Compound TES

The Global Encapsulated Silicone O-Ring

This O-ring is comprised of a jacket of Teflon[1] encapsulating a solid core of Silicone 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.

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.

Cure system: Bisphenol-cured

Other Common Variations

- TES has excellent thermal resistance to both high and low temperatures. It is good with oxygen and ozone attack and exhibits very high permeability resistance.

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	-60°C (-76°F)
Standard High Temperature	220°C (428°F)

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

www.GlobalORing.com • info@GlobalORing.com
4250 N. Sam Houston Parkway E, Suite 100, Houston, TX 77032
Phone: 832-448-5550 / 877-448-5550 Fax: 832-448-5551 / 877-448-5551

TEST

TEST REPORT FOR COMPOUND TES

MATERIAL: SILICONE
DUROMETER: 85±5
COLOR: CLEAR TEFLON JACKET WITH RUST SILICONE CORE
ASTM* D2000 M2GE 707 A19 B37 EO36

PROPERTIES	RESULTS	ASTM TEST METHOD
ORIGINAL PHYSICAL PROPERTIES		
Hardness, Shore A	73	D2240
Tensile Strength, psi (MPa)	1088 (7.5)	D412
Elongation, percent	165	D412
Specific Gravity (g/cm³)	1.58	D1817
COMPRESSION SET		
22 hours at 175°C (347°F), percent	9.2	D395, Method B
HEAT AGE		
70 hours at 225°C (437°F)		
Hardness Change, points	-1	D573
Tensile Strength change, psi (MPa)	-145 (-1)	
Elongation Change, percent	-26	
Weight Change, grams	0	
NO. 3 OIL RESISTANCE		
70 hours at 150°C (302°F)		
Hardness Change, points	-21	D471
Tensile Strength change, psi (MPa)	-218 (-1.5)	
Elongation Change, percent	0	
Volume Change, percent	+33	

*American Society for Testing and Materials

GLOBAL O-RING AND SEAL, LLC

www.GlobalORing.com • info@GlobalORing.com
4250 N. Sam Houston Parkway E, Suite 100, Houston, TX 77032
Phone: 832-448-5550 / 877-448-5550 Fax: 832-448-5551 / 877-448-5551