SEALING SOLUTIONS

EPM 953

An Ultra-Low-Temperature Ethylene Propylene

EPM 953, sometimes called EPR, provides excellent dynamic performance and was developed by Greene Tweed to meet Aerospace Material Specification (AMS) 7361*.

EPM 953 applications include o-rings, molded rings, engineered molded seals, molded in-place gaskets.

Sealing Temperature Capability at Low Temperatures

When determining material sealing capability at low temperatures, Tg and TR10 indicate the low-temp capability of a particular elastomeric compound rather than accurately represent sealing behavior at low temperatures.

To eliminate this issue, Greene Tweed used various types of low-temperature o-ring static and dynamic leak testing to determine the actual temperatures at which elastomeric seals lose their ability to seal.

None of the tests experienced leakage failures, including the most difficult, with a minimum internal temperature of -101.7°F (-74.3°C).

Greene Tweed has introduced EPM 953, an ultra-low-temperature ethylene propylene that provides excellent dynamic performance and was developed to meet Aerospace Material Specification (AMS) 7361.

* Awaiting final publication.

Features

- Eliminates low-temperature leakage or weepage in static or dynamic sealing applications
- Improves dynamic cap seal energization and the margin of safety and elasticity at low temperatures
- Offers a larger operating service temperature capability: -85°F to 302°F (-65°C to 150°C)

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TYPICAL PROPERTIES

Description (ASTM Standard)		Typical
Original Properties		
Specific Gravity (D792)		1.25
IRHD Hardness, Type M (D1415)		79
Hardness, Type M, Points (D2240)		81
Hardness, Type A, Points (D2240)		81
Tensile Strength @ Break, psi [MPa] (D1414)		1,974 [13.6]
Elongation, % (D1414)		182
Modulus @ 100% Elongation, psi [MPa] (D1414)		892 [6.2]
Tear Strength, lb/in. [kN/m] (D624, Method B)		161 [28.2]
TR-10/75, °F [°C] (D1414)		-70 [-57]
TR-10/50, °F [°C] (D1329)		-72 [-58]
Tg, °F (D1329)		-80 [-62]
Air Aging		
70 Hours @ 300°F [149°C]	Hardness Change, Type M, Points (D1414) Tensile Change, % (D1414) Elongation Change, % (D1414)	2 -4 -6
Compression Set @ 25% Deflection		
22 Hours @ 250°F [121°C], in Air, % of Original Deflection, % (D1414)		11
70 Hours @ 160°F [71°C], in Skydrol 5, % of Original Deflection, % (D1414)		3
70 Hours @ 160°F [71°C], in Skydrol LD4, % of Original Deflection, % (D1414)		4
70 Hours @ 160°F [71°C], in Hyjet V, % of Original Deflection, % (D1414)		3

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