Makrolon® TC8030

/	high thermal conductivity; injection molding - melt temperature 300 - 350 °C; LED heat sinks (metal replacement); components for heat dissipation
ISO Shortname	PC-CD35

	Property	Test Condition	Unit	Standard	typical Value
Rheological properties					
	Melt viscosity	1000 s^{-1}/ 330 °C	Pa·s	b.o. ISO 11443-A	169
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	6200
C	Stress at break	5 mm/min	MPa	ISO 527-1,-2	37
C	Strain at break	5 mm/min	%	ISO 527-1,-2	1
	Flexural modulus	2 mm/min	MPa	ISO 178	7100
	Flexural strength	2 mm/min	MPa	ISO 178	51
	Flexural strain at flexural strength	2 mm/min	%	ISO 178	1
C	Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU	< 5.0
	Charpy notched impact strength	23 °C	kJ/m²	ISO 21305/based on ISO 179/1eA	< 5.0
	Izod notched impact strength	23 °C/ 3 mm	kJ/m²	ISO 21305/based on ISO 180/A	< 5.0
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	141
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	147
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	148
C	Coefficient of linear thermal expansion, parallel	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.24
C	Coefficient of linear thermal expansion, normal	23 to 55 °C	10^{-4}/K	ISO 11359-1,-2	0.38
C	Burning behavior UL 94	2.0 mm	Class	UL 94	V-0
C	Oxygen index	Method A	%	ISO 4589-2	74
	Thermal conductivity, in-plane		W/(m·K)	ISO 22007-2	22
	Thermal conductivity, through-plane	23 °C; 50 % r. h.	W/(m·K)	ASTM E1461	1.3
	Thermal conductivity, in-plane	23 °C; 50 % r. h.	W/(m·K)	ASTM E1461	14
	Relative temperature index (Tensile strength)		°C	UL 746B	130
	Relative temperature index (Tensile impact strength)		°C	UL 746B	130
	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	930
	Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	990
Electrical properties (23 °C/50 % r. h.)					
C	Volume resistivity		Ohm·m	IEC 60093	1.6E+02
C	Surface resistivity		Ohm	IEC 60093	1.8E+01
Other properties (23 °C)					
C	Density		kg/m³	ISO 1183-1	1420
Processing conditions for test specimens					
C	Injection molding - Melt temperature		°C	ISO 294	300 - 330
C	Injection molding - Mold temperature		°C	ISO 294	65 - 80

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