Makrolon® GF9002

PC-GF10

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 15 cm³/10 min
- 10 % glass fiber reinforced
- flame retardant
- UL 94V-0/1.2 mm
- low viscosity
- easy release
- electrical/electronic
- housing parts with low wall thickness

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	0.5	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3900	MPa	ISO 527
Stress at Break	45	MPa	ISO 527
Strain at Break	10	%	ISO 527
Impact Strength (Charpy), +23°C	100	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	40	kJ/m²	ISO 179/1eU
Puncture - maximum force, +23°C	3200	N	ISO 6603-2
Puncture energy, +23°C	16	J	ISO 6603-2

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	132	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	141	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	40	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	60	E-6/K	ISO 11359-1/-2
Burning Behav. at thickness h	V-0	class	UL 94
Thickness tested	1.2	mm	-
Oxygen index	37	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.2	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.2	-	IEC 62631-2-1
Dissipation Factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	90	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2
Electric Strength	36	kV/mm	IEC 60243-1
Comparative tracking index	175	-	IEC 60112

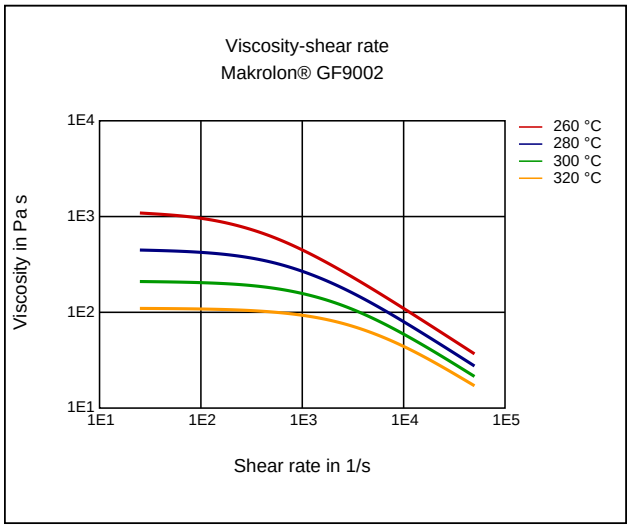
Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.1	%	Sim. to ISO 62
Density	1270	kg/m³	ISO 1183

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

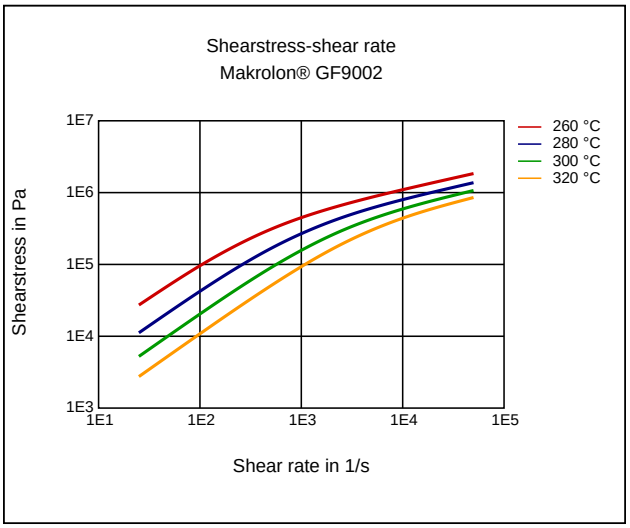
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120	°C	-
Pre-drying - Time	2 - 3	h	-
Processing humidity	≤0.02	%	-
Melt temperature	310 - 330	°C	-
Mold temperature	80 - 130	°C	-

Diagrams

Viscosity-shear rate



Shearstress-shear rate



Characteristics

Processing
Injection Molding

Additives
Release agent

Delivery form
Pellets

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: 310-330 °C
Mold temperature: 80-130 °C

Use open nozzle.

Disclaimer

The buyer is solely responsible for confirming the suitability of the product for a particular application, its utilization and processing and must observe any applicable laws and government regulations. **NO EXPRESS OR IMPLIED RECOMMENDATION OR WARRANTY IS GIVEN WITH REGARD TO THE SUITABILITY OF THE PRODUCT FOR A PARTICULAR APPLICATION, SUCH AS, BUT NOT LIMITED TO, SAFETY-CRITICAL COMPONENTS OR SYSTEMS.**

Healthcare uses: the supply of any product by ALBIS for any medical, pharmaceutical or diagnostic application is conditional to an assessment by ALBIS in terms of compliance with ALBIS' internal risk management policy – even for products which are in general designated for use in Healthcare applications.
Important: irrespective of product type or designation, ALBIS does not recommend or support the use of any products it supplies which fall into the following medical, pharmaceutical or diagnostic application categories:

- risk class III applications according to EU directive 93/42/EEC
- any bodily implant application for greater than 30 days
- any critical component in any medical device that supports or sustains human life.

At all times, our standard terms and conditions of sale apply.

