



Makrolon® 3638

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 2.0 cm³/10 min
- high viscosity
- food contact quality
- biocompatible according to many ISO 10993-1 test requirements
- pharmaceutical applications
- medical devices

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	2	cm³/10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
Molding shrinkage, parallel	0.8	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577
Melt Flow Index, MFI	2.5	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	64	MPa	ISO 527
Yield strain	6.6	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Impact Strength (Charpy), +23 °C	no break	kJ/m²	ISO 179/1eU
Puncture - maximum force, +23 °C	5500	N	ISO 6603-2
Puncture - maximum force, -30 °C	6400	N	ISO 6603-2
Puncture energy, +23 °C	55	J	ISO 6603-2
Puncture energy, -30 °C	60	J	ISO 6603-2
Flexural Modulus (23 °C)	2300	MPa	ISO 178
Flexural strength	94	MPa	ISO 178
Notched Impact Strength (Izod), 23 °C	65	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	55	kJ/m²	ISO 180/1A
Temperature	-30	°C	-
Ball Indentation Hardness	108	MPa	ISO 2039-1

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10 °C/min)	152	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	132	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	145	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	150	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	70	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	70	E-6/K	ISO 11359-1/-2
Oxygen index	26	%	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/m³	ISO 1183
Bulk density	660	kg/m³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	310	°C	ISO 294
Injection Molding, mold temperature	90	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Characteristics

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Processing

Injection Molding, Blow Molding

Delivery form

Pellets

Special Characteristics

Transparent, Sterilizable

Certifications

Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI
Approved, Food approval

Applications

Medical