Makrolon® Rx2430

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description			
MVR (300°C/1.2 kg) 19 cm³/10 min; medical devices; suitable for sterilization with high-energy radiation; biocompatible according to many ISO 10993-1 test requirements; low viscosity; 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	• 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	• ISO 7391-PC,M,(,,)-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)	20	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	19	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]	0.65	%	ISO 294-4
Flow : 0.0787 in [3]	0.60	%	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)	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
Flexural Modulus [4] (73°F)	348000	psi	ISO 178
Flexural Stress [4]			ISO 178
73°F	14500	psi	
3.5% Strain, 73°F	10700	psi	
Flexural Strain at Flexural Strength [5] (73°F)	7.0	%	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [6]			ISO 179/1eA
-22°F, Complete Break	6.7	ft·lb/in²	
73°F, Partial Break	33	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU

-76°F	No Break		
-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	29	ft·lb/in²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	51.6	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)	273	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	252	°F	ISO 75-2/A
Vicat Softening Temperature			
--	288	°F	ISO 306/B120
--	286	°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/ft²/°F	ISO 8302
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**
Flame Rating (0.014 in)	V-2		UL 94
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

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] Pellets

[3] 60x60x2mm, 500 bar

[4] 0.079 in/min

[5] 2.0 mm/min

[6] 2.0 mm