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400 COMMONWEALTH DRIVE WARRENDALE PA 15096

AEROSPACE MATERIAL SPECIFICATION

AMS 2817C
Superseding AMS 2817B

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PACKAGING AND IDENTIFICATION
Preformed Packings

1. SCOPE: This specification covers procedures which will provide protection of preformed packings, primarily "O" rings of elastomeric materials, from contamination by foreign materials prior to installation and ensure positive identification by part number of each piece until it is installed.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications (AMS) and Aerospace Standards (AS) shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.1.2 Aerospace Standards:

AS 568 - Aerospace Size Standard for O Rings

2.2 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

2.2.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:

3.1 Color coding of parts is prohibited, unless otherwise specified on the drawing or in the material specification.

3.2 Packaging Material: Shall be sheets or strips of one of the following constructions, heat sealed on the edges, before or during packaging, to form envelopes; Type I construction is preferred:

3.2.1 Type I: Both faces of natural kraft paper of 30 lb (14 kg) minimum weight per ream, lined with polyethylene film not less than 0.0005 in. (0.012 mm) thick.

3.2.2 Type II: One face as in 3.2.1 and the other of 300 gage (0.08 mm) cellophane coated with polyethylene film not less than 0.0005 in. (0.012 mm) thick.

3.3 Preparation: Parts shall be thoroughly cleaned before packaging.

3.4 Packaging: Shall be accomplished under conditions which will ensure freedom from contamination by dust, oil, grease, and other extraneous matter. No part shall be tied or tagged. Parts shall be packaged one to an envelope. Equal size envelopes may be joined to form strips (See Fig. 1). Envelopes shall be heat sealed on all edges. Parts larger in OD than can be packaged flat in 18 x 18 in. (450 x 450 mm) envelopes shall be coiled into not more than three coils as shown in Fig. 2 or into three loops as shown in Fig. 3 for convenience in packaging. When parts are coiled or looped, care shall be exercised to avoid possible cold crease effects. When parts are looped, the looping shall be performed in such a manner that the looped packing cross section is not twisted along its length. If the geometry (cross section and ID) of a part is such that the part is subject to settling to the bottom of the envelope in uncontrolled shape, parts shall be coiled as in Fig. 2 or looped as in Fig. 3 and packaged in suitable smaller size envelopes or shall be packaged with sufficient filler packing or cardboard preforms to prevent such uncontrolled settling.

3.4.1 Envelope Sizes: The envelope used for each part number should be not larger than necessary to enclose the part to be packaged without causing deformation or crowding of the part in the envelope. The inside dimension "A" and the width of heat seal dimension "B" (See Fig. 1) of envelopes, the maximum ring OD for each envelope size, and the standard size rings to be packed in each without coiling or looping shall be as shown in Table I.

TABLE I

Dimension A Inches	Dimension B Inch, max	Max Ring OD Inches	Standard Ring Sizes (from AS 568)
2 ± 1/4	3/8	1-1/2	-001 thru -028, -102 thru -126, -201 thru -217, -309 thru -321, -901 thru -916
3 ± 1/2	1/2	2-1/4	-029 thru -033, -127 thru -137, -218 thru -224, -322 thru -327, -918 thru -924
4 ± 1/2	1/2	3	-034 thru -039, -138 thru -148, -225 thru -231, -328 thru -333, -928 thru -932
6 ± 1/2	1/2	5	-040 thru -048, -149 thru -158, -232 thru -247, -334 thru -349
8 ± 1/2	1/2	7	-049 thru -050, -159 thru -166, -248 thru -260, -350 thru -363, -425 thru -438
12 ± 1/2	1/2	10-1/2	-167 thru -178, -261 thru -274, -364 thru -377, -439 thru -448
16 ± 1/2	1/2	14-1/2	-275 thru -280, -378 thru -383, -449 thru -456
18 ± 1/2	1/2	16-1/2	-281 thru -282, -384 thru -385, -457 thru -461

TABLE I (SI)

Dimension A Millimetres	Dimension B Millimetres, max	Max Ring OD Millimetres	Standard Ring Sizes (from AS 568)
50 ± 5	10	40	-001 thru -028, -102 thru -126, -201 thru -217, -309 thru -321, -901 thru -916
75 ± 10	15	60	-029 thru -033, -127 thru -137, -218 thru -224, -322 thru -327, -918 thru -924
100 ± 10	15	75	-034 thru -039, -138 thru -148, -225 thru -231, -328 thru -333, -928 thru -932
150 ± 10	15	125	-040 thru -048, -149 thru -158, -232 thru -247, -334 thru -349
200 ± 10	15	180	-049 thru -050, -159 thru -166, -248 thru -260, -350 thru -363, -425 thru -438
300 ± 10	15	270	-167 thru -178, -261 thru -274, -364 thru -377, -439 thru -448
400 ± 10	15	370	-275 thru -280, -378 thru -383, -449 thru -456
450 ± 10	15	420	-281 thru -282, -384 thru -385, -457 thru -461

3.4.1.1 If the space required to imprint on the envelope all the information required by 5.1, with the equipment available, is too large to permit use of 2 x 2 in. (50 x 50 mm) or 3 x 3 in. (75 x 75 mm) envelopes, rings which would normally be packaged in such envelopes may be packaged in 4 x 4 in. (100 x 100 mm) envelopes.

3.5 Properties: Sealed packages shall conform to the following requirements:

3.5.1 Heat Seal Bond Strength: There shall be not more than 25% separation of the width of the seam and no delamination of laminated envelope material under a static force of 2 lb (9 N), determined in accordance with 4.1.1.

3.6 Workmanship: Packages shall be fabricated in a neat and workmanlike manner. Particular attention shall be given to cleanliness of the packaged parts, thoroughness of heat sealed seams, and legibility of marking.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Test Methods:

4.1.1 Heat Seal Bond Strength: Sections of the heat seal 1 in. (25 mm) in length shall be obtained by cutting perpendicular to the line of the seal from envelopes opened for inspection and test of the contained parts. Length of legs of specimens is unimportant. Specimen shall be unfolded and clamped in jaws with the line of the heat seal perpendicular to the direction of force application and midway between jaws. A static force of 2 lb (9 N) shall be applied slowly and uniformly without impact and allowed to act for 5 min. ± 0.1 at 20° - 30°C (68° - 86°F).

5. PREPARATION FOR DELIVERY:

5.1 Envelope Marking: Each envelope shall be legibly marked with not less than the following information in the sequence shown (See Fig. 4 for marking example and acceptable abbreviations); each item, except part name and manufacturer's identification and/or contractor, shall be identified on the package:

STOCK NUMBER (When directed by purchaser) _____
PART NAME _____
QUANTITY (Units) _____
GOVERNMENT CONTRACT NUMBER (When directed by purchaser) (See 5.1.1) _____
PACKAGED Month and year) PER AMS 2817 _____
CURED (Date by quarter and year) (See 5.1.2) _____
PART NUMBER _____
MANUFACTURER'S IDENTIFICATION AND/OR CONTRACTOR _____
MATERIAL SPECIFICATION NUMBER _____

5.1.1 If parts are purchased from the manufacturer under one contract number and sold, without being repackaged, by the contractor to the consumer under a different contract number, the original contract number shall be crossed out and the new contract number applied in the heat seal area of the envelope. Neither obliteration of the original number nor printing of the new number shall be permitted to deform or load the contained part.

5.1.2 For parts made of materials not requiring age control, such as silicone and fluorocarbon elastomers, the word "CURED" shall appear on the package but the date by quarter and year may be omitted.

5.2 Ring packages shall be packed in cartons in such a manner that the rings, during shipment and storage, will not be permanently distorted and will be protected against damage from exposure to weather or any other normal hazard. Each carton shall be marked with not less than the following information:

MATERIAL SPECIFICATION NUMBER _____
PART NUMBER _____
PURCHASE ORDER NUMBER _____
QUANTITY _____
COMPOUND NUMBER _____
BATCH NUMBER _____
MANUFACTURER'S IDENTIFICATION _____
DATE OF SHIPMENT _____

5.3 Cartons shall be prepared for shipment in accordance with commercial practice and in compliance with applicable rules and regulations pertaining Ø to the handling, packaging, and transportation of the packings to ensure carrier acceptance and safe delivery. Packaging shall conform to carrier rules and regulations applicable to the mode of transportation.

5.4 For direct U.S. Military procurement, packaging shall be in accordance with MIL-STD-794, Level A or Level C, as specified in the request for procurement. Commercial packaging as in 5.2 and 5.3 will be acceptable if it meets the requirements of Level C.

6. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

7. REJECTIONS: Not applicable.

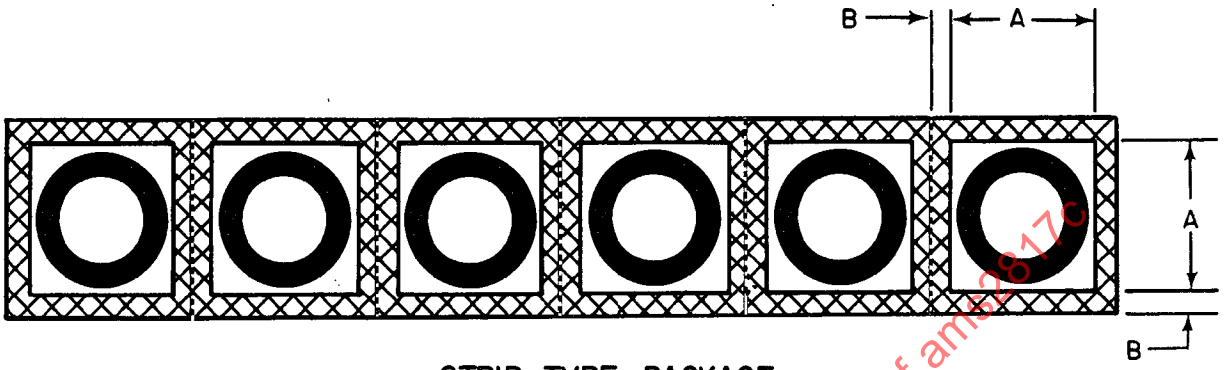
8. NOTES:

8.1 Marginal Indicia: The phi (Ø) symbol is used to indicate technical changes from the previous issue of this specification.

8.2 Similar Specifications: MIL-P-4861 is listed for information only and shall not be construed as an acceptable alternate unless all requirements of this AMS are met.

8.3 Procedures conforming to the requirements of this specification have been classified under Federal Supply Classification (FSC) 5330.

This specification is under the jurisdiction of AMS Committee "C".



STRIP TYPE PACKAGE

Note 1 Cross hatchings indicate sealed area of envelope
Note 2 Dash lines indicate perforations for tear off

FIGURE 1

FIGURE 2. ALTERNATE METHOD OF COILING RINGS