Makrolon® M420 GF

PC-GF20 — Covestro Deutschland AG

- polycarbonate
- MVR (300 °C/1.2 kg) 8.0 cm³/10 min
- low viscosity
- 20 % glass fiber reinforced
- biocompatible according to many ISO 10993-1 test requirements
- suitable for medical devices

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	8	cm³/10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	5800	MPa	ISO 527
Flexural Modulus (23 °C)	6000	MPa	ISO 178
Flexural strength	172	MPa	ISO 178
Notched Impact Strength (Izod), 23 °C	12	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	11	kJ/m²	ISO 180/1A
Temperature	-30	°C	-

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	141	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	146	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	149	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	30	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	65	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h	V-1	class	UL 94
Thickness tested	3.0	mm	-

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.28	%	Sim. to ISO 62
Humidity absorption	0.11	%	Sim. to ISO 62
Density	1340	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	300	°C	ISO 294
Injection Molding, mold temperature	110	°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	4	h	-
Melt temperature	300	°C	-
Mold temperature	100	°C	-

Characteristics

Processing
Injection Molding

Certifications
Biocompatibility ISO 10993

Special Characteristics
Opaque

Applications
Medical