

Solvay Specialty Polymers Udel® P-1750 MR Polysulfone (PSU) (Unverified Data**)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Udel P-1750 MR is a lower color grade of polysulfone that contains a mold release which aids part ejection when parts with low draft are injection molded. Polysulfones have long been known for transparency and clarity, but have been somewhat limited by a slight yellow cast which has been typical of the material. These grades were designed to eliminate the yellow cast and provide improved aesthetics for applications where a yellow cast is undesirable. In general, Udel polysulfone is a tough, rigid, high-strength, high-heat thermoplastic that retains its properties at temperatures from -101°C to 149°C (-150°F to 300°F). With a heat deflection temperature at 1.8 MPa (264 psi) of 174°C (345°F) and excellent thermal and oxidative stability, this resin is suitable for sustained use at temperatures up to 149°C (300°F). Other key properties of polysulfone include resistance to hydrolysis by hot water and resistance to acids and bases. In addition, the resin is resistant to a wide range of cleaners and disinfectants. Polysulfone's resistance to alcohols and aliphatic hydrocarbons is also good; however, the resin is generally not resistant to polar organic or chlorinated solvents. - Natural/Transparent: Udel P-1750 NT MR Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Udel-P-1750-MR-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 %	0.30 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	ASTM D955
Melt Flow	6.5 g/10 min	6.5 g/10 min	ASTM D1238
	@Load 2.06 kg, Temperature 343 °C	@Load 4.54 lb, Temperature 649 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength	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	3.00e+16 ohm-cm	3.00e+16 ohm-cm	ASTM D257
Dielectric Constant	2.9	2.9	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	3.02	3.02	
Dielectric Strength	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.04	3.04	ASTM D150
Dielectric Strength	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	17.0 kV/mm	432 kV/in	ASTM D149
Dissipation Factor	0.00070	0.00070	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	0.0010	0.0010	
Dissipation Factor	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	0.0060	0.0060	ASTM D150
Dissipation Factor	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150

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
Appearance	Clear/Transparent	
Availability	Asia Pacific	

Descriptive Properties	Value	Comments
	North America	
	South America	
Features	Acid Resistant	
	Alcohol Resistant	
	Alkali Resistant	
	Good Chemical Resistance	
	Good Toughness	
	High Heat Resistance	
	Hydrocarbon Resistant	
	Hydrolytically Stable	
Forms	Pellets	
Generic	PSU	
Processing Method	Extrusion	
	Injection Molding	
Uses	Appliance Components	
	Appliances	
	Automotive Electronics	
	Batteries	
	Business Equipment	
	Electrical Parts	
	Electrical/Electronic Applications	
	Food Service Applications	
	Industrial Parts	
	Microwave Cookware	
	Piping	
	Plumbing Parts	
	Valves/Valve Parts	

Descriptive Properties	Value	Comments
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Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China