

A-A-56015A
30 July 1991
SUPERSEDING
A-A-56015
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COMMERCIAL ITEM DESCRIPTION

ADHESIVE SYSTEM, EPOXY, FOR DISSIMILAR METAL BONDING

The General Services Administration has authorized the use of this commercial item description.

Abstract. This document describes epoxy resin adhesive systems for bonding of dissimilar metal of the following types and classes:

Type I - Flowable
Type II - Nonflowable

Class 1 - High peel strength
Class 2 - No peel strength

Unless otherwise specified, Type II, Class 2 is preferred.

Salient characteristics. The adhesive system materials for Type I and Type II shall consist of a thixotropic epoxy-based adhesive compound. A nitrile-phenolic primer is permissible when necessary to meet the requirements of this specification. The adhesive compound shall be a two-component epoxy-resin based 100 percent solids system, consisting of a Part A, which contains epichlorhydrin-bisphenol A Type resin plus iron oxide filler, and Part B which contains a polyamide resin plus titanium dioxide. In the case of Type II compound a colloidal silica filler is added to increase viscosity. The flow properties of Type I materials shall be more than 1.00 inch and Type II materials shall be less than 0.25 inches. the cured adhesive system shall meet shear strength requirements as specified in table I.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: Commander, U.S. Army Missile Command, ATTN: AMSMI-RD-SE-TD-ST, Redstone Arsenal, AL 35898-5207.

AMSC N/A

FSC 8040

DISTRIBUTION STATEMENT A.
distribution is unlimited.

Approved for public release;

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TABLE I. Shear strength.

| Temperature | Shear strength, pound-force per square inch (psi), minimum |
|---|--|
| -54°C (<u>+3°C</u>)/(-65°F [<u>+5°F</u>]) | 2100 |
| 25°C (<u>+3°C</u>)/(77°F [<u>+5°F</u>]) | 2600 |
| 71°C (<u>+3°C</u>)/(160°F [<u>+5°F</u>]) | 1350 |
| 93°C (<u>+3°C</u>)/(200°F [<u>+5°F</u>]) | 560 |

After thermal cycling (in accordance with MIL-STD-810), the bonded joint shall meet the shear strength of Table I. The minimum average T-peel strength of the Class 1 adhesive system shall be 50 pounds per inch of width. The materials as received shall be free of gel particles, dirt, and any contaminants which would affect the intended use.

Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this Commercial Item Description, and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of FED-STD-376, and all other requirements of this Commercial Item Description are met.

If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is accepted.

The contracting officer has the option of accepting or rejecting the product.

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Regulatory requirements. None.

Preservation, packaging, packing, labeling, and marking.
Preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

CID based part identification number. The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.

Example: A-56015-I-1-QT

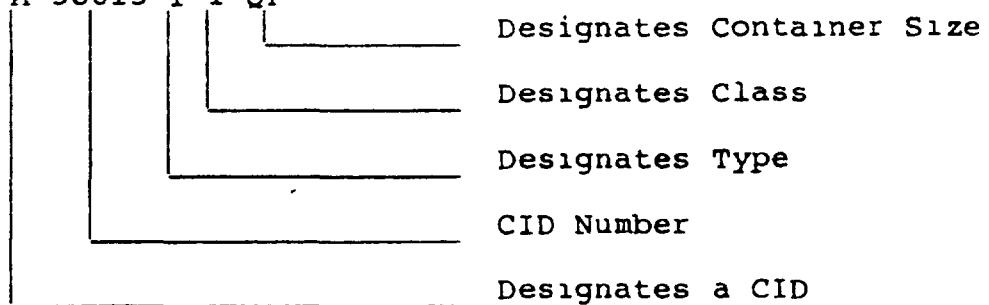


TABLE II

| PART NO. FOR TYPES | PART NO. FOR CLASS | PART NO. BY CONTAINER SIZE |
|-----------------------|-----------------------|-------------------------------|
| I | 1 | QT - Quart |
| II | 2 | KT - Kit |

Notes.

1. MIL-STD-810 and FED-STD-376 are available from the Naval Publications and Forms Center (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099.

2. Purchasers should specify the following when ordering:

- a. Material type
- b. Class
- c. Size of containers

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Custodians:

Army - MI

Review Activity:

Army - MR

User Activity:

Army - AR

Preparing Activity:

Army - MI

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