



Makrolon® TC110

/ moderate thermal conductivity; MVR (300 °C/1.2 kg) 9.0 cm³/10 min; medium viscosity; injection molding - melt temperature 300°C; available in white only; electrical/electronic

ISO Shortname PC-TD30

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
Melt volume-flow rate	300 °C/ 1.2 kg	cm³/10 min	ISO 1133	9
Melt viscosity	1000 s ⁻¹ / 280 °C	Pa·s	b.o. ISO 11443-A	280
Melt viscosity	1000 s ⁻¹ / 300 °C	Pa·s	b.o. ISO 11443-A	170
C Molding shrinkage, normal	60x60x2 mm	%	ISO 294-4	0.3 - 0.4
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6500
Yield stress	5 mm/min	MPa	ISO 527-1,-2	55
Yield strain	5 mm/min	%	ISO 527-1,-2	3
Nominal strain at break	5 mm/min	%	ISO 527-1,-2	3
C Stress at break	5 mm/min	MPa	ISO 527-1,-2	50
Flexural modulus	2 mm/min	MPa	ISO 178	6500
Flexural strength	2 mm/min	MPa	ISO 178	100
Flexural strain at flexural strength	2 mm/min	%	ISO 178	4
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	100
C Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU	70 C
C Puncture impact properties - maximum force	23 °C	N	ISO 6603-2	2900
C Puncture energy	23 °C	J	ISO 6603-2	15
Ball indentation hardness		N/mm²	ISO 2039-1	123
Thermal properties				
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	145
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.35
C Coefficient of linear thermal expansion, normal	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.54
Thermal conductivity, through-plane	23 °C; 50 % r. h.	W/(m·K)	ASTM E1461	0.3
Thermal conductivity, in-plane	23 °C; 50 % r. h.	W/(m·K)	ASTM E1461	1.0
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	875
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	850
Electrical properties (23 °C/50 % r. h.)				
C Volume resistivity		Ohm·m	IEC 60093	>=E+16
C Surface resistivity		Ohm	IEC 60093	>=E+16
C Electrical strength	1 mm	kV/mm	IEC 60243-1	40
Other properties (23 °C)				
C Density		kg/m³	ISO 1183-1	1450
Processing conditions for test specimens				
C Injection molding - Melt temperature		°C	ISO 294	300
C Injection molding - Mold temperature		°C	ISO 294	90
Recommended processing and drying conditions				
Dry Air Drying Temperature		°C	-	120
Dry Air Drying Time		h	-	4

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

