

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

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Udel® polysulfone is a tough, rigid, high-strength thermoplastic with outstanding hydrolytic resistance. Udel® P-3500 LCD MB series polymers are particularly well suited for the fabrication of porous hollow fiber and flat sheet membranes using a solvent-based process. These high molecular weight polymers are used in a variety of membrane filtration applications, such as renal dialysis, water treatment, bio-processing, food and beverage processing, and industrial gas separation. Udel® polysulfone polymers possess a number of attributes that are valued by the membrane industry, including excellent mechanical properties, stability at pH levels from 2-13, excellent resistance to caustic and good resistance to moderate concentrations of chlorine. They feature low levels of extractible and insoluble materials making them suitable for drinking water and food contact uses. They may be sterilized using steam, ethylene oxide and e-beam radiation. Udel® P-3500 LCD MB series polymers are available in various narrow molecular weight range grades, as shown below. Each grade features reduced levels of cyclic dimer compared to the previous grade, P-3500 NT 11. This can be important in solution processing applications such as membrane production, as it leads to improved dope solution stability and reduced equipment fouling. Features: Acid Resistant; Alcohol Resistant; Alkali Resistant; Good Chemical Resistance; Good Toughness; High Heat Resistance; Hydrocarbon Resistant; Hydrolytically Stable Uses: Membranes Injection Molding Notes: Kalix® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Kalix® resins be dried prior to molding. Additional Properties: Molecular Weight - 78000 to 84000 g/mol; Molecular Weight - 77000 to 83000 g/mol; Molecular Weight - 80000 to 86000 g/mol; Solution Viscosity - 2.2 to 3.0 Pa·s; Solution Viscosity - 2.0 to 2.8 Pa·s; Solution Viscosity - 2.4 to 3.2 Pa·s 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-MB-Polysulfone-PSU.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ASTM D792
Water Absorption	0.30 %	0.30 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	

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

Mechanical Properties	Metric	English	Comments
Tensile Impact Strength	420 kJ/m ²	200 ft-lb/in ²	ASTM D1622

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	56.0 Åµm/m-Å°C	31.1 Åµin/in-Å°F	
Deflection Temperature at 1.8 MPa (264 psi)	174 Å°C	345 Å°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	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	
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	ASTM D150

Compliance Properties	Metric	English	Comments
FDA	Yes	Yes	
NSF	Yes	Yes	

Processing Properties	Metric	English	Comments
Zone 1	302 Å°C	576 Å°F	
Zone 5	316 - 338 Å°C	601 - 640 Å°F	
Melt Temperature	316 - 371 Å°C	601 - 700 Å°F	

Processing Properties	135 - 163 A°C	275 - 325 A°F	Comments
Drying Temperature	Metric	English	
	@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	Cast Film; Injection Molding; Solution Processing	
RoHS Compliance	RoHS Compliant	

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