CUT TO SIZE plastics

TECHNICAL DATA SHEET

PPSU

I. Physical Properties				
		Test method	Unit	Value
1. Specific gravity		ASTM D792	g/cm³	1.29
2.a Water Absorption (saturation)				0.4
		ASTM D570	%	
2.b Humidity Absorption (saturation)				0.1
3.a Maximum permissible service temp.		UL 746B	°F	338
3.b Lower permissible service temp.				-58
II. Mechanical Properties				
1. Tensile strength at yield			psi	10,100
2. Tensile Modulus		ASTM D638		340,000
3. Elongation at yield			%	7.2
4. Tensile strength at break			psi	-
5. Elongation at break			%	60
6. Impact strength			ft-lb/in	n.b.
		ASTM D256		
7. Notch impact strength			ft-lb/in	13
8. Rockwell hardness		ASTM D785	R-Scale	-
9. Shore-D		ASTM D2240	-	86
10. Flexural strength		ASTM D790	psi	12,300
11. Flexural Modulus				333,500
III. Thermal Properties				
1. Vicat-softening point	VST/B/50			-
		ASTM D1525	°F	
	VST/A/50			-
2. Heat deflection temperature HDT/B (66 psi)				-
		ASTM D648	°F	
	HDT/A (264 psi)			405
3. Coefficient of linear thermal expansion		ASTM D696	in/in/°F*10-5	3.1
4. Thermal conductivity at 73 °F		ASTM C177	BTU/hr-ft*°F	1.7
5. Glass transition temperature				428
		ASTM D3418	°F	
6. Melting temperature				428
IV. Electrical Properties				
1. Volume resistivity		ASTM D257	W*cm	9.0E+15
2. Surface resistivity			W	≥1013
3. Dielectric constant at 1MHz		ASTM D150	-	3.44
4. Dielectric loss factor at 1 MHz			-	0.0089
5. Dielectric strength		ASTM D149	V/mil	380
6. Tracking resistance		IEC 60112	Grade	CTI 150
V. Additional Data				
1. Bondability		-	-	yes
		FDA	-	yes
2. Compliances		NSF	-	14 + 61

3. Flammability		UL 94	-	V-0
4. Limited Oxygen Index (LOI)		ASTM D2863	%	38
5. UV stabilization		-	-	yes

Polyphenylsulfone (PPSU, PPSF) is an amorphous, heat-resistant and transparent high-performance thermoplastic. The polymer is known for its high toughness, high flexural and tensile strength, excellent hydrolytic stability and good resistance to chemicals and heat. Compared to the two other polyether sulfones PSU and PES, it has superior mechanical properties, but it is also more expensive, and thus, less widely used. It also has the best chemical resistance of all polyether sulfones.