

# The O-Ring Store LLC



We make getting o-rings easy!

## **TEFLON/FEP ENCAPSULATED SILICONE DATA SHEET FOR COMPOUND TES**

### **Compound Features:**

- Virtually chemically inert encapsulation material.
- Better elasticity and sealing ability than a solid PTFE O-Ring.
- FDA compliant per CFR 177.1550
- USP Class VI compliant.
- NSF compliant.
- Core material FDA compliant per CFR 177.2600
- Low coefficient of friction.
- Good compression set resistance.
- Good wear resistance.

### **Compound Limitations:**

- Low elastic material.
- Hard to install in certain components.
- Limited to only static applications.

### **Total Shore A Durometer:**

85-90 Durometer

### **Temperature Range:**

-10°F to +300°F (-23°C to +149°C)

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MECHANICAL PROPERTIES			
Properties	ASTM Test Method	Unit of Measure	FEP Encapsulation Compound Property
Specific Gravity	D792	%	2.15
Elongation	D638	%	250 ~ 330
Tensile Strength	D638	Psi	2,800 ~ 5,000
Flexural Strength	D790	Psi	No break
Compressive Strength	D695	Psi	2,200
Tensile Elastic Modulus (Young's Modulus)	D638	Psi	50,000
Flexural Modulus	D790	Psi	78,000 ~ 92,000
		103MPa (103kgf/cm <sup>2</sup> )	0.5-0.6 (5.5-6.5)
Flex Life	D2176	MIT Cycles	5,000 ~ 80,000
Hardness Durometer	D636	Shore D	55
Coefficient of Friction	On Steel	COF	0.05
Abrasion Resistance	Taber	Taber	14 ~ 20
Impact Strength IZOD 73°F/23°C Notched Ft/Lbs./In	D256	-	No Break

THERMAL PROPERTIES			
Properties	ASTM Test Method	Unit of Measure	FEP Encapsulation Compound Property
Melting Point	-	°C (°F)	260 (500)
Upper Service Temperature	20,000 H	°C (°F)	200 (392)
Flame Rating	UL 94	-	V-0
Thermal Conductivity	-	BTU/hr/ft <sup>2</sup> /deg F in	1.4
		cal/sec/cm <sup>2</sup> ,°C/cm	6 x 10
Linear Coefficient of Thermal Expansion	D696	10-5 °C	8.3 ~ 10.5
Heat of Fusion	-	BTU/LB	11
Heat of Combustion	-	BTU/LB	2200
Low Temperature Embrittlement	-	°C (°F)	-268 (-450)

ELECTRICAL PROPERTIES			
Properties	ASTM Test Method	Unit of Measure	FEP Encapsulation Compound Property
Dielectric Constant	D150	10 <sup>3</sup> Hz	2.1
		10 <sup>6</sup> Hz	2.1
Dielectric Strength	D149	10 mil film	>2000
Volume Resistivity	D257	ohm-cm	>10 <sup>18</sup>
Surface Resistivity	D257	ohm/sq.	>10 <sup>17</sup>

Information within is believed to be accurate and reliable. However, The O-Ring Store, LLC makes no warranty, expressed or implied, that parts supplied in this material will perform satisfactorily in specific applications. It's the customer's responsibility to evaluate the material prior to use.

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GENERAL PROPERTIES			
Properties	ASTM Test Method	Unit of Measure	FEP Encapsulation Compound Property
Chemical / Solvent Resistance	D543	-	Excellent
Water Absorption	24hrs	%	<0.01
Deformation Under Load	D257 (24hrs @ 986psi 100°C)	%	5
	D257 (24hrs @ 1987psi 125°C)	%	3
Refractive Index	-	%	1.338
Limiting Oxygen Index	-	%	>95

SILICONE CORE MATERIAL GENERAL PROPERTIES				
Properties	ASTM Designation	Test Method	Unit of Measure	Silicone Core Compound Property
Durometer	-	D2240	Shore A	65-75
Tensile Strength		D412	psi	900 Minimum
Elongation Resistance		D412	%	150 Minimum
Specific Gravity		D297	-	1.37 – 1.43
Tear Strength		D624	ppi	50 Minimum

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