Makrolon® FR7087

Flame retardant grades / Medium viscosity	MVR (300 °C/1.2 kg) 12 cm³/10 min; flame retardant; UL 94V-0/2.2 mm and 5VA/3.0 mm; medium viscosity; UV stabilized; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent and translucent colors; electrical/electronic
ISO Shortname	ISO 7391-PC,MFLR,(,,)-18-9

	Property	Test Condition	Unit	Standard	typical Value
Rheological properties					
C	Melt volume-flow rate	300 °C/ 1.2 kg	cm³/10 min	ISO 1133	12.0
	Melt mass-flow rate	300 °C/ 1.2 kg	g/10 min	ISO 1133	12
Mechanical properties (23 °C/50 % r. h.)					
C	Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2500
C	Yield stress	50 mm/min	MPa	ISO 527-1,-2	75
C	Yield strain	50 mm/min	%	ISO 527-1,-2	5.0
	Stress at break	50 mm/min	MPa	ISO 527-1,-2	75
	Strain at break	50 mm/min	%	b.o. ISO 527-1,-2	100
C	Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU	N
	Izod notched impact strength	23 °C/ 3 mm	kJ/m²	ISO 21305/based on ISO 180/A	8C
	Izod notched impact strength	-30 °C/ 3 mm	kJ/m²	ISO 21305/based on ISO 180/A	8C
Thermal properties					
C	Temperature of deflection under load	1.80 MPa	°C	ISO 75-1,-2	106
C	Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	118
C	Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	123
	Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	124
C	Burning behavior UL 94 (1.5 mm) [UL recognition]	1.5 mm	Class	UL 94	V-2
C	Burning behavior UL 94 [UL recognition]	2.2 mm	Class	UL 94	V-0
C	Burning behavior UL 94-5V [UL recognition]	3.0 mm	Class	UL 94	5VA
	Relative temperature index (Tensile strength) [UL recognition]	1.5 mm	°C	UL 746B	85
	Relative temperature index (Tensile impact strength) [UL recognition]	1.5 mm	°C	UL 746B	80
	Relative temperature index (Electric strength) [UL recognition]	1.5 mm	°C	UL 746B	125
	Glow wire test (GWFI) [UL recognition]	1.5 mm	°C	IEC 60695-2-12	960
	Glow wire test (GWFI) [UL recognition]	2.2 mm	°C	IEC 60695-2-12	960
	Glow wire test (GWFI) [UL recognition]	3.0 mm	°C	IEC 60695-2-12	960
	Glow wire test (GWIT) [UL recognition]	1.5 mm	°C	IEC 60695-2-13	930
	Glow wire test (GWIT) [UL recognition]	2.2 mm	°C	IEC 60695-2-13	930
	Glow wire test (GWIT) [UL recognition]	3.0 mm	°C	IEC 60695-2-13	960
Material specific properties					
	Haze for transparent materials	3 mm	%	ISO 14782	0.9
	Luminous transmittance	3 mm	%	ISO 13468-2	88
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

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	Property	Test Condition	Unit	Standard	typical Value
Recommended processing and drying conditions					
	Melt temperatures		°C	-	280 - 320
	Standard Melt temperature		°C	-	300
	Barrel Temperatures - Rear		°C	-	250 - 270
	Barrel Temperatures - Middle		°C	-	270 - 290
	Barrel Temperatures - Front		°C	-	285 - 305
	Barrel Temperatures - Nozzle		°C	-	270 - 305
	Mold Temperatures		°C	-	70 - 110
	Hold Pressure (% of injection pressure)		%	-	50 - 75
	Plastic Back Pressure (specific)		bar	-	100 - 200
	Peripheral Screw Speed		m/s	-	0.05 - 0.2
	Shot-to-Cylinder Size		%	-	30 - 70
	Dry Air Drying Temperature		°C	-	120
	Dry Air Drying Time		h	-	4
	Moisture Content max. (%)		%	-	<= 0,02
	Vent Depth		mm	-	0.025 - 0.075

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

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Disclaimer

General

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