

[METRIC]

A-A-3053

August 6, 1996

SUPERSEDING

MMM-A-187B

September 11, 1974

**COMMERCIAL ITEM DESCRIPTION****ADHESIVE, EPOXY RESIN BASE, GENERAL PURPOSE**

The General Services Administration has authorized the use of this commercial item description, for all Federal Agencies.

1. **SCOPE.** This commercial item description covers two types of epoxy resin based general purpose adhesive. These adhesives are two part systems for use in non-structural bonding of metals, porcelain, ceramic, leather, wood and various porous and non-porous materials to themselves and each other.

2. **CLASSIFICATION**

Type I - Low strength

Type II - Intermediate strength

Class A - Paste

Class B - Liquid

3. **SALIENT CHARACTERISTICS**

TABLE I

| Characteristic                                   | Minimum    | Maximum | ASTM Test <sup>1</sup> |
|--|------------|---------|------------------------|
| Nonvolatile matter, average                      | 99.5%      | ---     | D 2369                 |
| Viscosity, liquid products, cps                  | 2500       | 25000   | D 2393                 |
| Tensile shear strength, kg/cm <sup>2</sup> (psi) |            |         | D 1002                 |
| Type I   | 100 (1500) | ---     |                        |
| Type II  | 140 (2000) | ---     |                        |

<sup>1</sup> Manufacturer may use tests shown in this table or an equivalent test to verify compliance to these requirements. The tests listed will be used in case of dispute.

3.1 **Pot life.** A mass of 25 grams of the adhesive, when uniformly mixed and ready for use, shall remain spreadable at a temperature of 23°C for a minimum of 20 minutes.

3.2 **Sagging.** Apply 1 to 2 mm thickness of the adhesive to a clean, dry, smooth aluminum or glass panel. Hold the panel in a vertical position. The adhesive shall not run, sag or demonstrate deformation of the film within one minute.

3.3 **Cure time.** The adhesive shall set up at room temperature (20° to 30°C), and shall cure at this temperature range within 24 hours. At a bond line temperature range of 70° to 73°C, the adhesive shall cure within one hour. Effective cure shall be determined by meeting the tensile shear strength requirement using only contact pressure during the cure period.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: General Services Administration, Engineering and Commodity Management Division (10FTE), 400 15th St. SW, Auburn, WA 98001.

FSC 8040

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3.4 Storage life. After storage in the original unopened container at 20° to 25°C for two years, the adhesive shall meet all the above requirements except that the viscosity shall not vary more than 10% from the values in Table I and tensile shear strength shall be at least 90% of the value in Table I.

**4. REGULATORY REQUIREMENTS**

4.1 EPA Priority pollutants. The product shall not contain any of the 17 target chemicals on the EPA 33/50 program list. These chemicals are: benzene, cadmium & compounds, carbon tetrachloride, chloroform, chromium & compounds, cyanides, lead & compounds, mercury & compounds, methyl ethyl ketone, methyl isobutyl ketone, methylene chloride, nickel & compounds, tetrachloroethylene, toluene, trichloroethane, trichloroethylene, and xylenes.

4.2 Ozone depleting compounds. The product shall not contain any of the Class I or Class II ozone depleting compounds, as listed in the Federal Register notice of July 30, 1992 (57 Fed Reg. 33753), which include chlorofluorocarbons, halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons.

**5. QUALITY ASSURANCE PROVISIONS.**

5.1 Product Conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

6 **PACKAGING AND MARKING.** The packaging and packing shall be as specified in the contract or order.

6.2 Instructions for use. The manufacturer shall provide instructions for use with each kit of adhesive, which includes the following information: Mixing proportions, mixing instructions, maximum useable pot life, application instructions (spread method, number of coats, application temperature, acceptable glue line thickness), typical time requirements for each segment of curing cycle, use of thinner and clean-up, safety precautions, and storage and handling instructions.

**7. NOTES****7.1 Referenced documents.**

|        |  |
|--------|--|
| ASTM:  | Standard Test Method for:  |
| D 2369 | Volatile Content of Coatings   |
| D 2393 | Viscosity of Epoxy Resins and Related Components   |
| D 1002 | Apparent Shear Strength of Single Lap Joint Adhesively Bonded Metal Specimens by Tension Loading |

ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshocken, PA 19428-2959. The issue of the ASTM test methods in effect on the date of the solicitation shall be used to determine compliance with these requirements.

Information on the EPA 33/50 program is available from US EPA 33/50 Program (TS-792A), 401 M Street SW, Washington, DC 20460

PREPARING ACTIVITY  
GSA-FSS