

Solvay Specialty Polymers Udel® P-1700 LCD Polysulfone (PSU)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Udel® P-1700 LCD polysulfone is especially well suited for the fabrication of porous membranes for filtration applications. The membranes are usually in the form of hollow fibers, but tube, plate or spiral wound forms are also used. The membranes are used in a variety of applications, such as potable water treatment, waste water treatment, blood processing, pharmaceutical purification, gas separation, dairy product processing and for processing a variety of food products. This resin offers the membrane producer good solubility in commercially available dipolar aprotic solvents, such as dimethylacetamide (DMAC), dimethylformamide, (DMF) and N-methyl pyrrolidone (NMP), which are completely miscible in water, very good control of pore size and pore size distribution, high membrane strength and good film-forming properties. Typical grades of polysulfone contain a cyclic dimer that can precipitate from solution, plugging the process filters and limiting the life of the dope solutions. Udel® P-1700 NT LCD is specially manufactured to have a lower amount of cyclic dimer. It also has a higher number average molecular weight (Mn) for a given weight average molecular weight (Mw) leading to higher fiber strength, which means fewer fiber breakages, fewer surface defects and fewer rejects. The resultant membranes have excellent hydrolytic stability and are compatible with pHs ranging from 2 to 13. They tolerate a variety of cleaning methods, including hydrochloric acid or sodium hydroxide. Features: Acid Resistant; Alcohol Resistant; Alkali Resistant; Good Chemical Resistance; Good Toughness; High Heat Resistance; Hydrocarbon Resistant; Hydrolytically Stable Uses: Membranes Information provided by Solvay Specialty Polymers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Udel-P-1700-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	6.5 g/10 min @Load 2.16 kg, Temperature 343 °C	6.5 g/10 min @Load 4.76 lb, Temperature 649 °F	ASTM D1238

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

Mechanical Properties	Metric /m ²	English/in ²	Comments
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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	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
	@Frequency 1000 Hz	@Frequency 1000 Hz	
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	
	0.0013	0.0013	
Dissipation Factor	@Frequency 1000 Hz	@Frequency 1000 Hz	ASTM D150
	0.0050	0.0050	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Availability	Asia Pacific	
	Europe	
	Latin America	
	North America	
Color	Transparent - Slight Yellow	
Form	Pellets	
Processing Technique	Coating; Extrusion	

Descriptive Properties	Value	Comments
	Injection Molding; Solution Processing	
RoHS Compliance	RoHS Compliant	

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