

Makrolon® FU1007

Polycarbonate

Covestro - Polycarbonates

Message:

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

General Information			
Additive	UV Stabilizer		
Features	Good Mold Release		
	Medium Viscosity		
Uses	Furniture		
Agency Ratings	UNI 8456		
	UNI 8457		
	UNI 9174		
	UNI 9175		
RoHS Compliance	RoHS Compliant		
Appearance	Clear/Transparent		
	Colors Available		
	Opaque		
	Translucent		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
Flow	0.60 to 0.80	%	ISO 2577
Across Flow : 2.00 mm ¹	0.70	%	ISO 294-4
Flow : 2.00 mm ²	0.65	%	ISO 294-4
Water Absorption			ISO 62
Saturation, 23°C	0.30	%	
Equilibrium, 23°C, 50% RH	0.12	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	116	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus (23°C)	2400	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield, 23°C	67.0	MPa	
Break, 23°C	70.0	MPa	
Tensile Strain			ISO 527-2/50
Yield, 23°C	6.1	%	
Break, 23°C	120	%	
Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Tensile Creep Modulus			ISO 899-1
1 hr	2200	MPa	
1000 hr	1900	MPa	
Flexural Modulus ³ (23°C)	2400	MPa	ISO 178
Flexural Stress ⁴			ISO 178
3.5% Strain, 23°C	74.0	MPa	
23°C	98.0	MPa	
Flexural Strain at Flexural Strength (23°C) ⁵	7.0	%	ISO 178
Application of Flame from Small Burner - Method K and F (2.00 mm)	K1, F1		DIN 53438-1, -3
Burning Behavior ⁶			UNI 9177
4.00 mm	1		
6.00 mm	1		
Burning Rate - US-FMVSS (> 1.00 mm)	passed		ISO 3795
Flash Ignition Temperature	480	°C	ASTM D1929
Self Ignition Temperature	550	°C	ASTM D1929
ISO Shortname	ISO 7391-PC,MLR,(,,)-09-9		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 7391
-30°C, Complete Break	14	kJ/m ²	
23°C, Partial Break	75	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁸ (23°C, Partial Break)	70	kJ/m ²	ISO 7391
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	65.0	J	
23°C	60.0	J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-30°C	6300	N	
23°C	5400	N	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			

0.45 MPa, Unannealed	136	°C	ISO 75-2/B
1.8 MPa, Unannealed	124	°C	ISO 75-2/A
Glass Transition Temperature ⁹	143	°C	ISO 11357-2
Vicat Softening Temperature			
--	144	°C	ISO 306/B50
--	145	°C	ISO 306/B120
Ball Pressure Test (135°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 55°C	6.5E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.5E-5	cm/cm/°C	
Thermal Conductivity ¹⁰ (23°C)	0.20	W/m/K	ISO 8302
RTI Elec (1.50 mm)	125	°C	UL 746
RTI Imp (1.50 mm)	115	°C	UL 746
RTI Str (1.50 mm)	125	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Oxygen Index ¹¹	28	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index ¹²	1.586		ISO 489
Transmittance			ISO 13468-2
1000 µm	89.0	%	
2000 µm	89.0	%	
3000 µm	88.0	%	
4000 µm	87.0	%	
Haze (3000 µm)	< 0.80	%	ISO 14782
NOTE			
1.	60x60x2 mm, 500 bar		
2.	60x60x2 mm, 500 bar		
3.	2.0 mm/min		
4.	2.0 mm/min		
5.	2 mm/min		
6.	incl. 9174; 8456; 8457		
7.	Based on ISO 179-1eA, 3 mm		
8.	Based on ISO 180-A, 3 mm		
9.	10°C/min		
10.	Cross-flow		
11.	Procedure A		
12.	Method A		

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