Udel® P-1700

Polysulfone

Solvay Specialty Polymers

Message:

Udel® P-1700 polysulfone (PSU) is a tough, rigid, high-strength thermoplastics suitable for continuous use up to 300°F (149°C). It is resistant to oxidation and hydrolysis and withstand prolonged exposure to high temperatures and repeated sterilization. Udel® P-1700 polysulfone is highly resistant to mineral acids, alkali and salt solutions. Resistance to detergents and hydrocarbon oils is good, but the resin may be attacked by polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons.
These resins are also highly resistant to degradation by gamma or electron beam radiation. Electrical properties of Udel® P-1700 polysulfones are stable over a wide temperature range and after immersion in water or exposure to high humidity.
The resins comply with FDA 21 CFR 177.1655 and may be used in articles intended for repeated use in contact with foods. Additionally, they are approved by the NSF, by the Department of Agriculture for contact with meat and poultry and by the 3-A Sanitary Standards of the Dairy Association.
Transparent: Udel® P-1700 CL 2611 CMP
Transparent: Udel® P-1700 NT 06
Transparent: Udel® P-1700 NT 11
Opaque Black : Udel® P-1700 BK 937
Opaque White: Udel® P-1700 WH 6417
Opaque White: Udel® P-1700 WH 7407

General Information		
UL YellowCard	E36098-231084	E161096-224288
Features	Acid Resistant	
	Alcohol Resistant	
	Alkali Resistant	
	Autoclave Sterilizable	
	Biocompatible	
	Detergent Resistant	
	E-beam Sterilizable	
	Ethylene Oxide Sterilizable	
	Food Contact Acceptable	
	Good Chemical Resistance	
	Good Dimensional Stability	
	Good Sterilizability	
	Good Surface Finish	
	Good Toughness	
	Heat Sterilizable	
	High Heat Resistance	
	Hydrocarbon Resistant	
	Hydrolytically Stable	
	Radiation (Gamma) Resistant	
	Radiation Sterilizable	
	Radiotranslucent	
	Steam Resistant	
	Steam Sterilizable	

Uses	Appliance Components
	Appliances
	Automotive Electronics
	Dental Applications
	Electrical Parts
	Electrical/Electronic Applications
	Food Service Applications
	Hospital Goods
	Industrial Parts
	Medical Devices
	Medical/Healthcare Applications
	Microwave Cookware
	Piping
	Plumbing Parts
	Surgical Instruments
	Valves/Valve Parts
Agency Ratings	FDA 21 CFR 177.1655
	ISO 10993
	ISO 10993-Part 1
	NSF 51 3
	NSF 61 4
RoHS Compliance	RoHS Compliant
Appearance	Colors Available
	Transparent - Slight Yellow
Forms	Pellets
Processing Method	Extrusion
	Extrusion Blow Molding
	Film Extrusion
	Injection Blow Molding
	Injection Molding
	Machining
	Pipe Extrusion
	Profile Extrusion
	Sheet Extrusion
	Thermoforming

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24	g/cm³	ASTM D792

Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	6.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.70	%	ASTM D955
Water Absorption (24 hr)	0.30	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2480	MPa	ASTM D638
Tensile Strength	70.3	MPa	ASTM D638
Tensile Elongation (Break)	50 to 100	%	ASTM D638
Flexural Modulus	2690	MPa	ASTM D790
Flexural Strength	106	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	69	J/m	ASTM D256
Tensile Impact Strength	420	kJ/m^2	ASTM D1822
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	174	°C	ASTM D648
CLTE - Flow	5.6E-5	cm/cm/°C	ASTM D696
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	3.0E+16	ohms·cm	ASTM D257
Dielectric Strength	17	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.03		
1 kHz	3.04		
1 MHz	3.02		
Dissipation Factor			ASTM D150
60 Hz	7.0E-4		
1 kHz	1.0E-3		
1 MHz	6.0E-3		
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
1.50 mm, ALL	HB		
4.50 mm, NC	V-0		
Glow Wire Flammability Index			IEC 60695-2-12
0.800 mm	850	°C	
1.60 to 6.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.800 mm	875	°C	
1.60 to 6.00 mm	850	°C	
Injection	**Nominal Value**	**Unit**	
Drying Temperature	135 to 163	°C	
Drying Time	3.5	hr	
Suggested Shot Size	50 to 75	%	
Processing (Melt) Temp	329 to 385	°C	

Mold Temperature	121 to 163	°C

Recommended distributors for this material

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