

Solvay Specialty Polymers Udel® P-3703 Polysulfone (PSU) (Unverified Data**)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Udel P-3703 is a high-flow grade of polysulfone intended for injection molding applications with thin walls or long flow lengths. This grade has higher flow than Udel P-1700 and a slightly greater tendency to stress crack in some aggressive environments. Udel polysulfone is a tough, rigid, high-strength thermoplastic that maintains its properties at temperatures from -101°C to 149°C (-150°F to 300°F). The heat deflection temperature at 1.8 MPa (264 psi) is 174°C (345°F). For most purposes, this resin is suitable for continuous use up to 149°C (300°F). The material is resistant to oxidation and hydrolysis and withstands prolonged exposure to high temperatures and repeated sterilization. Udel polysulfone is highly resistant to mineral acids, alkali and salt solutions. The resistance to detergents and hydrocarbon oils is good, but it will be attacked by polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons. Electrical properties of Udel polysulfone are stable over a wide temperature range and after immersion in water or exposure to high humidity. -

Natural: Udel P-3703 NT 11 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Udel-P-3703-Polysulfone-PSU-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ASTM D792
Water Absorption	0.30 % @Time 86400 sec	0.30 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	ASTM D955
Melt Flow	17 g/10 min @Load 2.16 kg, Temperature 343 °C	17 g/10 min @Load 4.76 lb, Temperature 649 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	70.3 MPa	10200 psi	ASTM D638
Elongation at Break	50 - 100 %	50 - 100 %	ASTM D638
Tensile Modulus	2.48 GPa	360 ksi	ASTM D638
Flexural Strength	106 MPa	15400 psi	ASTM D790
Flexural Modulus	2.69 GPa	390 ksi	ASTM D790
Izod Impact, Notched	0.690 J/cm	1.29 ft-lb/in	ASTM D256
Tensile Impact Strength	420 kJ/m ²	200 ft-lb/in ²	ASTM D1822

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	56.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	31.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM D696
Deflection Temperature at 1.8 MPa (264 psi)	174 $^\circ\text{C}$	345 $^\circ\text{F}$	Unannealed; ASTM D648

Electrical Properties	Metric	English	Comments
Volume Resistivity	5.00e+16 ohm-cm	5.00e+16 ohm-cm	ASTM D257
Dielectric Constant	3.02	3.02	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.03	3.03	
Dielectric Strength	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150
	3.04	3.04	ASTM D150
Dissipation Factor	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	17.0 kV/mm	432 kV/in	ASTM D149
Dissipation Factor	0.0011	0.0011	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
Dissipation Factor	0.0013	0.0013	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Melt Temperature	329 - 385 $^\circ\text{C}$	624 - 725 $^\circ\text{F}$	
Mold Temperature	121 - 163 $^\circ\text{C}$	250 - 325 $^\circ\text{F}$	
Drying Temperature	135 - 163 $^\circ\text{C}$	275 - 325 $^\circ\text{F}$	
Dry Time	3.50 hour	3.50 hour	
Shot Size	50 - 75 %	50 - 75 %	

Descriptive Properties	Value	Comments
Agency Ratings	NSF 51	Maximum Temperature of Use: 149 $^\circ\text{C}$ (300 $^\circ\text{F}$)

Appearance Descriptive Properties	Clear/Transparent Value	Comments
Availability	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Acid Resistant	
	Alcohol Resistant	
	Alkali Resistant	
	Food Contact Acceptable	
	Good Chemical Resistance	
	Good Toughness	
	High Flow	
	High Heat Resistance	
	Hydrocarbon Resistant	
	Hydrolytically Stable	
Forms	Pellets	
Generic	PSU	
Processing Method	Extrusion	
	Injection Molding	
RoHS Compliance	RoHS Compliant	
Uses	Appliance Components	
	Appliances	
	Automotive Electronics	
	Batteries	
	Business Equipment	
	Electrical Parts	
	Electrical/Electronic Applications	
Food Service Applications		

Descriptive Properties	Value	Comments
	Industrial Parts	
	Microwave Cookware	
	Piping	
	Plumbing Parts	
	Valves/Valve Parts	

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