

Makrolon® Rx2635

 Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (300°C/1.2 kg) 12 cm³/10 min; medical devices; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; medium viscosity; easy release; injection molding - melt temperature 280 - 320°C; available in color code 451118 only; transparent parts for medical devices

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• Biocompatible • Good Mold Release • Medium Viscosity • Radiation Sterilizable
Uses	• Medical Devices • Medical/Healthcare Applications
Agency Ratings	• ISO 10993-1 • USP Class VI
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding
ISO Designation	• ISO 7391-PC,MR,(,)-18-9

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Apparent (Bulk) Density ²	0.66	g/cm ³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	12	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow	0.60 to 0.80	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9720	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	10900	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.1	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	130	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F	No Break		
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength ³			ISO 180/A
-22°F, Complete Break	5.7	ft·lb/in ²	
73°F, Partial Break	31	ft·lb/in ²	
Multi-Axial Instrumented Impact Energy (73°F)	44.3	ft·lb	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force (73°F)	1190	lbf	ISO 6603-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	271	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	250	°F	ISO 75-2/A



Vicat Softening Temperature	289 °F	ISO 306/B50
CLTE - Flow (73 to 131°F)	3.6E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5 in/in/°F	ISO 11359-2
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms	IEC 60093
Volume Resistivity (73°F)	1.0E+16 ohms·cm	IEC 60093
Flammability	Nominal Value Unit	Test Method
Flash Ignition Temperature	896 °F	ASTM D1929
Self Ignition Temperature	1022 °F	ASTM D1929

Processing Information

Injection	Nominal Value Unit
Drying Temperature - Dry Air Dryer	248 °F
Drying Time - Dry Air Dryer	2.0 to 3.0 hr
Suggested Max Moisture	< 0.020 %
Suggested Shot Size	30 to 70 %
Rear Temperature	482 to 500 °F
Middle Temperature	518 to 536 °F
Front Temperature	536 to 554 °F
Nozzle Temperature	554 to 572 °F
Processing (Melt) Temp	536 to 608 °F
Mold Temperature	176 to 248 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Peripheral Screw Speed: 0.05 - 0.2 m/s
Standard Melt Temperature: 300°C
Hold Pressure (% of Injection Pressure): 50 - 75%

Notes

¹ Typical properties: these are not to be construed as specifications.

² Pellets

³ 3.0 mm

