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## SAINT - GOBAIN

**Rulon®** is the Saint Gobain Performance Plastics trade name for a family of reinforced proprietary PTFE compounds. This unique family of materials offers the combination of high compressive strengths, low coefficient of friction, and excellent abrasion and corrosion resistance while running without lubrication. These materials are used in bearing and seal applications at temperature extremes from -400°F to +500°F (-240°C to +260°C) with or without additional lubricants. Rulon® materials also have the unique property of no "slip stick" --- no erratic motion at low speeds.

**Rulon® 641** - This FDA compliant material was specifically developed for food and drug applications. Rulon® 641 is designed to run dry without any moisture or lubrication.

**Rulon® AR** - This was the first commercially available reinforced PTFE and is still quite popular. Rulon® AR offers the best combination of flexibility and load-carrying properties. It has high wear resistance, low friction, and good electrically insulative and chemical properties. Since, its fillers are ceramic in nature, mating surfaces should be RC35 or harder. It is and used in seals, piston cups, and some bearings.

### APPLICATIONS INCLUDE:

· Seals for high temperatures · Bearings · Bushings · Cams · Cam followers · Gears · Guides · Insulators · Liners · Rollers · Seals · Sleeves · Thrust Washers · Valve Seats · Wear Surfaces

GENERAL PROPERTIES	ASTM or UL Test	RULON® 641 Typical Values	RULON® AR Typical Values
<b>COLOUR</b>		○ White	● Maroon
<b>PHYSICAL</b>			
Specific Gravity (g/cm <sup>3</sup> )	D792	2.25	2.24
Water Absorption, 24 hrs (%)	D570	0	0
<b>MECHANICAL</b>			
Tensile Strength (psi)	D1457	2,000	2,000
Tensile Elongation at Yield (%)	D1457	175	175
Hardness, Shore D	D2240	60	60-75
IZOD Notched Impact (ft-lb/in)	D256	-	6.0
<b>THERMAL</b>			
Coeff. of Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	D696	-	-
Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F)	Cenco-Fitch	2.60	2.30
<b>ELECTRICAL</b>			
Dielectric Strength (V/mil) short time, .08" thk	D149	-	400-500
Dielectric Constant at 1 MHz	D150	-	2.5
Dissipation Factor at 1 MHz	D150	-	0.003
Surface Resistivity (ohm/sq)	D257	-	2 x 10 <sup>13</sup>
Volume Resistivity (ohm-cm) at 50% RH	D257	-	1 x 10 <sup>15</sup>
<b>RECOMMENDED OPERATING LIMITS</b>			
Maximum Load (psi)	-	1,000	1,000
Maximum Velocity with No Pressure (ft/min)	-	400	400
Maximum PV Rating (psi x ft/min)	-	10,000	10,000
Maximum Operating Temp (°F / °C)	-	500 / 260	500 / 260
Minimum Operating Temp (°F / °C)	-	-450 / -240	-450 / -240
Minimum Mating Surface Hardness (Rockwell)	-	B25	C35

NOTE: The information contained here in is typical values intended for reference only. They should NOT be used as a basis for design specifications or quality control.