

# AERONAUTICAL MATERIAL SPECIFICATIONS

## AMS 3737

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

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Revised

POTTING COMPOUND, EPOXY, UNFILLED  
35 - 40 CTE, 160 HDT  
Room Temperature Cure

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. FORM: This material is an unfilled room temperature polymerizing epoxy resin formulation requiring an oven bake for maximum properties. It consists of two components: an epoxy resin and a hardener.
3. APPLICATION: Primarily as an adhesive and for some potting and coating applications where fairly high thermal expansion can be tolerated.
4. TECHNICAL REQUIREMENTS:
  - 4.1 General:
    - 4.1.1 Curing: When mixed and cured at room temperature in accordance with manufacturer's recommendations, resin shall polymerize to a uniform, rigid material, which will require baking not longer than 4 hr at a temperature not higher than 200 F to produce final properties.
    - 4.1.2 Pot Life: Material in 100 g batches shall have a useful pot life of not less than 20 min. when maintained at a temperature not higher than 85 F.
    - 4.1.3 Corrosion: The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.
  - 4.2 Exotherm: The maximum peak exotherm for a 99 cc batch shall be 350 F, determined as follows:
    - 4.2.1 Prepare a sample by mixing the components in accordance with the manufacturer's recommendations. After mixing, pour immediately without evacuation into a paper cup of 3 fl oz (99 cc) capacity filling the cup level full. Insert a thermocouple into the geometric center of the cup. Using a suitable device, record the temperature rise and maximum temperature during polymerization. Conduct the test in a draft-free area with the temperature at 72 - 77 F.
  - 4.3 Properties: The product, when cured to obtain optimum properties, shall conform to the following requirements. Tests shall be performed on specimens cast, after mixing as recommended by the manufacturer, in suitable bar and slab molds and, insofar as practicable, in accordance with listed ASTM methods.
    - 4.3.1 Flexural Strength, psi, min 14,000 ASTM D790-49T
    - 4.3.2 Impact Strength, ft-lb per in. of notch, min 0.32 ASTM D256-56, Method C

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