

Makrolon® FU1007

Grades / Special grade for furniture applications

MVR (300 °C/1.2 kg) 9.0 cm³/10 min; special grade for furniture applications with demands regarding fire standards UNI 8456, 8457, 9174 and 9175; medium viscosity; UV stabilized; easy release; injection molding - melt temperature 280 - 320 °C; available in transparent, translucent and opaque colors

ISO Shortname

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

Property	Test Condition	Unit	Standard	typical Value
Rheological properties				
C Melt volume-flow rate	300 °C; 1.2 kg	cm ³ /10 min	ISO 1133	9.0
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	10
Mechanical properties (23 °C/50 % r. h.)				
C Tensile modulus	1 mm/min	MPa	ISO 527-1,-2	2400
C Yield stress	50 mm/min	MPa	ISO 527-1,-2	67
C Yield strain	50 mm/min	%	ISO 527-1,-2	6.1
C Nominal strain at break	50 mm/min	%	ISO 527-1,-2	> 50
Stress at break	50 mm/min	MPa	ISO 527-1,-2	70
Strain at break	50 mm/min	%	b.o. ISO 527-1,-2	120
C Tensile creep modulus	1 h	MPa	ISO 899-1	2200
C Tensile creep modulus	1000 h	MPa	ISO 899-1	1900
Flexural modulus	2 mm/min	MPa	ISO 178	2400
Flexural strength	2 mm/min	MPa	ISO 178	98
Flexural strain at flexural strength	2 mm/min	%	ISO 178	7.0
Flexural stress at 3.5 % strain	2 mm/min	MPa	ISO 178	74
C Charpy impact strength	23 °C	kJ/m ²	ISO 179-1eU	N
C Charpy impact strength	-30 °C	kJ/m ²	ISO 179-1eU	N
Charpy notched impact strength	23 °C; 3 mm	kJ/m ²	ISO 7391/b.o. ISO 179-1eA	75P
Charpy notched impact strength	-30 °C; 3 mm	kJ/m ²	ISO 7391/b.o. ISO 179-1eA	14C
Izod notched impact strength	23 °C; 3 mm	kJ/m ²	ISO 7391/b.o. ISO 180-A	70P
C Puncture maximum force	23 °C	N	ISO 6603-2	5400
C Puncture maximum force	-30 °C	N	ISO 6603-2	6300
C Puncture energy	23 °C	J	ISO 6603-2	60
C Puncture energy	-30 °C	J	ISO 6603-2	65
Ball indentation hardness		N/mm ²	ISO 2039-1	116

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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	124
C Temperature of deflection under load	0.45 MPa	°C	ISO 75-1,-2	136
C Vicat softening temperature	50 N; 50 °C/h	°C	ISO 306	144
Vicat softening temperature	50 N; 120 °C/h	°C	ISO 306	145
C Coefficient of linear thermal expansion, parallel	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.65
C Coefficient of linear thermal expansion, transverse	23 to 55 °C	10 ⁻⁴ /K	ISO 11359-1,-2	0.65
C Oxygen index	Method A	%	ISO 4589-2	28
Burning behavior UNI 9177 (incl.9174; 8456; 8457)	4.0 mm	Class	UNI 9177	1
Burning behavior UNI 9177 (incl.9174; 8456; 8457)	6.0 mm	Class	UNI 9177	1
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	135
Relative temperature index (Tensile strength)	1.5 mm	°C	UL 746B	125
Relative temperature index (Tensile impact strength)	1.5 mm	°C	UL 746B	115
Relative temperature index (Electric strength)	1.5 mm	°C	UL 746B	125
Application of flame from small burner	Method K and F; 2.0 mm	Class	DIN 53438-1,-3	K1, F1
Burning rate (US-FMVSS)	>=1.0 mm	mm/min	ISO 3795	passed
Flash ignition temperature		°C	ASTM D1929	480
Self ignition temperature		°C	ASTM D1929	550
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/m ³	ISO 1183-1	1200
Material specific properties				
Refractive index	Procedure A	-	ISO 489	1.586
Haze for transparent materials	3 mm	%	ISO 14782	< 0.8
Luminous transmittance (clear transparent materials)	1 mm	%	ISO 13468-2	89
C Luminous transmittance (clear transparent materials)	2 mm	%	ISO 13468-2	89
Luminous transmittance (clear transparent materials)	3 mm	%	ISO 13468-2	88
Luminous transmittance (clear transparent materials)	4 mm	%	ISO 13468-2	87
Processing conditions for test specimens				
C Injection molding-Melt temperature		°C	ISO 294	300
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



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Disclaimer

Information Impact properties

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Typical value

These values are typical values only. Unless explicitly agreed in written form, they do not constitute a binding material specification or warranted values. Values may be affected by the design of the mold/die, the processing conditions and coloring/pigmentation of the product. Unless specified to the contrary, the property values given have been established on standardized test specimens at room temperature.

General

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Disclaimer Non Medical Grade

This product is not designated for the manufacture of a medical device or of intermediate products for medical devices (1). [This product is also not designated for Food Contact (2), including drinking water, or cosmetic applications. If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, for Food Contact products or cosmetic applications Covestro must be contacted in advance to provide its agreement to sell such product for such purpose.] Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by Covestro. 1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document. 2) As defined in Commission Regulation (EU) 1935/2004.

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