

Makrolon® 8025

 Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (300°C/1.2 kg) 6.0 cm³/10 min; 20 % glass fiber reinforced; milled fiber; high viscosity; easy release; injection molding - melt temperature 310 - 330°C; extrusion; available in opaque colors only; precision parts

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight	• Milled 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 Designation	• ISO 7391-PC,GR,(,)-05-5,GF20		

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.34	g/cm³	ISO 1183
Apparent (Bulk) Density ²	0.69	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.5	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	6.0	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.30 to 0.45	%	ISO 2577
Flow	0.30 to 0.45	%	ISO 2577
Across Flow : 536°F, 0.0787 in ³	0.35	%	ISO 294-4
Flow : 0.0787 in ³	0.55	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.24	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	580000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8410	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	7250	psi	ISO 527-2/5
Tensile Strain (Yield, 73°F)	3.5	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	6.5	%	ISO 527-2/5
Tensile Creep Modulus (1 hr)	537000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	508000	psi	ISO 899-1
Flexural Modulus ⁴ (73°F)	537000	psi	ISO 178
Flexural Stress ⁴			ISO 178
73°F	14500	psi	
3.5% Strain, 73°F	13800	psi	
Flexural Strain at Flexural Strength ⁵ (73°F)	5.4	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁶ (73°F, Complete Break)	5.7	ft·lb/in²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F, Complete Break	31	ft·lb/in²	
-22°F, Complete Break	31	ft·lb/in²	



73°F, Complete Break	26 ft·lb/in ²	
Notched Izod Impact Strength ⁶ (73°F, Complete Break)	5.7 ft·lb/in ²	ISO 180/A
Multi-Axial Instrumented Impact Energy		ISO 6603-2
-22°F	7.38 ft·lb	
73°F	14.8 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	629 lbf	
73°F	742 lbf	
Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness	19700 psi	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	286 °F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	273 °F	ISO 75-2/A
Vicat Softening Temperature		
--	297 °F	ISO 306/B120
--	295 °F	ISO 306/B50
Ball Pressure Test (279°F)	Pass	IEC 60695-10-2
CLTE - Flow (73 to 131°F)	2.5E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.1E-5 in/in/°F	ISO 11359-2
Thermal Conductivity ⁷ (73°F)	1.6 Btu·in/hr/ft ² /°F	ISO 8302
RTI Elec (0.06 in)	257 °F	UL 746B
RTI Imp (0.06 in)	239 °F	UL 746B
RTI Str (0.06 in)	257 °F	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms	IEC 60093
Volume Resistivity (73°F)	1.0E+16 ohms·cm	IEC 60093
Electric Strength (73°F, 0.0394 in)	910 V/mil	IEC 60243-1
Relative Permittivity		IEC 60250
73°F, 100 Hz	3.30	
73°F, 1 MHz	3.30	
Dissipation Factor		IEC 60250
73°F, 100 Hz	1.0E-3	
73°F, 1 MHz	9.0E-3	
Comparative Tracking Index		IEC 60112
Solution A	175 V	
Solution B	125 V	
Electrolytic Corrosion (73°F)	A1	IEC 60426
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.06 in	V-2	
0.24 in	V-1	
Glow Wire Flammability Index		IEC 60695-2-12
0.030 in	1470 °F	
0.06 in	1760 °F	
0.08 in	1760 °F	
0.12 in	1760 °F	
0.16 in	1760 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.030 in	1560 °F	
0.08 in	1610 °F	
0.12 in	1610 °F	
Oxygen Index ⁸	32 %	ISO 4589-2
Application of Flame from Small Burner ⁹ (78.7 mil)	K1, F1	DIN 53438-1, -3
Burning Rate ¹⁰ (> 39.4 mil)	passed	ISO 3795
Flash Ignition Temperature	878 °F	ASTM D1929
Needle Flame Test		IEC 60695-11-5
	60 sec	
	120 sec	
	60 sec	
	120 sec	



0.12 in ¹¹	120 sec	
0.12 in ¹²	120 sec	
Self Ignition Temperature	1022 °F	ASTM D1929

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	248	°F
Drying Time - Dry Air Dryer	2.0 to 3.0	hr
Suggested Max Moisture	< 0.020	%
Suggested Shot Size	30 to 70	%
Rear Temperature	482 to 500	°F
Middle Temperature	518 to 536	°F
Front Temperature	536 to 554	°F
Nozzle Temperature	554 to 572	°F
Processing (Melt) Temp	536 to 608	°F
Mold Temperature	176 to 248	°F
Back Pressure	725 to 2180	psi
Vent Depth	9.8E-4 to 3.0E-3	in

Injection Notes

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

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Pellets
- ³ 60x60x2mm, 500 bar
- ⁴ 0.079 in/min
- ⁵ 2.0 mm/min
- ⁶ 3 mm
- ⁷ Across Flow
- ⁸ Procedure A
- ⁹ Method K and F
- ¹⁰ US-FMVSS
- ¹¹ Method K
- ¹² Method F

