Udel® P-3700 HC

Polysulfone

Solvay Specialty Polymers

Message:

Udel ® P-3700 HC is a high-clarity grade of polysulfone (PSU) that is nearly water-white in color. This grade was designed to eliminate the yellow cast and provide design flexibility and improved aesthetics for applications where a yellow cast is undesirable.

Compared to Udel® P-1700, P-3700 HC has higher flow and a slightly greater tendency to stress crack in some aggressive environments.

General Information					
Features	Good chemical resistance				
	alkali resistance				
	Alcohol resistance				
	Heat resistance, high				
	acid resistance				
	Hydrocarbon resistance				
	Definition, high				
	Good toughness				
	Hydrolysis stability				
Uses	Safety equipment				
	Electrical/Electronic Applications				
	Electrical appliances				
	Optical applications				
	Home appliance components				
	Food service sector				
	Medical/nursing supplies				
	Decorative parts				
Agency Ratings	FDA Food Exposure, Not Rated				
RoHS Compliance	RoHS compliance				
Appearance	Colorless	Colorless			
Forms	Particle				
Processing Method	Extrusion				
	Injection molding				
Physical	Nominal Value	Unit	Test Method		
Specific Gravity	1.24	g/cm³	ASTM D792		
Melt Mass-Flow Rate (MFR) (343°C/2.16					
kg)	18	g/10 min	ASTM D1238		
Molding Shrinkage - Flow (3.18 mm)	0.70	%	ASTM D955		
Water Absorption (24 hr)	0.30	%	ASTM D570		

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2690	MPa	ASTM D638
Tensile Strength	75.8	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	5.8	%	ASTM D638
Fracture	45	%	ASTM D638
Flexural Modulus	2760	MPa	ASTM D790
Flexural Strength (Yield)	117	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (3.18 mm)	53	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8			
MPa, Annealed, 3.18 mm)	178	°C	ASTM D648
Glass Transition Temperature	185	°C	ASTM E1356
CLTE - Flow	5.6E-5	cm/cm/°C	ASTM D696
Optical	Nominal Value	Unit	Test Method
Optical Refractive Index	Nominal Value 1.635	Unit	Test Method ASTM D542
Optical Refractive Index Transmittance (2540 µm)	Nominal Value 1.635 77.0 - 83.0	Unit %	Test Method ASTM D542 ASTM D1003
Optical Refractive Index Transmittance (2540 µm) Haze (2540 µm)	Nominal Value 1.635 77.0 - 83.0 2.0	Unit % %	Test MethodASTM D542ASTM D1003ASTM D1003
Optical Refractive Index Transmittance (2540 µm) Haze (2540 µm) Yellowness Index (2.54 mm)	Nominal Value 1.635 77.0 - 83.0 2.0 2.0	Unit % % YI	Test MethodASTM D542ASTM D1003ASTM D1003ASTM D1925
Optical Refractive Index Transmittance (2540 µm) Haze (2540 µm) Yellowness Index (2.54 mm) Additional Information	Nominal Value 1.635 77.0 - 83.0 2.0 2.0	Unit % % YI	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
Optical Refractive Index Transmittance (2540 µm) Haze (2540 µm) Yellowness Index (2.54 mm) Additional Information Tensile Elongation at Break, ASTM D638: 30	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 to 60 %	Unit % % YI	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
Optical Refractive Index Transmittance (2540 µm) Haze (2540 µm) Yellowness Index (2.54 mm) Additional Information Tensile Elongation at Break, ASTM D638: 30	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 to 60 % Nominal Value	Unit % % % YI Unit	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
OpticalRefractive IndexTransmittance (2540 µm)Haze (2540 µm)Yellowness Index (2.54 mm)Additional InformationTensile Elongation at Break, ASTM D638: 30 °InjectionDrying Temperature	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 to 60 % Nominal Value 149	Unit % % YI Unit °C	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
OpticalRefractive IndexTransmittance (2540 µm)Haze (2540 µm)Yellowness Index (2.54 mm)Additional InformationTensile Elongation at Break, ASTM D638: 30 °InjectionDrying TemperatureDrying Time	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 2.0 Value 149 3.0	Unit % % YI Unit C hr	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
OpticalRefractive IndexTransmittance (2540 µm)Haze (2540 µm)Yellowness Index (2.54 mm)Additional InformationTensile Elongation at Break, ASTM D638: 30InjectionDrying TemperatureDrying TimeDrying Time, Maximum	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 2.0 Value 149 3.0 3.5	Unit % % % YI Unit C hr hr	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
OpticalRefractive IndexTransmittance (2540 µm)Haze (2540 µm)Yellowness Index (2.54 mm)Additional InformationTensile Elongation at Break, ASTM D638: 30InjectionDrying TemperatureDrying Time, MaximumSuggested Shot Size	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 2.0 2.0 2.0 2.0 3.0 3.5 50 - 75	Unit % % YI Unit Unit C hr hr % %	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925
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OpticalRefractive IndexTransmittance (2540 µm)Haze (2540 µm)Yellowness Index (2.54 mm)Additional InformationTensile Elongation at Break, ASTM D638: 30 °InjectionDrying TemperatureDrying Time, MaximumSuggested Shot SizeHopper TemperatureProcessing (Melt) Temp	Nominal Value 1.635 77.0 - 83.0 2.0 2.0 2.0 Volue 149 3.0 3.5 50 - 75 149 329 - 385	Unit % % VI Unit Unit % hr hr % % % % % % % % % % % % % % % %	Test Method ASTM D542 ASTM D1003 ASTM D1003 ASTM D1925

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