

Makrolon® Rx1452

Polycarbonate
Covestro - Polycarbonates

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

General Information			
UL YellowCard	E41613-101010256		
Features	Good Mold Release		
	Low Viscosity		
Uses	Medical Devices		
	Medical/Healthcare Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.20	g/cm³	ISO 1183
Apparent Density ¹	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)	16.0	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
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Across Flow : 280°C, 2.00 mm ²	0.70	%	ISO 294-4
Flow : 280°C, 2.00 mm ³	0.70	%	ISO 294-4
Water Absorption			ISO 62
Saturation, 23°C	0.30	%	
Equilibrium, 23°C, 50% RH	0.12	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	118	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	2400	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 23°C	68.0	MPa	
Break, 23°C	70.0	MPa	
Tensile Strain			ISO 527-2/50
Yield, 23°C	6.0	%	
Break, 23°C	130	%	

Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Flexural Modulus ⁴ (23°C)	2400	MPa	ISO 178
Flexural Stress ⁵			ISO 178
3.5% Strain, 23°C	78.0	MPa	
23°C	100	MPa	
Flexural Strain at Flexural Strength ⁶ (23°C)	6.8	%	ISO 178
Flash Ignition Temperature	480	°C	ASTM D1929
Self Ignition Temperature	550	°C	ASTM D1929
ISO Shortname	ISO 7391-PC,MR,(,,)-18-9		
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁷			ISO 7391
-30°C, Complete Break	12	kJ/m ²	
23°C, Partial Break	65	kJ/m ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	65.0	J	
23°C	60.0	J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-30°C	6200	N	
23°C	5300	N	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	132	°C	ISO 75-2/B
1.8 MPa, Unannealed	120	°C	ISO 75-2/A
Vicat Softening Temperature			
--	140	°C	ISO 306/B50
--	141	°C	ISO 306/B120
Ball Pressure Test (132°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 55°C	6.5E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.5E-5	cm/cm/°C	
Thermal Conductivity ⁸ (23°C)	0.20	W/m/K	ISO 8302
Optical	Nominal Value	Unit	Test Method
Transmittance (3000 µm)	86.0	%	ISO 13468-2
Haze (3000 µm)	1.0	%	ISO 14782
NOTE			
1.	Pellets		
2.	60x60x2 mm, 80°C MT, 500 bar		
3.	60x60x2 mm, 80°C MT, 500 bar		

4.	2.0 mm/min
5.	2.0 mm/min
6.	2 mm/min
7.	Based on ISO 180-A, 3 mm
8.	Cross-flow

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