

## Solvay Specialty Polymers Udel® M-2300 MR Polysulfone (PSU), Mold Release (discontinued \*\*)

Category : Polymer , Thermoplastic , Polysulfone (PSU)

### Material Notes:

Udel M-2300 MR is an injection-moldable, low-color grade of polysulfone that is nearly water white in color. This material contains a mold release which aids part ejection when parts with low draft are injection molded. Polysulfones have long been known for transparency and clarity, but have been somewhat limited by a slight yellow cast which has been typical of the material. These grades were designed to eliminate the yellow cast and provide improved aesthetics for applications where a yellow cast is undesirable. In general, Udel polysulfone is a tough, rigid, high-strength, high-heat thermoplastic that retains its properties at temperatures from -101°C to 149°C (-150°F to 300°F). With a heat deflection temperature at 1.8 MPa (264 psi) of 174°C (345°F) and excellent thermal and oxidative stability, this resin is suitable for sustained use at temperatures up to 149°C (300°F). Other key properties of polysulfone include resistance to hydrolysis by hot water and resistance to acids and bases. In addition, the resin is resistant to a wide range of cleaners and disinfectants. Polysulfone's resistance to alcohols and aliphatic hydrocarbons is also good; however, the resin is generally not resistant to polar organic or chlorinated solvents. Udel M-2300 NT MR also offers superior retention of properties after repeated steam sterilizations. - Natural/Transparent: Udel M-2300 NT MR Features: Acid Resistant; Alcohol Resistant; Alkali Resistant; Cleanable; Good Chemical Resistance; Good Sterilizability; Good Surface Finish; Good Toughness; High Clarity; High Heat Resistance; Hydrocarbon Resistant; Hydrolytically Stable; Steam Sterilizable Uses: Medical/Healthcare Applications Availability: Africa & Middle East; Asia Pacific; Europe; North America; South America Information provide by Solvay Specialty Polymers

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Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ASTM D792
Water Absorption	0.30 %	0.30 %	24 hrs; ASTM D570
Linear Mold Shrinkage, Flow	0.0070 cm/cm	0.0070 in/in	ASTM D955
Melt Flow	7.5 g/10 min @Load 2.16 kg, Temperature 343 °C	7.5 g/10 min @Load 4.76 lb, Temperature 649 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength	75.8 MPa	11000 psi	ASTM D638
Elongation at Break	40 - 100 %	40 - 100 %	ASTM D638
Elongation at Yield	5.9 %	5.9 %	ASTM D638
Tensile Modulus	2.48 GPa	360 ksi	ASTM D638
Flexural Strength	107 MPa	15500 psi	ASTM D790

Mechanical Properties	MetricPa	English	Comments
Izod Impact, Notched	0.530 J/cm	0.993 ft-lb/in	ASTM D256

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)	178 °C @Thickness 3.18 mm	352 °F @Thickness 0.125 in	Annealed; ASTM D648
Glass Transition Temp, Tg	185 °C	365 °F	ASTM E1356

Optical Properties	Metric	English	Comments
Refractive Index	1.635	1.635	ASTM D542
Haze	2.0 %	2.0 %	2500 µm; ASTM D1003
Yellow Index	2.0 % @Thickness 2.50 mm	2.0 % @Thickness 0.0984 in	ASTM D1925
Transmission, Visible	80 %	80 %	2500 µm; ASTM D1003

Processing Properties	Metric	English	Comments
Melt Temperature	329 - 385 °C	624 - 725 °F	
Mold Temperature	149 - 163 °C	300 - 325 °F	
Drying Temperature	149 °C	300 °F	
Dry Time	2.50 - 3.50 hour	2.50 - 3.50 hour	
Shot Size	50 - 75 %	50 - 75 %	

Descriptive Properties	Value	Comments
Appearance	Clear/Transparent	
Forms	Pellets	
Processing Method	Extrusion	
	Extrusion Blow Molding	
	Injection Blow Molding	
	Injection Molding	
RoHS Compliance	Contact Manufacturer	

Descriptive Properties	Value	Comments
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