Makrolon® Rx2530

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 15 cm³/10 min
- medical devices
- suitable for sterilization with high-energy radiation
- biocompatible according to many ISO 10993-1 test requirements
- medium viscosity
- transparent parts for medical devices

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	15	cm³/10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
Molding shrinkage, parallel	0.6	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	67	MPa	ISO 527
Yield strain	6.1	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Impact Strength (Charpy), +23°C	no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break	kJ/m²	ISO 179/1eU
Puncture - maximum force, +23°C	5300	N	ISO 6603-2
Puncture - maximum force, -30°C	6200	N	ISO 6603-2
Puncture energy, +23°C	60	J	ISO 6603-2
Puncture energy, -30°C	70	J	ISO 6603-2

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	142	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	122	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	134	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	141	°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

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2

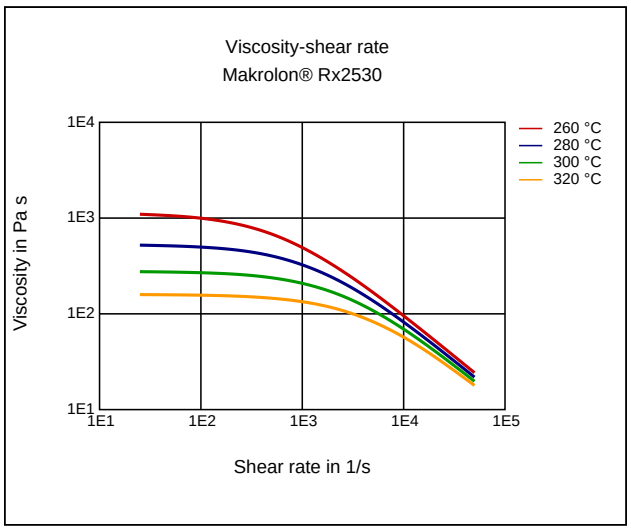
Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1200	kg/m³	ISO 1183

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

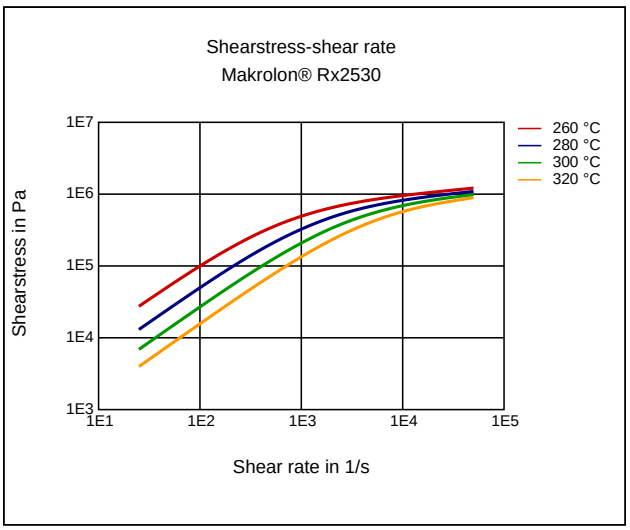
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120	°C	-
Pre-drying - Time	2 - 3	h	-
Processing humidity	≤0.02	%	-
Melt temperature	280 - 320	°C	-
Mold temperature	80 - 100	°C	-

Diagrams

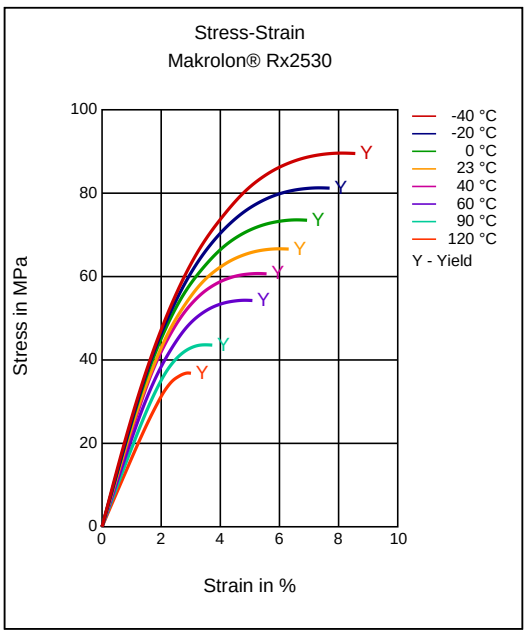
Viscosity-shear rate



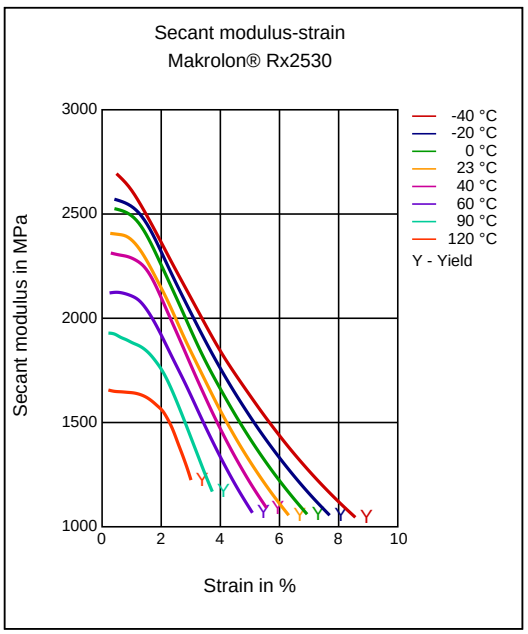
Shearstress-shear rate



Stress-strain



Secant modulus-strain



Characteristics

Processing
Injection Molding

Delivery form
Pellets

Special Characteristics
Transparent, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization

Certifications
Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Applications
Medical

Injection Molding
PREPROCESSING

Max. Water content: 0.01 - 0.02 %
Drying temperature: 120 °C
Drying time:
Circulating air drying oven (50 % fresh air) 4-8 h
Fresh air dryer (high speed dryer) 2-4 h
Dry air dryer 2-3 h

PROCESSING
Melt temperature: 280-320 °C
Mold temperature: 80-100 °C

Use open nozzle.

Disclaimer