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INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

SAE AMS 7284/2

Issued JUL 1990
Reaffirmed APR 2001

Rings, Sealing, Phosphonitrilic Fluoroelastomer (FZ) Aviation Fuel-Resistant 75 - 85 Shore A

1. SCOPE:

1.1 Form:

This specification covers 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 80 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	80 ± 5			
3.2.1.2 Tensile Strength, minimum	1200 psi (8.27 MPa)			
3.2.1.3 Elongation, minimum	100%			
3.2.1.4 Specific Gravity	Preproduction Value ±0.02			
3.2.1.5 TR10-50, maximum	-51°C (-60°F)			
3.2.1.6 Glass Transition, Onset, maximum	-55°C (-67°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		-20%	-35%	-35%
3.2.3.2 Elongation Change maximum		-10%	-15%	-15%
3.2.3.3 Volume Change		+5 to +15%	+10 to +25%	+10 to +20%
3.2.3.4 TR10-50, maximum		-52°C (-62°F)	-52°C (-62°F)	-51°C (-60°F)
3.2.4 Fuel Resistance, Ref. Fuel B, ASTM D 47 170 hours at 150°C (302°F)				
3.2.4.1 Tensile Strength Change, maximum				-35%

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 7284/2-214	AMS 7284/2-363

4. QUALITY ASSURANCE PROVISIONS:

See AMS 7284.

5. PREPARATION FOR DELIVERY:

See AMS 7284.

6. ACKNOWLEDGMENT:

See AMS 7284.

7. REJECTIONS:

See AMS 7284.