Makrolon® Rx3440

PC — Covestro Deutschland AG

Product Texts

- high viscosity
- MVR (300 °C/1.2 kg) 4.5 cm/10 min
- medical devices
- high lipid resistance
- suitable for sterilization with high-energy radiation
- biocompatible according to many ISO 10993-1 test requirements
- improved oncology drug resistance
- transparent parts for medical devices

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**4.5**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Melt flow index, MFI	**4.7**	g/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
[C] Molding shrinkage, parallel	**0.7**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.7**	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2300**	MPa	ISO 527
[C] Yield stress	**65**	MPa	ISO 527
[C] Yield strain	**6.4**	%	ISO 527
[C] Nominal strain at break	**>50**	%	ISO 527
Flexural modulus, 23°C	**2300**	MPa	ISO 178
Flexural strength	**98**	MPa	ISO 178
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C, 3mm	**90**	kJ/m²	ISO 179/1eA
Type of failure	**P**	-	-
Charpy notched impact strength, -30°C, 3mm	**19**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Izod notched impact strength, +23°C	**80**	kJ/m²	ISO 180/1A
Izod notched impact strength	**14**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
[C] Puncture - maximum force, +23°C	**5700**	N	ISO 6603-2
[C] Puncture - maximum force, -30°C	**6600**	N	ISO 6603-2
[C] Puncture energy, +23°C	**65**	J	ISO 6603-2
[C] Puncture energy, -30°C	**70**	J	ISO 6603-2
Ball indentation hardness	**114**	MPa	ISO 2039-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Glass transition temperature, 10°C/min	**145**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**126**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**139**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**144**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**65**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**65**	E-6/K	ISO 11359-1/-2
[C] Oxygen index	**27**	%	ISO 4589-1/-2

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.3**	%	Sim. to ISO 62
[C] Humidity absorption	**0.12**	%	Sim. to ISO 62
[C] Density	**1200**	kg/m³	ISO 1183
Bulk density	**660**	kg/m³	-

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
[C] Injection Molding, melt temperature	**300**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**120**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**290 - 330**	°C	-
Mold temperature	**80 - 120**	°C	-
Zone 1	**260 - 270**	°C	-
Zone 2	**280 - 290**	°C	-
Zone 3	**290 - 300**	°C	-
Nozzle temperature	**300 - 310**	°C	-
Back pressure	**5 - 15**	MPa	-

Characteristics

Processing
Injection Molding

Delivery form
Pellets

Special Characteristics
Transparent, Sterilizable, Gamma irradiation sterilization

Chemical Resistance
Radiation Resistance

Certifications
Medical Grade, Biocompatibility ISO 10993

Applications
Medical

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa