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INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

SAE AMS 7284/1

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Reaffirmed APR 2001

Rings, Sealing, Phosphonitrilic Fluoroelastomer (FZ) Aviation Fuel Resistant 65 - 75 Shore A

1. SCOPE:

1.1 Form:

This specification covers a phosphonitrilic fluoroelastomer (FZ) in the form of molded rings.

1.2 Application:

Primarily for use in aircraft fuel systems operating from -55° to +150°C (-67° to +302°F).

1.3 Classification:

Rings having a nominal hardness of 70 durometer Shore A, or equivalent.

2. APPLICABLE DOCUMENTS:

See AMS 7284.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specifications:

The complete requirements for procuring the sealing rings described herein shall consist of this document and the latest issue of the basic specification, AMS 7284.

3.2 Properties:

Shall conform to the following requirements, determined in accordance with test methods listed in AMS 7284.

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3.2.1 As received:				
3.2.1.1 Hardness, Shore A, or equivalent			70 ± 5	
3.2.1.2 Tensile Strength, minimum			1300 psi (8.96 MPa)	
3.2.1.3 Elongation, minimum			125%	
3.2.1.4 Specific Gravity			Preproduction Value ±0.02	
3.2.1.5 TR10-50, maximum			-50°C (-58°F)	
3.2.1.6 Glass Transition, Onset, maximum			-57°C (-71°F)	
3.2.2 Dry Heat Resistance: (70 hours at 150°C (302°F))				
3.2.2.1 Hardness Change, Shore A			±5	
3.2.2.2 Tensile Strength Change			±15%	
3.2.2.3 Elongation Change			±20%	
3.2.2.4 Compression Set, 25% deflection, % of original deflection, maximum				
O-ring Cross Section				
0.060 to 0.110 inch (1.52 to 2.79 mm) inclusive			40%	
Over 0.110 inch (Over 2.79 mm)			30%	
3.2.3 Fuel Resistance: 70 hours at 107°C (225°F)	Ref. Fuel A, ASTM D 471	Ref. Fuel B, ASTM D 471	AMS 3022	
3.2.3.1 Tensile Strength Change maximum	-25%	-35%	-30%	
3.2.3.2 Elongation Change maximum	-10%	-15%	-10%	
3.2.3.3 Volume Change	+5 to +15%	+10 to +25%	+10 to +20%	
3.2.3.4 TR10-50, maximum	-51°C (-60°F)	-51°C (-60°F)	-51°C (-60°F)	
3.2.4 Fuel Resistance, Ref. Fuel B, ASTM D 471 70 hours at 150°C (302°F)				
3.2.4.1 Tensile Strength Change, maximum			-45%	

3.2.4.2	Elongation Change, maximum	-15%
3.2.4.3	Volume Change	+10 to +25%
3.2.5	Differential Soak Test:	
3.2.5.1	70 hours at RT, Ref. Fuel A, % Swell	AD_1
	then 70 hours at RT, Ref. Fuel B, % Swell	AD_2
	Differential Swell (AD_2 - AD_1), maximum	7%
	Volume Swell, 48 hours dryout at RT	+1 to 3%
3.2.5.2	70 hours at RT, Ref. Fuel B, % Swell	AD_3
	then 70 hours at RT, Ref. Fuel A, % Swell	AD_4
	Differential Swell (AD_3 - AD_4), maximum	5%
	Volume Swell, 48 hours dryout at RT	+1 to 4%

3.3 Part Numbers:

Shall consist of the following:

1. The letters “AMS” and the specification number.
2. A dash followed by the appropriate dash number from AS568.

Example 1	Example 2
AMS 7284/1-031	AMS 7284/1-122

4. QUALITY ASSURANCE PROVISIONS:

See AMS 7284.

5. PREPARATION FOR DELIVERY:

See AMS 7284.

6. ACKNOWLEDGMENT:

See AMS 7284.

7. REJECTIONS:

See AMS 7284.