VA 22209, <http://www.nema.org>.

⁵ Available from International Electrotechnical Commission (IEC), 3, rue de Varembe, Case Postale 131, CH-1211, Geneva 20, Switzerland.