

**AEROSPACE
MATERIAL
SPECIFICATION**



AMS3639

REV. G

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Superseding AMS3639F

Tubing, Irradiated Polyolefin Plastic, Electrical Insulation
Clear, Semi-Rigid, Heat Shrinkable, 2 to 1 Shrink Ratio

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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1. SCOPE:

1.1 Form:

This specification covers an irradiated, thermally-stabilized, modified polyolefin plastic in the form of thin-wall tubing.

1.2 Application:

This tubing has been used typically as a semi-rigid, electrical insulation tubing whose diameter can be reduced to a predetermined size by heating to 120 °C (248 °F) or higher, but usage is not limited to such applications. This tubing is stable, after being heat shrunk, under the following conditions:

-55 to +135 °C (-67 to +275 °F)	Continuous
-55 to +150 °C (-67 to +302 °F)	2000 hours
-55 to +175 °C (-67 to +347 °F)	336 hours
-55 to +200 °C (-67 to +392 °F)	48 hours
-55 to +250 °C (-67 to +482 °F)	8 hours
-55 to +300 °C (-67 to +572 °F)	2 hours

1.2.1 For flame-retardant, opaque tubing, refer to AMS 3638.

1.3 Safety - Hazardous Materials:

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 3638 Tubing, Irradiated Polyolefin Plastic, Electrical Insulation, Pigmented, Semi-Rigid, Heat Shrinkable, 2 to 1 Shrink Ratio

2.2 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM D 471 Rubber Property - Effect of Liquids

ASTM D 2671 Heat-Shrinkable Tubing for Electrical Use

ASTM G 21 Determining Resistance of Synthetic Polymeric Materials to Fungi

2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-H-5606 Hydraulic Fluid, Petroleum Base, Aircraft, Missile, and Ordnance

MIL-T-5624 Turbine Fuel, Aviation, Grades Jp-4, Jp-5 and Jp-5/jp-8 St

MIL-STD-2073-1 DoD Materiel, Procedures for Development and Application of Packaging Requirements

3. TECHNICAL REQUIREMENTS:

3.1 Material:

Shall be an irradiated, thermally-stabilized, modified polyolefin plastic.

3.2 Color:

Shall be colorless and sufficiently transparent to allow visibility through one wall thickness. Typewritten letters shall be legible when viewed through one wall thickness pressed onto the typewritten paper. Transparency shall apply to tubing in the expanded form (as supplied) and after tubing has been shrunk as specified in 3.3.1.

3.3 Properties:

Tubing shall conform to the following requirements; reported values shall be the average of all specimens tested for each requirement. Except as otherwise specified herein, tests shall be performed in accordance with ASTM D 2671, insofar as practicable.