

**AEROSPACE  
MATERIAL  
SPECIFICATION**

**SAE** AMS3573

REV. C

Issued 1983-01  
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Stabilized 2011-08

Superseding AMS3573B

Resin, Polyurethane (EU) Casting  
Polyether-type, Flexible, Solid  
Low-Temperature Resistant, 80 to 90

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 a plasticized, polyether-type, urethane (EU) resin and hardener which, when mixed and cured, produces elastomeric polyurethane products.

### 1.2 Application:

This resin has been used typically for applications, such as electronic encapsulation or for casting parts and shapes, requiring exceptional flexibility down to -55 °C (-67 °F) where poor reversion resistance can be tolerated, but usage is not limited to such applications.

### 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 or [www.sae.org](http://www.sae.org).

AMS 2825            Material Safety Data Sheets

## 2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or [www.astm.org](http://www.astm.org).

ASTM D 257        D-C Resistance or Conductance of Insulating Materials  
ASTM D 412        Rubber Properties in Tension  
ASTM D 624        Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomer  
ASTM D 792        Specific Gravity (Relative Density) and Density of Plastics by Displacement  
ASTM D 1053       Rubber Property-Stiffening at Low Temperatures: Flexible Polymers and Coated Fabrics  
ASTM D 1824       Apparent Viscosity of Plastisols and Organosols at Low Shear Rates by Brookfield Viscometer  
ASTM D 2240       Rubber Property-Durometer Hardness  
ASTM D 2383       Testing Plasticizer Compatibility in Poly(Vinyl Chloride) (PVC) Compounds Under Humid Conditions

## 2.3 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094 or [www.dsp.dla.mil](http://www.dsp.dla.mil).

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

## 3. TECHNICAL REQUIREMENTS:

### 3.1 Material:

The product shall be a two-component, polyether-type polyurethane (EU) system, consisting of a prepolymer and a separate curing agent. The prepolymer shall cure by the addition of the curing agent and shall not depend on solvent evaporation or moisture reaction for curing. The prepolymer and curing agent shall be of high quality, selected for the purpose. The material shall contain a urethane-grade triethylene glycol dipelargonate plasticizer.