

Makrolon® Rx1452

 Covestro - Polycarbonates - *Polycarbonate*
General Information
Product Description

MVR (300°C/1.2 kg) 16 cm³/10 min; medical devices; low viscosity; easy release; injection molding - melt temperature 280 - 320°C

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Features	• Good Mold Release	• Low Viscosity	
Uses	• Medical Devices	• Medical/Healthcare Applications	
Agency Ratings	• ISO 10993	• 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/cm³	ISO 1183
Apparent (Bulk) Density ²	0.66	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	17	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
Flow	0.60 to 0.80	%	ISO 2577
Across Flow : 536°F, 0.0787 in ³	0.70	%	ISO 294-4
Flow : 536°F, 0.0787 in ³	0.70	%	ISO 294-4
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)	9860	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	10200	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.0	%	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
Flexural Modulus ⁴ (73°F)	348000	psi	ISO 178
Flexural Stress ⁴			ISO 178
73°F	14500	psi	
3.5% Strain, 73°F	11300	psi	
Flexural Strain at Flexural Strength ⁵ (73°F)	6.8	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength ⁶			ISO 180/A
-22°F, Complete Break	5.7	ft·lb/in²	
73°F, Partial Break	31	ft·lb/in²	



Multi-Axial Instrumented Impact Energy		ISO 6603-2
-22°F	47.9 ft·lb	
73°F	44.3 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1390 lbf	
73°F	1190 lbf	
Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness	17100 psi	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	270 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	248 °F	ISO 75-2/A
Vicat Softening Temperature		
--	286 °F	ISO 306/B120
--	284 °F	ISO 306/B50
Ball Pressure Test (270°F)	Pass	IEC 60695-10-2
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
Thermal Conductivity ⁷ (73°F)	1.4 Btu·in/hr/ft ² /°F	ISO 8302
Flammability	Nominal Value Unit	Test Method
Flash Ignition Temperature	896 °F	ASTM D1929
Self Ignition Temperature	1022 °F	ASTM D1929
Optical	Nominal Value Unit	Test Method
Light Transmittance (118.1 mil)	86.0 %	ISO 13468-2
Haze (118.1 mil)	1.00 %	ISO 14782

Processing Information

	Nominal Value	Unit
Injection		
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

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

Notes

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

² Pellets

³ 60x60x2mm, MT 80°C, 500 bar

⁴ 0.079 in/min

⁵ 2.0 mm/min

⁶ 3.0 mm

⁷ Across Flow

