

## Saint-Gobain Rulon® 641 Grade Bearing/Seal PTFE

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE

### Material Notes:

Description: Rulon® is the Saint-Gobain trade name for their family of proprietary PTFE compounds. This family of materials offers the combination of high compressive strength, low coefficient of friction, and excellent abrasion and corrosion resistance while running without lubrication. They are used in bearing and seal applications from temperature extremes of 400°F to over 500°F with and without additional lubricants. A unique property of Rulon® is the absence of stick slip, that is, erratic low-speed motion. PTFE = polytetrafluoroethylene

641 Grade Bearing/Seal PTFE: FDA compliant, this formulation was specifically developed for food and drug applications. Rulon 641 is designed to run dry without any external lubrication and is compatible with 303 and 316 stainless steel mating surfaces. Rulon 641's high temperature and low wear properties offer major advantages as compared to other competitive FDA bearing materials, such as UHMWPE (Limited temperature tolerance and low load capacity at elevated temperatures) and virgin PTFE (Unacceptable wear properties and low load capacity at elevated temperatures). Rulon 641 is available in standard bearing sizes from 1/8" to 3" ID's White in color. Suitable for use in environments of steam, wet, dry, vacuum, or FDA type. Mating surface of 25 Rc or harder Steel. Material has electrical and thermal insulation properties. Markets for 641 grade include Appliances, Automotive, Dairy/Food/Beverage, Industrial, Medical, Transportation. Information provided by Saint Gobain Performance Products.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Saint-Gobain-Rulon-641-Grade-BearingSeal-PTFE.php](http://www.lookpolymers.com/polymer_Saint-Gobain-Rulon-641-Grade-BearingSeal-PTFE.php)

Physical Properties	Metric	English	Comments
Density	2.25 g/cc	0.0813 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.00 % @Time 86400 sec	0.00 % @Time 24.0 hour	Immersion
Water Absorption at Saturation	0.00 %	0.00 %	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	60	60	
Tensile Strength	13.8 MPa	2000 psi	ASTM D638
Elongation at Break	175 %	175 %	ASTM D638
Compressive Yield Strength	6.89 MPa	1000 psi	Max load under tribological use
Coefficient of Friction, Dynamic	0.10 - 0.30	0.10 - 0.30	Dry vs. Steel
Coefficient of Friction, Static	0.10 - 0.30	0.10 - 0.30	Dry vs. Steel
Limiting Pressure Velocity	0.350 MPa-m/sec	10000 psi-ft/min	

Thermal Properties	Metric	English	Comments
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Thermal Properties	99.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ Metric	55.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ English	Comments
CTE, linear, Parallel to Flow	@Temperature 25.6 - 93.3 $\text{Å}^\circ\text{C}$	@Temperature 78.0 - 200 $\text{Å}^\circ\text{F}$	Length
	112 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	62.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Length
	@Temperature 25.6 - 149 $\text{Å}^\circ\text{C}$	@Temperature 78.0 - 300 $\text{Å}^\circ\text{F}$	Length
CTE, linear, Transverse to Flow	73.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	41.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Diameter
	@Temperature 25.6 - 93.3 $\text{Å}^\circ\text{C}$	@Temperature 78.0 - 200 $\text{Å}^\circ\text{F}$	Diameter
	86.4 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	48.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	Diameter
	@Temperature 25.6 - 149 $\text{Å}^\circ\text{C}$	@Temperature 78.0 - 300 $\text{Å}^\circ\text{F}$	Diameter
Thermal Conductivity	0.375 W/m-K	2.60 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
Maximum Service Temperature, Air	288 $\text{Å}^\circ\text{C}$	550 $\text{Å}^\circ\text{F}$	
Minimum Service Temperature, Air	-240 $\text{Å}^\circ\text{C}$	-400 $\text{Å}^\circ\text{F}$	

Descriptive Properties	Value	Comments
Color	White	

## Contact Songhan Plastic Technology Co.,Ltd.

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