

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

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. The resin has a Tg of 185°C indicating high thermal resistance. - Transparent: Udel P-1700 NT LCD 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-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	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

Impact Notched Mechanical Properties	0.690 J/cm Metric	1.29 ft-lb/in English	ASTM D256 Comments
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 μm/m-°C	31.1 μin/in-°F	ASTM D696
Deflection Temperature at 1.8 MPa (264 psi)	174 °C	345 °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	
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	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	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Appearance	Transparent - Slight Yellow	
Availability	Asia Pacific	
	Europe	
	North America	
	South America	
Features	Acid Resistant	

Descriptive Properties	Value of Resistant	Comments
	Alkali Resistant	
	Good Chemical Resistance	
	Good Toughness	
	High Heat Resistance	
	Hydrocarbon Resistant	
	Hydrolytically Stable	
Forms	Pellets	
Generic	PSU	
Processing Method	Coating	
	Extrusion	
	Injection Molding	
	Solution Processing	
RoHS Compliance	RoHS Compliant	
Uses	Membranes	

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