

Makrolon® Rx2235

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

low viscosity; easy release; suitable for radiation sterilization; biocompatible according to many ISO 10993-1 test requirements; injection molding - melt temperature 280 - 320 °C; 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	• Low Viscosity • Radiation Sterilizable	
Uses	• Medical Devices	• Medical/Healthcare Applications	
Agency Ratings	• ISO 10993-1	• USP Class VI	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent		
Processing Method	• Injection Molding		
ISO Designation	• PC		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	34	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 2577
Across Flow	0.50 to 0.70	%	
Flow	0.50 to 0.70	%	
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)	9430	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	7980	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	5.9	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	> 50	%	ISO 527-2/50
Flexural Modulus ² (73°F)	348000	psi	ISO 178
Flexural Stress ² (73°F)	13800	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F, Complete Break	4.3	ft·lb/in ²	
73°F, Complete Break	5.7	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength ³			ISO 180/A
-22°F, Complete Break	3.8	ft·lb/in ²	
73°F, Complete Break	4.8	ft·lb/in ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	44.3	ft·lb	
73°F	40.6	ft·lb	



Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1370 lbf	
73°F	1100 lbf	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	268 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	243 °F	ISO 75-2/A
Vicat Softening Temperature	280 °F	ISO 306/B120
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

Processing Information

Injection	Nominal Value Unit	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

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

Notes

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

² 0.079 in/min

³ 3.0 mm

