

AEROSPACE MATERIAL SPECIFICATION

SAE

AMS 7277C

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Superseding AMS 7277B

Submitted for recognition as an American National Standard

RINGS, SEALING, SYNTHETIC RUBBER Phosphate Ester Hydraulic Fluid Resistant, Butyl Type 70 - 85

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of October 16, 1980. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the "B" revision of the subject specification.

Noncurrent refers to those parts which have previously been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division does not recommend these as standard parts for future use in new designs. Each of these "Noncurrent" specifications is available from SAE upon request.

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This specification has been "CANCELLED" by the Aerospace Materials Division, SAE, as of October 16, 1990. By this action, subject specification number and its title will be deleted from the active specification index of Aerospace Material Specifications.

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

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RINGS, SEALING, SYNTHETIC RUBBER
Phosphate Ester Hydraulic Fluid Resistant, Butyl Type
70 - 85

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AEROSPACE

MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N.Y. 10017

AMS7277B

Superseding AMS 7277A

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RINGS, SEALING, SYNTHETIC RUBBER Phosphate Ester Hydraulic Fluid Resistant, Butyl Type 70 - 85

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **FORM:** Molded rings.
3. **APPLICATION:** Sealing rings for use in phosphate ester base fire resistant hydraulic fluids at temperature as low as -55 C (-67 F).
4. **TECHNICAL REQUIREMENTS:**
 - 4.1 **General:**
 - 4.1.1 **Corrosion:** The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.
 - 4.1.2 **Adhesion:** The product shall be removable from an assembly without tearing or leaving deposits of rubber due to adhesion when exposed to conditions normally encountered in service.
 - 4.2 **Properties:** The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable. Tensile strength testing is not required on rings which are too small to permit assembly on rollers for testing and are, after cutting, too short to permit testing as a single strand. Eliminating tensile testing does not eliminate testing for elongation; elongation test can be made by stretching a ring over a mandrel of a size which will stretch the ring sufficiently to produce the required elongation when figured on the ID of the ring.
 - 4.2.1 **As Received:**

4.2.1.1 Hardness, Durometer "A" or equiv.	70 - 85	
4.2.1.2 Tensile Strength, psi, min	1200	See 4.2.1.5
4.2.1.3 Elongation, %, min	200	See 4.2.1.5
4.2.1.4 Tensile Stress at 100% Elongation, psi, min	400	See 4.2.1.5 and 4.2.1.6
4.2.1.5	Use ASTM D1414 for "O" rings; use ASTM D412 for other rings.	
4.2.1.6	Stretch specimen three times to 100% elongation prior to conducting the test.	
 - 4.2.2 **Phosphate Ester Fluid Resistance:**

(Immediate Deteriorated Properties)		ASTM D471
		Medium: SAE Phosphate Ester Standard Test
		Fluid No. 1A (See Note 1)
		Temperature: 70 C $\pm$ 1
		(158 F $\pm$ 1.8)
		Time: 168 hr