Udel® P-3703

Polysulfone

Solvay Specialty Polymers

Message:

Udel® P-3703 is a high-flow grade of polysulfone intended for injection molding applications with thin walls or long flow lengths. This grade has higher flow than Udel® P-1700 and a slightly greater tendency to stress crack in some aggressive environments.
Udel® polysulfone is a tough, rigid, high-strength thermoplastic that maintains its properties at temperatures from -101°C to 149°C (-150°F to 300°F). The heat deflection temperature at 1.8 MPa (264 psi) is 174°C (345°F). For most purposes, this resin is suitable for continuous use up to 149°C (300°F). The material is resistant to oxidation and hydrolysis and withstands prolonged exposure to high temperatures and repeated sterilization. Udel polysulfone is highly resistant to mineral acids, alkali and salt solutions. The resistance to detergents and hydrocarbon oils is good, but it will be attacked by polar solvents such as ketones, chlorinated hydrocarbons and aromatic hydrocarbons.
Electrical properties of Udel polysulfone are stable over a wide temperature range and after immersion in water or exposure to high humidity.
Natural: Udel® P-3703 NT 11

General Information	
Features	Acid Resistant
	Alcohol Resistant
	Alkali Resistant
	Food Contact Acceptable
	Good Chemical Resistance
	Good Toughness
	High Flow
	High Heat Resistance
	Hydrocarbon Resistant
	Hydrolytically Stable
Uses	Appliance Components
	Appliances
	Automotive Electronics
	Batteries
	Business Equipment
	Electrical Parts
	Electrical/Electronic Applications
	Food Service Applications
	Industrial Parts
	Microwave Cookware
	Piping
	Plumbing Parts
	Valves/Valve Parts
Agency Ratings	NSF 51 2
RoHS Compliance	RoHS Compliant
Appearance	Clear/Transparent

Forms	Pellets
Processing Method	Extrusion Injection Molding
Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1) Secant Modulus vs. Strain (ISO 11403-1) Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.24	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (343°C/2.16 kg)	17	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 (Break)	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/m²	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	5.0E+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	1.1E-3		
1 kHz	1.3E-3		
1 MHz	5.0E-3		
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

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China