Compound TEV

The Global Encapsulated Viton® O-Ring

This O-ring is comprised of a jacket of Teflon[1] encapsulating a solid core of Viton® and is also available in a hollow-core design. Encapsulated O-rings outperform traditional elastomeric O-rings in hostile environments through their excellent chemical resistance and mechanical properties over a wide temperature range. They surpass the performance of solid Teflon O-rings because they have both memory and recovery. The Viton® O-ring, in particular, has a low compression set and consists of 66% fluorine content.

Our standard encapsulated O-rings are the most resilient. Depending on core material, they are suitable for operating temperatures from -62° to 204°C (-80° to +400° F). Encapsulated O-rings resist almost all chemicals and retain their mechanical properties even during long hostile exposure. They also have excellent dielectric properties, a low coefficient of friction, flexibility, weather resistance, toughness and negligible moisture absorption.

Solid or Hollow-Core Design

Standard encapsulated O-rings are supplied with either solid Viton® or Silicone energizers. Solid core energizers provide the best resistance to compression set and the best "recovery". Hollow-Core O-rings provide effective sealing where a more flexible and easier to squeeze O-ring is required. Hollow-Core O-rings reduce the amount of force required to provide an effective seal. This type of seal is especially useful in fragile applications and is available in both Viton and silicone cores.

NOTE: Hollow-Core Viton® O-rings are not available in cross sections smaller than .140".

Cure system: Bisphenol-cured

Other Common Variations

- TEV has excellent resistance to oils, fuels, lubricants, most mineral acids, and aliphatic and aromatic hydrocarbons.

GENERAL INFORMATION
Size Dimensions: Available in most standard ARP O-ring sizes and specials up to 12 feet and larger
Core Hardness: 70±5 durometer (Silicone) 70±5 durometer (Viton)
Overall Hardness: 85±5 durometer
Encapsulation: .010 to .060-inch wall Teflon jacket. Resin meets or exceeds L-P-389A and ASTM D2116. FDA approved
Pressure: From over 28" vacuum to 10,000 PSI depending on temperature, duration, clearances and the use of back up rings.

SERVICE TEMPERATURES	
Standard Low Temperature	-20°C (-4°F)
Standard High Temperature	204°C (400°F)

[1] Teflon and Viton are Registered Trademarks of DuPont Company.

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TEST REPORT FOR COMPOUND TEV

MATERIAL: VITON®
DUROMETER: 85±5
COLOR: CLEAR TEFLON JACKET WITH BLACK VITON® CORE
ASTM* D2000 M2HK 710 B37 B38 C12

TEV

PROPERTIES	RESULTS	ASTM TEST METHOD
ORIGINAL PHYSICAL PROPERTIES		
Hardness, Shore A	79	D2240
Tensile Strength, psi (MPa)	1672 (11.52)	D412
Elongation, percent	233	D412
Modulus at 100%	7.2	D945
Specific Gravity (g/cm³)	2.32	D1817
COMPRESSION SET		
22 hours at 175°C (347°F), percent	4.6	D395, Method B
COMPRESSION SET		
22 hours at 200°C (400°F), percent	7.0	D395, Method B
LOW-TEMPERATURE TR		
-23.3°C (-10°F)	1.4 (-17)	D1329
HEAT AGE		
70 hours at 250°C (482°F)		
Hardness Change, points	+4	D573
Tensile Strength change, psi (MPa)	+537 (+3.7)	
Elongation Change, percent	-34	
Weight Change, grams	-0.02	
NO. 3 OIL RESISTANCE		
70 hours at 150°C (302°F)		
Hardness Change, points	0.5	D471
Tensile Strength change, psi (MPa)	+68 (+0.47)	
Elongation Change, percent	-6.5	
Volume Change, percent	+4.56	
FUEL C RESISTANCE		
70 hours at 150°C (302°F)		
Hardness Change, points	-1	D471
Tensile Strength change, psi (MPa)	-32	
Elongation Change, percent	-3	
Volume Change, percent	+3.0	
OZONE RESISTANCE		
70 hours at 40°C (104°F), 50 pphm	Pass	D1171

*American Society for Testing and Materials

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