



AEROSPACE MATERIAL SPECIFICATION

AMS3690™

REV. D

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Superseding AMS3690C

Adhesive Compound, Epoxy
Room Temperature Curing

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 two-component compound, an epoxy resin base and a hardener, in the form of a paste.

1.2 Application

This adhesive compound has been used typically for nonstructural bonding of metallic alloys and thermosetting plastics to themselves and to each other; it is intended primarily as an adhesive for electrical components operating at not higher than 185 °F (85 °C), 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 issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

AMS2825	Material Safety Data Sheets
AMS5044	Steel, Sheet and Strip, 0.15 Carbon, Maximum, Half Hard Temper

2.2 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D 471 Rubber Property Effect of Liquids
ASTM D 1002 Strength Properties of Adhesives in Shear by Tension Loading (Metal-to-Metal)

2.3 U.S. Government Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, <http://assist.daps.dla.mil/quicksearch/>.

MIL-STD-2073-1 Military Packaging, Standard Practice for

3. TECHNICAL REQUIREMENTS

3.1 Material

Shall consist of two components: an epoxy resin base and a hardener. Fillers and modifiers may be included in either component.

3.1.1 Curing

When mixed and cured at room temperature in accordance with manufacturer's recommendations, formulation shall polymerize to a uniform adhesive exhibiting 90% of its ultimate strength within 24 hours. It shall reach its ultimate adhesive strength when cured at 75 °F $\pm$ 5 (24 °C $\pm$ 3) for not more than seven days or at 149 °F $\pm$ 5 (65 °C $\pm$ 3) for not more than four hours.

3.1.2 Shelf Life

Resin base and hardener, stored in unopened containers at not higher than 90 °F (32 °C) for up to one year, shall meet the requirements of 3.2 after being mixed and cured as in 3.1.1.

3.1.3 Pot Life

Adhesive in 100 gram batches, mixed in accordance with manufacturer's recommendations, shall have a useful pot life of not less than 40 minutes when maintained at not higher than 75 °F (24 °C).

3.2 Properties

The product, cured in accordance with manufacturer's recommendations, shall conform to the requirements shown in Table 1, 3.2.3, and 3.2.4; tests shall be performed on the product supplied and in accordance with specified methods, insofar as practicable. Reported values shall be the average of five or more specimens.