Makrolon® 8325

Polycarbonate

Covestro - Polycarbonates

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Technical Data

Product Description

MVR (300°C/1.2 kg) 4.0 cm³/10 min; 20 % glass fiber reinforced; high viscosity; easy release; injection molding - melt temperature 310 - 330°C; extrusion; available in opaque colors only

General

Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet (English)		
UL Yellow Card [2]	• E41613-101010251		
Search for UL Yellow Card	• Covestro - Polycarbonates • Makrolon®		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight		
Features	• Good Mold Release	• High Viscosity	
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Opaque	
Processing Method	• Extrusion	• Injection Molding	
ISO Shortname	• ISO 7391-PC,MR,(,,)-05-5,GF20		

Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.34	g/cm³	ISO 1183
Apparent (Bulk) Density [4]	0.64	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	5.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	4.0	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.30 to 0.50	%	ISO 2577
Flow	0.30 to 0.50	%	ISO 2577
Across Flow : 280°C, 2.00 mm [5]	0.45	%	ISO 294-4
Flow : 2.00 mm [5]	0.35	%	ISO 294-4
Water Absorption			ISO 62
Saturation, 23°C	0.24	%	
Equilibrium, 23°C, 50% RH	0.10	%	

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	5800	MPa	ISO 527-1/1
Tensile Stress			
Yield, 23°C	99.0	MPa	ISO 527-2/50
Break, 23°C	85.0	MPa	ISO 527-2/5
Tensile Strain			
Yield, 23°C	3.3	%	ISO 527-2/50
Break, 23°C	4.4	%	ISO 527-2/5
Flexural Modulus [6] (23°C)	5300	MPa	ISO 178
Flexural Stress [6]			ISO 178
23°C	150	MPa	
3.5% Strain, 23°C	145	MPa	
Flexural Strain at Flexural Strength [6] (23°C)	4.5	%	ISO 178

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Document Created: Monday, January 29, 2024
Added to Prospector: November 2000
Last Updated: 9/29/2023

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength [7]			ISO 179/1eA
23°C, Complete Break	10	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-60°C, Complete Break	65	kJ/m²	
-30°C, Complete Break	65	kJ/m²	
23°C, Complete Break	60	kJ/m²	
Notched Izod Impact Strength [7]			ISO 180/A
23°C, Complete Break	10	kJ/m²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	5.00	J	
23°C	5.00	J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-30°C	1000	N	
23°C	1000	N	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness	144	MPa	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	145	°C	ISO 75-2/B
1.8 MPa, Unannealed	142	°C	ISO 75-2/A
Vicat Softening Temperature			
--	150	°C	ISO 306/B120
--	149	°C	ISO 306/B50
CLTE			ISO 11359-2
Flow : 23 to 55°C	3.0E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.5E-5	cm/cm/°C	
Thermal Conductivity [8] (23°C)	0.23	W/m/K	ISO 8302
RTI Elec (1.5 mm)	80.0	°C	UL 746B
RTI Imp (1.5 mm)	80.0	°C	UL 746B
RTI Str (1.5 mm)	80.0	°C	UL 746B
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+16	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	36	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.30		
23°C, 1 MHz	3.30		
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.0E-3		
23°C, 1 MHz	9.0E-3		
Comparative Tracking Index			IEC 60112
Solution A	175	V	
Solution B	125	V	

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Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.5 mm	V-2		
3.0 mm	V-0		
Oxygen Index [9]	32	%	ISO 4589-2
Flash Ignition Temperature	470	°C	ASTM D1929
Self Ignition Temperature	550	°C	ASTM D1929

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	120	°C
Drying Time - Dry Air Dryer	2.0 to 3.0	hr
Suggested Max Moisture	< 0.020	%
Suggested Shot Size	30 to 70	%
Rear Temperature	250 to 260	°C
Middle Temperature	270 to 280	°C
Front Temperature	280 to 290	°C
Nozzle Temperature	290 to 300	°C
Processing (Melt) Temp	280 to 320	°C
Mold Temperature	80 to 120	°C
Back Pressure	5.00 to 15.0	MPa
Vent Depth	0.025 to 0.075	mm

Injection Notes

Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%
Standard Melt Temperature: 300°C

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] Pellets

[5] 60x60x2mm, 500 bar

[6] 2.0 mm/min

[7] 3 mm

[8] Across Flow

[9] Procedure A

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