

Lubrizol Isoplast® 2531 Engineering Thermoplastic Polyurethane Resin for Medical Applications

Category : Polymer , Thermoplastic , Polyurethane, TP

Material Notes:

Features: USP Class VI Available in Americas, Europe, Middle East, Africa, India and Asia Data provided by Lubrizol
Lubrizol acquired the Isoplast product line from Dow in 2009.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Lubrizol-Isoplast-2531-Engineering-Thermoplastic-Polyurethane-Resin-for-Medical-Applications.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM D792
Water Absorption	0.19 %	0.19 %	ASTM D570
Linear Mold Shrinkage	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	74	74	ASTM D785
Hardness, Rockwell R	123	123	ASTM D785
Tensile Strength, Ultimate	63.0 MPa	9140 psi	ASTM D638
Tensile Strength, Yield	69.0 MPa	10000 psi	ASTM D638
Elongation at Break	140 %	140 %	ASTM D638
Elongation at Yield	7.0 %	7.0 %	ASTM D638
Tensile Modulus	2.10 GPa	305 ksi	ASTM D638
Flexural Strength	97.0 MPa	14100 psi	ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	ASTM D790
Izod Impact, Unnotched	0.430 J/cm	0.806 ft-lb/in	ASTM D256
	@Thickness 3.20 mm, Temperature -40.0 °C	@Thickness 0.126 in, Temperature -40.0 °F	
	0.910 J/cm	1.70 ft-lb/in	ASTM D256
	@Thickness 6.40 mm, Temperature 23.0 °C	@Thickness 0.252 in, Temperature 73.4 °F	
	1.28 J/cm	2.40 ft-lb/in	ASTM D256
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Dart Drop, Total Energy	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D3763
	90.0 J	66.4 ft-lb	ASTM D3763
	@Temperature -29.0 °C	@Temperature -20.2 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	61.0 µm/m-°C	33.9 µin/in-°F	ASTM D696
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Deflection Temperature at 0.46 MPa (66 psi)	88.0 °C	190 °F	Unannealed; ASTM D648
	104 °C	219 °F	Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	77.0 °C	171 °F	Unannealed; ASTM D648
	99.0 °C	210 °F	Annealed; ASTM D648
Vicat Softening Point	109 °C	228 °F	

Optical Properties	Metric	English	Comments
Yellow Index	6.0 %	6.0 %	ASTM D1925
Transmission, Visible	90 %	90 %	ASTM D1003

Processing Properties	Metric	English	Comments
Melt Temperature	230 - 250 °C	446 - 482 °F	
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	
Drying Temperature	95.0 - 110 °C	203 - 230 °F	

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