



Makrolon® 1899

Flame retardant grades / Medium viscosity

MVR (300 °C/1.2 kg) 16 cm³/10 min; special flame retardant system; UL 94V-0/0.75 mm; impact modified; medium viscosity; easy release; vicat softening temperature 50 N; 50 °C/h = 110 °C; injection molding - melt temperature 240 - 280 °C; available in opaque colors only; battery housing

ISO Shortname

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
C Melt volume-flow rate	300 °C; 1.2 kg	cm³/10 min	ISO 1133	16.0
C Molding shrinkage, parallel	60x60x2 mm; 500 bar	%	ISO 294-4	0.6
C Molding shrinkage, normal	60x60x2 mm; 500 bar	%	ISO 294-4	0.65
C Melt mass-flow rate	300 °C; 1.2 kg	g/10 min	ISO 1133	16.5
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2600
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	68
C Yield strain	50 mm/min	%	ISO 527-1,-2	4.8
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	> 50
Stress at break	50 mm/min	MPa	ISO 527-1,-2	60
Strain at break	50 mm/min	%	b.o. ISO 527-1,-2	115
Flexural modulus	2 mm/min	MPa	ISO 178	2600
Flexural strength	2 mm/min	MPa	ISO 178	100
Flexural strain at flexural strength	2 mm/min	%	ISO 178	5.8
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	82
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	N
C Puncture maximum force	23 °C	N	ISO 6603-2	4500
C Puncture maximum force	-30 °C	N	ISO 6603-2	5400
C Puncture energy	23 °C	J	ISO 6603-2	50
C Puncture energy	-30 °C	J	ISO 6603-2	55
Thermal properties				
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	96
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	105
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	110
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.7
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.7
C Burning behavior UL 94 [UL recognition]	0.75 mm	Class	UL 94	V-0
C Burning behavior UL 94-5V	3.0 mm	Class	UL 94	5VA
C Oxygen index	Method A	%	ISO 4589-2	35
Relative temperature index (Tensile strength) [UL recognition]	0.75 mm	°C	UL 746B	80
Relative temperature index (Tensile impact strength) [UL recognition]	0.75 mm	°C	UL 746B	80
Relative temperature index (Electric strength) [UL recognition]	0.75 mm	°C	UL 746B	80
Glow wire test (GWFI)	1.0 mm	°C	IEC 60695-2-12	960
Flash ignition temperature		°C	ASTM D1929	460
Self ignition temperature		°C	ASTM D1929	500
Electrical properties (23 °C/50 % r. h.)				
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	250
C Comparative tracking index CTI M	Solution B	Rating	IEC 60112	100M
Other properties (23 °C)				
C Water absorption (saturation value)	Water at 23 °C	%	ISO 62	0.30
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.12
C Density		kg/m³	ISO 1183-1	1200
C Bulk density	Pellets	kg/m³	ISO 60	640





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Property	Test Condition	Unit	Standard	typical Value
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	260
C Injection molding-Mold temperature		°C	ISO 294	80
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

