Makrolon® GF8001

Glass fiber (Normal fiber) reinforced grades / 20 % Glass fiber reinforced	MVR (300 °C/1.2 kg) 16 cm³/10 min; 20 % glass fiber reinforced; low viscosity; easy release; injection molding - melt temperature 310 - 330 °C; available in opaque colors only; housing parts
ISO Shortname	ISO 7391-PC,MR,(,,)-18-3,GF20

	Property	Test Condition	Unit	Standard	typical Value
Rheological properties					
C	Melt volume-flow rate	300 °C; 1.2 kg	cm³/10 min	ISO 1133	16
C	Molding shrinkage, parallel	60x60x2 mm; 500 bar	%	ISO 294-4	0.25
C	Molding shrinkage, normal	60x60x2 mm; 500 bar	%	ISO 294-4	0.45
	Molding shrinkage, parallel/normal	Value range based on general practical experience	%	b.o. ISO 2577	0.3 - 0.5
	Melt mass-flow rate	300 °C; 1.2 kg	g/10 min	ISO 1133	19
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6000
C	Stress at break	5 mm/min	MPa	ISO 527-1,-2	105
C	Strain at break	5 mm/min	%	ISO 527-1,-2	3.0
	Flexural modulus	2 mm/min	MPa	ISO 178	5800
	Flexural strength	2 mm/min	MPa	ISO 178	160
	Flexural strain at flexural strength	2 mm/min	%	ISO 178	3,5
	Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	160
C	Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	50C
C	Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	45C
	Charpy notched impact strength	23 °C; 3 mm	kJ/m²	ISO 7391/b.o. ISO 179-1eA	8C
C	Puncture maximum force	23 °C	N	ISO 6603-2	700
C	Puncture energy	23 °C	J	ISO 6603-2	2,7
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	137
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	141
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	144
C	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.26
C	Coefficient of linear thermal expansion, transverse	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.63
C	Burning behavior UL 94 (1.5 mm) [UL recognition]		Class	UL 94	HB
C	Burning behavior UL 94 [UL recognition]	1.0 mm	Class	UL 94	V-2 (BK)
C	Oxygen index	Method A	%	ISO 4589-2	32
	Thermal conductivity, cross-flow	23 °C; 50 % r. h.	W/(m·K)	ISO 8302	0.23
	Relative temperature index (Tensile strength)	1.5 mm	°C	UL 746B	80
	Relative temperature index (Tensile impact strength)	1.5 mm	°C	UL 746B	80
	Relative temperature index (Electric strength)	1.5 mm	°C	UL 746B	80
	Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	960
	Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	960
	Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	850
	Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	850

Makrolon® GF8001

	Property	Test Condition	Unit	Standard	typical Value
Electrical properties (23 °C/50 % r. h.)					
C	Relative permittivity	100 Hz	-	IEC 60250	3.3
C	Relative permittivity	1 MHz	-	IEC 60250	3.3
C	Dissipation factor	100 Hz	10^{-4}	IEC 60250	10
C	Dissipation factor	1 MHz	10^{-4}	IEC 60250	90
C	Volume resistivity		Ohm·m	IEC 60093	1E14
C	Surface resistivity		Ohm	IEC 60093	1E16
C	Electrical strength	1 mm	kV/mm	IEC 60243-1	36
C	Comparative tracking index CTI	Solution A	Rating	IEC 60112	175
	Comparative tracking index CTI M	Solution B	Rating	IEC 60112	125
Other properties (23 °C)					
C	Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.28
C	Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.10
C	Density		kg/m³	ISO 1183-1	1340
	Glass fiber content	Method A	%	b.o. ISO 3451-1	20
	Bulk density	Pellets	kg/m³	ISO 60	640
Processing conditions for test specimens					
C	Injection molding-Melt temperature		°C	ISO 294	300
C	Injection molding-Mold temperature		°C	ISO 294	110
C	Injection molding-Injection velocity		mm/s	ISO 294	200

C These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

Impact properties: N = non-break, P = partial break, C = complete break