SAE Aerospace
An SAE International Group

AEROSPACE MATERIAL SPECIFICATION

SAE AMS2817F

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Superseding AMS2817E

(R) Packaging and Identification Preformed Packings

RATIONALE

AMS2817F is a Five Year Review and update of this specification.

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 document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the pruchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

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.

ARP5316 Storage of Elastomer Seals and Seal Assemblies Which Include an Elastomer Element, Prior to Hardware Assembly
AS568 Aerospace Size Standard for O-Rings

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 1418 Standard Practice for Rubber and Rubber Lattices – Nomenclature

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/AMS2817F

3. TECHNICAL REQUIREMENTS

3.1 One piece only of the finished product will be packaged in the manner described below.

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. Each packaging type is equally acceptable unless a specific type is specified by purchaser.

3.2.1 Type I: Both faces of natural kraft paper of 30 pounds (13.6 kg) minimum weight per ream, lined with polyethylene film not less than 0.0005 inch (0.013 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 UV resistant polyethylene film not less than 0.0005 inch (0.013 mm) thick. The UV resistance shall be certified by the manufacturer of the packaging material and the certification should be retained with customer's Purchase Order documentation.

3.2.3 Type III: Both faces U.V. resistant polyethylene film not less than 0.004 inch (0.10 mm) thick. The UV resistance shall be certified by the manufacturer of the packaging material and the certification should be retained with customer's Purchase Order documentation.

3.3 Preparation

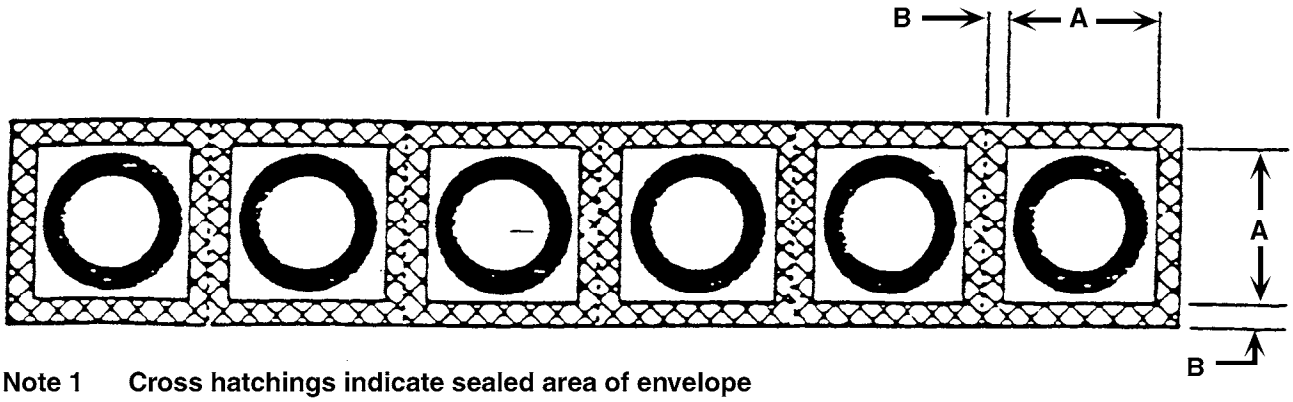
Parts shall be thoroughly cleaned before packaging.

3.4 Packaging

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 Figure 1). Envelopes shall be heat sealed on all edges. Parts larger in OD than can be packaged flat in 18 x 18-inch (457 x 457-mm) envelopes shall be coiled into not more than three coils as shown in Figure 2 or into three loops as shown in Figure 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 when in the flat and packaged condition. 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 Figure 2 or looped as in Figure 3 and packaged in suitable smaller size envelopes or shall be packaged with sufficient filler packing or cardboard preforms to prevent such uncontrolled settling. Alternatively, unless otherwise specified by part drawing, parts larger than 6.375 inches (161.92 mm) OD may be looped in an odd number of loops as required to suit an envelope size of 9 inches ± 0.5 (228.6 mm ± 12.7) if the envelope is then over packed as a single unit within a folding paperboard box or corrugated fiberboard folder not less than 1 inch (25.4 mm) thick.

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 Figure 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 1.



Note 1 **Cross hatchings indicate sealed area of envelope**

Note 2 **Dash lines indicate perforations for tear off**

FIGURE 1 - STRIP-TYPE PACKAGE

FIGURE 2 - METHOD OF COILING RINGS

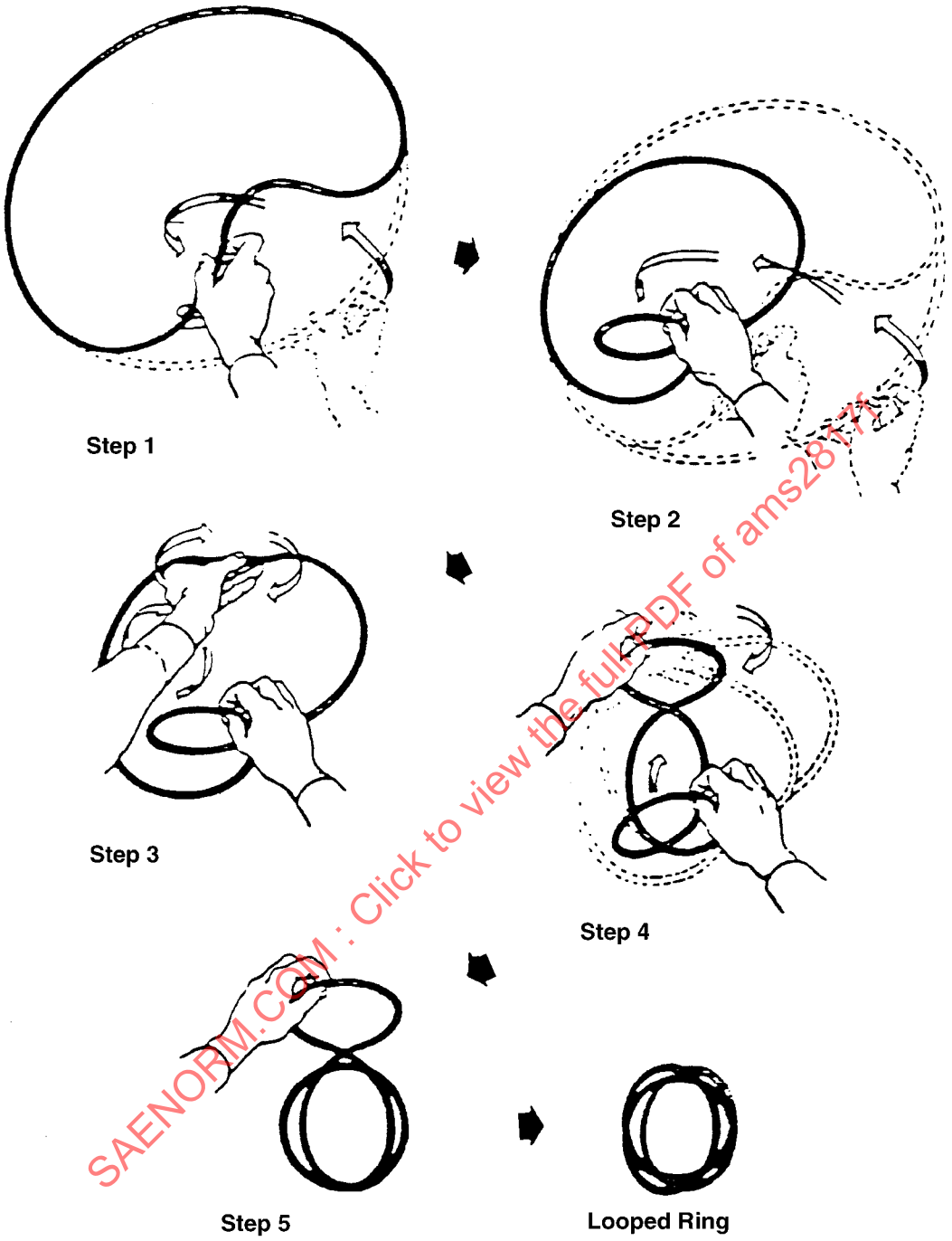


FIGURE 3 - SUGGESTED PROCEDURE FOR LOOPING RINGS

TABLE 1A - PACKAGING REQUIREMENTS, INCH/POUND UNITS

Dimension A Inches	Dimension B Inch, max	Max Ring OD Inches	Standard Ring Sizes (from AS568)
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, -428 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 1B - PACKAGING REQUIREMENTS, SI UNITS

Dimension A Millimeters	Dimension B Millimeters, max	Max Ring OD Millimeters	Standard Ring Sizes (from AS568)
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, -428 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-inch (51 x 51-mm) or 3 x 3-inch (76 x 76-mm) envelopes, rings which would normally be packaged in such envelopes may be packaged in 4 x 4-inch (102 x 102-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 pounds (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 approximately 1 inch (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 pounds (9 N) shall be applied slowly and uniformly without impact and allowed to act for 5 minutes ± 0.1 at 68 to 86 °F (20 to 30 °C).

5. PREPARATION FOR DELIVERY

5.1 Envelope Marking

Unless otherwise specified in the Purchase Order, each envelope shall be legibly marked with not less than the following information in the sequence shown (See Figure 4 for marking example and acceptable abbreviations).

MANUFACTURER'S NAME AND IDENTIFICATION (CAGE CODE) – (This is the ID for the location where parts were manufactured.)

PART NAME

PART NUMBER

MATERIAL SPECIFICATION NUMBER

COMPOUND NUMBER

CURE DATE (QUARTER AND YEAR) AND BATCH NUMBER

QUANTITY (UNITS)

CUSTOMER'S PURCHASE ORDER NUMBER

PACKAGER AND PACKAGE DATE (Month and year) (If different than Manufacturer.)

MATERIAL CODE PER ASTM D 1418

SHELF LIFE PER ARP5316 (If required by Purchaser.)