

# TECHNICAL DATA SHEET

## Techtron PPS

(polyphenylene sulfide)

This material offers the broadest resistance to chemicals of any advanced engineering plastic. Techtron can withstand solvents below 392°F (200°C) and offer inertness to steam, strong bases, fuels and acids. Minimal moisture absorption and a very low coefficient of linear thermal expansion, combined with stress relieving processes, make these PPS products ideally suited for precise tolerance on machined components. Additionally, PPS products exhibit excellent electrical characteristics and are inherently flame retardant.

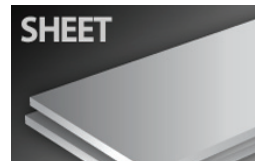
### Benefits

Chemical resistance  
Moisture absorption  
Machines to tight tolerances  
Thermal stability  
Dimensional stability

### Applications

High pressure liquid chromatography components  
Wafer retaining rings for CMP polishing  
Oil field parts  
Aerospace components  
Medical and diagnostic device parts  
Pump & valve components  
Structural components in corrosive environments  
HVAC equipment  
Retainer rings

### SHAPES AVAILABLE



<b>TYPICAL PROPERTIES of TECHTRON® Unfilled &amp; PSGF 40% Glass-Filled PPS</b>			
ASTM or UL test	Property	Techtron® PPS unfilled (extruded)	Techtron® PSGF 40% glass filled (compression molded)
<b>PHYSICAL</b>			
D792	Density (lb/in <sup>3</sup> ) (g/cm <sup>3</sup> )	0.049 1.35	0.061 1.70
D570	Water Absorption, 24 hrs (%)	0.01	0.02
D570	Water Absorption, saturation (%)	0.03	0.03
<b>MECHANICAL</b>			
D638	Tensile Strength (psi)	13,500	5,000
D638	Tensile Modulus (psi)	500,000	730,000
D638	Tensile Elongation at Break (%)	15	1
D790	Flexural Strength (psi)	21,000	23,000
D790	Flexural Modulus (psi)	575,000	1,000,000
D695	Compressive Strength (psi)	21,500	24,000
D695	Compressive Modulus (psi)	430,000	1,300,000
D785	Hardness, Rockwell	M95 / R125	M94 / R125
D256	IZOD Notched Impact (ft-lb/in)	0.6	1.0
<b>THERMAL</b>			
D696	Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	2.8	2.5
D648	Heat Deflection Temp (°F / °C) at 264 psi	250 / 121	490 / 254
D3418	Melting Point Temp (°F / °C)	540 / 282	540 / 282
-	Max Operating Temp (°F / °C)	425 / 218	450 / 232
C177	Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F) (x 10 <sup>-4</sup> cal/cm-sec-°C)	2.00 6.89	2.10 7.23
UL94	Flammability Rating	V-0	V-0
<b>ELECTRICAL</b>			
D149	Dielectric Strength (V/mil) short time, 1/8" thick	540	385
D150	Dielectric Constant at 1 MHz	3.0	-
D150	Dissipation Factor at 1 MHz	0.0013	-
D257	Volume Resistivity (ohm-cm) at 50% RH	> 10 <sup>13</sup>	> 10 <sup>13</sup>

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RYTON is a registered trademark of Chevron Phillips Chemical Company.

TECHTRON is a registered trademark of Quadrant Engineering Plastic

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.