

Makrolon® 1837

Impact modified grades / Medium viscosity

MVR (300 °C/1.2 kg) 11 cm³/10 min; impact modified; medium viscosity; easy release; injection molding - melt temperature 280 - 320 °C; available in opaque colors only

ISO Shortname

ISO 7391-PC,MP,(,)-09-9

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
C Melt volume-flow rate	300 °C; 1.2 kg	cm³/10 min	ISO 1133	11
C Molding shrinkage, parallel	60x60x2 mm; 500 bar	%	ISO 294-4	0.65
C Molding shrinkage, normal	60x60x2 mm; 500 bar	%	ISO 294-4	0.7
Molding shrinkage, parallel/normal	Value range based on general practical experience	%	b.o. ISO 2577	0.6 - 0.8
Melt mass-flow rate	300 °C; 1.2 kg	g/10 min	ISO 1133	11.5
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2200
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	58
C Yield strain	50 mm/min	%	ISO 527-1,-2	5.7
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	120
Flexural modulus	2 mm/min	MPa	ISO 178	2200
Flexural strength	2 mm/min	MPa	ISO 178	86
Flexural strain at flexural strength	2 mm/min	%	ISO 178	6.8
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	68
C Charpy impact strength	23 °C	kJ/m²	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m²	ISO 179-1eU	N
Charpy impact strength	-60 °C	kJ/m²	ISO 179-1eU	N
Charpy notched impact strength	23 °C; 3 mm	kJ/m²	ISO 7391/b.o. ISO 179-1eA	60P
Charpy notched impact strength	-30 °C; 3 mm	kJ/m²	ISO 7391/b.o. ISO 179-1eA	50P
Izod notched impact strength	23 °C; 3 mm	kJ/m²	ISO 7391/b.o. ISO 180-A	60P
Izod notched impact strength	-30 °C; 3 mm	kJ/m²	ISO 7391/b.o. ISO 180-A	45P(C)
C Puncture maximum force	23 °C	N	ISO 6603-2	4900
C Puncture maximum force	-30 °C	N	ISO 6603-2	5800
C Puncture energy	23 °C	J	ISO 6603-2	50
C Puncture energy	-30 °C	J	ISO 6603-2	55
Ball indentation hardness		N/mm²	ISO 2039-1	104



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Property	Test Condition	Unit	Standard	typical Value
Thermal properties				
C Glass transition temperature	10 °C/min	°C	ISO 11357-1,-2	143
C Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	121
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	134
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	141
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	143
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	0.75 mm	Class	UL 94	HB
C Oxygen index	Method A	%	ISO 4589-2	30
Thermal conductivity, cross-flow	23 °C; 50 % r. h.	W/(m·K)	ISO 8302	0.20
Resistance to heat (ball pressure test)		°C	IEC 60695-10-2	134
Glow wire test (GWFI)	0.75 mm	°C	IEC 60695-2-12	850
Glow wire test (GWFI)	1.5 mm	°C	IEC 60695-2-12	875
Glow wire test (GWFI)	3.0 mm	°C	IEC 60695-2-12	900
Glow wire test (GWIT)	1.5 mm	°C	IEC 60695-2-13	825
Glow wire test (GWIT)	2.0 mm	°C	IEC 60695-2-13	825
Glow wire test (GWIT)	3.0 mm	°C	IEC 60695-2-13	850
Needle flame test	Method K; 1.5 mm	s	IEC 60695-11-5	5
Needle flame test	Method K; 2.0 mm	s	IEC 60695-11-5	5
Needle flame test	Method K; 3.0 mm	s	IEC 60695-11-5	10
Needle flame test	Method F; 1.5 mm	s	IEC 60695-11-5	120
Needle flame test	Method F; 2.0 mm	s	IEC 60695-11-5	120
Needle flame test	Method F; 3.0 mm	s	IEC 60695-11-5	120
Burning rate (US-FMVSS)	>=1.0 mm	mm/min	ISO 3795	passed
Flash ignition temperature		°C	ASTM D1929	450
Self ignition temperature		°C	ASTM D1929	530
Electrical properties (23 °C/50 % r. h.)				
C Relative permittivity	100 Hz	-	IEC 60250	3.2
C Relative permittivity	1 MHz	-	IEC 60250	3.1
C Dissipation factor	100 Hz	10 ⁻⁴	IEC 60250	14
C Dissipation factor	1 MHz	10 ⁻⁴	IEC 60250	125
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	34
C Comparative tracking index CTI	Solution A	Rating	IEC 60112	225
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	0.40
C Water absorption (equilibrium value)	23 °C; 50 % r. h.	%	ISO 62	0.12
C Density		kg/m³	ISO 1183-1	1190
Bulk density	Pellets	kg/m³	ISO 60	640
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	290
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.

