

Makrolon® Rx3440

PC

Covestro Deutschland AG

- 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

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	4.5	cm ³ /10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
Molding shrinkage, parallel	0.7	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577
Melt Flow Index, MFI	4.7	g/10min	ISO 1133
MFI temperature	300	°C	-
MFI load	1.2	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2300	MPa	ISO 527
Yield stress	65	MPa	ISO 527
Yield strain	6.4	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Impact Strength (Charpy), +23°C	no break	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break	kJ/m ²	ISO 179/1eU
Puncture - maximum force, +23°C	5700	N	ISO 6603-2
Puncture - maximum force, -30°C	6600	N	ISO 6603-2
Puncture energy, +23°C	65	J	ISO 6603-2
Puncture energy, -30°C	70	J	ISO 6603-2
Flexural Modulus (23°C)	2300	MPa	ISO 178
Flexural strength	98	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	80	kJ/m ²	ISO 180/1A
Notched Impact Strength (Izod)	14	kJ/m ²	ISO 180/1A
Temperature	-30	°C	-
Ball Indentation Hardness	114	MPa	ISO 2039-1

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	145	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	126	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	139	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	144	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	65	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	65	E-6/K	ISO 11359-1/-2
Oxygen index	27	%	ISO 4589-1/-2

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1200	kg/m ³	ISO 1183
Bulk density	660	kg/m ³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
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

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

Chemical Resistance

Radiation Resistance

Delivery form

Pellets

Certifications

Medical, Biocompatibility ISO 10993

Special Characteristics

Transparent, Sterilizable, Gamma irradiation sterilization

Applications

Medical

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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