

Solvay Specialty Polymers Udel® P-3500 LCD Polysulfone (PSU)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Udel® P-3500 LCD is a very high molecular weight grade of polysulfone, and therefore offers the greatest toughness and chemical resistance of the available grades. It is well-suited for extrusion. The advantages of Udel® P-3500 LCD are attributed to the lower level of cyclic dimer present in the polymer. Polysulfone is resistant to mineral acids, alkali, salt solutions, detergents and hydrocarbon oils.

Contact with polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons should be avoided, as these types of chemical compounds can cause stress cracking or solvate polysulfone resin. Features: Acid Resistant; Alcohol Resistant; Alkali Resistant; Detergent Resistant; Good Chemical Resistance; Good Dimensional Stability; Good Sterilizability; Good Surface Finish; Good Toughness; High Heat Resistance; Hydrocarbon Resistant; Hydrolytically Stable; Steam Sterilizable Uses: Membranes Injection Molding Notes: UDEL P-3500 polysulfones may be dried before preparing solutions. Pellets can be dried in a circulating hot air oven, by spreading the pellets on trays to a 1-2 inch depth and drying for 3.5 hours at 257 to 325°F (135 to 163°C). Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Udel-P-3500-LCD-Polysulfone-PSU.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ASTM D792
Water Absorption	0.30 % @Time 86400 sec	0.30 % @Time 24.0 hour	ISO 62
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	
Melt Flow	3.0 - 5.0 g/10 min @Load 2.16 kg, Temperature 343 °C	3.0 - 5.0 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
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CTE, linear, Parallel to Flow Thermal Properties	56.0 Âµm/m-Â°C Metric	31.1 Âµin/in-Â°F English	Comments
Deflection Temperature at 1.8 MPa (264 psi)	174 Â°C	345 Â°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	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
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	17.0 kV/mm	432 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0060	0.0060	
Dissipation Factor	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	0.0070	0.0070	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	
NSF	Yes	Yes	NSF 61

Processing Properties	Metric	English	Comments
Zone 1	302 Â°C	576 Â°F	
Zone 5	316 - 338 Â°C	601 - 640 Â°F	
Melt Temperature	316 - 371 Â°C	601 - 700 Â°F	
Drying Temperature	135 - 163 Â°C	275 - 325 Â°F	
	@Time 12600 sec	@Time 3.50 hour	

Descriptive Properties	Value	Comments
Agency Ratings	FDA 21 CFR 177.1655	
Availability	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Natural	
Form	Pellets	
Processing Technique	Extrusion; Extrusion Blow Molding; Film Extrusion	
	Injection Blow Molding; Injection Molding	
	Machining; Pipe Extrusion	
	Profile Extrusion; Sheet Extrusion; Thermoforming	
RoHS Compliance	RoHS Compliant	

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