

# AERONAUTICAL MATERIAL SPECIFICATIONS

## AMS 3740A

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POTTING COMPOUND, EPOXY, FILLED  
15 - 20 CTE, 225 HDT  
Free Machining

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. TYPE: Filled epoxy resin formulation consisting of two components, a filled epoxy resin, and a miscible hardener.
3. APPLICATION: Primarily for embedment and encasement of electronic component assemblies and for manufacture of cast resin parts. This mixture exhibits low thermal expansion and a high heat distortion point. In addition, this mixture is easily machinable.
4. TECHNICAL REQUIREMENTS:
  - 4.1 General:
    - 4.1.1 Curing: When mixed and cured in accordance with manufacturer's recommendations, formulation shall polymerize to a uniform, rigid material.
    - 4.1.2 Pot Life: Material in 100 g batches shall have a useful pot life of not less than 1 hr at 60 - 158 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.
    - 4.1.4 Machinability: The cured product, when machined, shall not cause undue wear on machine tools.
  - 4.2 Properties: The product shall conform to the following requirements. Except for the test of 4.2.1 (see Note 1), tests shall be performed on specimens cast, after mixing as recommended by the manufacturer, in suitable bar and slab molds and cured to obtain optimum properties. Tests shall be performed, insofar as practicable, in accordance with listed ASTM methods or as noted.
 

∅	4.2.1 <u>Viscosity</u> : centipoises, max	2,500	See Note 1
∅	4.2.2 <u>Cure Shrinkage</u> , %, max	2.0	See Note 2
	4.2.3 <u>Flexural Strength</u> , psi, min	10,000	ASTM D790-49T
	4.2.4 <u>Impact Strength</u> , Izod, ft-lb per in. of notch, min	0.25	ASTM D256-56, Method C
	4.2.5 <u>Heat Distortion Temperature</u> (264 psi fiber stress), deg Fahr, min	225	ASTM D648-56
	4.2.6 <u>Insulation Resistance</u> , megohms, min		ASTM D257-54T
	at 75 F	$1.0 \times 10^6$	
	at 250 F	$0.5 \times 10^6$	

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