

Makrolon® MD4821

/ medium viscosity; easy release; impact modified; glass fiber reinforced; improved chemical resistance compared to standard Makrolon grades; housing parts; Information technology; electrical/electronic

ISO Shortname PC-I-GF20

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
C Melt volume-flow rate	300 °C/ 1.2 kg	cm ³ /10 min	ISO 1133	9
Molding shrinkage, parallel/normal	Value range based on general practical experience	%	b.o. ISO 2577	0.2 - 0.5
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6100
C Stress at break	5 mm/min	MPa	ISO 527-1,-2	98
C Strain at break	5 mm/min	%	ISO 527-1,-2	3
Flexural modulus	2 mm/min	MPa	ISO 178	5640
Flexural strength	2 mm/min	MPa	ISO 178	158
Charpy notched impact strength	23 °C/ 3 mm	kJ/m ²	ISO 21305/based on ISO 179/1eA	17C
Charpy notched impact strength	-30 °C/ 3 mm	kJ/m ²	ISO 21305/based on ISO 179/1eA	13C
Izod notched impact strength	23 °C/ 3 mm	kJ/m ²	ISO 21305/based on ISO 180/A	19C
Izod notched impact strength	-30 °C/ 3 mm	kJ/m ²	ISO 21305/based on ISO 180/A	15C
Izod impact strength	23 °C	kJ/m ²	ISO 180/U	50
C Puncture impact properties - maximum force	23 °C	N	ISO 6603-2	1120
C Puncture energy	23 °C	J	ISO 6603-2	8
Thermal properties				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	138
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	142
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	145
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	147
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.23
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.58
Other properties (23 °C)				
C Density		kg/m ³	ISO 1183-1	1310
Processing conditions for test specimens				
C Injection molding - Melt temperature		°C	ISO 294	280-320
C Injection molding - Mold temperature		°C	ISO 294	80-110
Recommended processing and drying conditions				
Dry Air Drying Temperature		°C	-	120
Dry Air Drying Time		h	-	4-6

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

