

Makrolon® SF800

 Covestro - Polycarbonates - *Polycarbonate*
General Information
Product Description

MVR (300°C/1.2 kg) 5.0 cm³/10 min; structural foam; 5 % glass fiber reinforced; flame retardant; high viscosity; easy release; in combination with an appropriate blowing agent for the production of structural foam moldings

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Filler / Reinforcement	• Glass Fiber, 5.0% Filler by Weight
Additive	• Flame Retardant
Features	• Flame Retardant • Good Mold Release • High Viscosity
Uses	• Structural Foam
RoHS Compliance	• RoHS Compliant
ISO Designation	• ISO 7391-PC,MFR,(,)-05-9,GF5

Properties ¹

Physical	Nominal Value	Unit	Test Method
Apparent (Bulk) Density ²	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	6.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	5.0	cm³/10min	ISO 1133
Molding Shrinkage ³			ISO 294-4
Across Flow : 536°F, 0.0787 in	0.55	%	
Flow : 0.0787 in	0.70	%	
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	435000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9280	psi	ISO 527-2/5
Tensile Stress (Break, 73°F)	7250	psi	ISO 527-2/5
Tensile Strain (Yield, 73°F)	5.4	%	ISO 527-2/5
Tensile Strain (Break, 73°F)	40	%	ISO 527-2/5
Flexural Modulus ⁴ (73°F)	421000	psi	ISO 178
Flexural Stress ⁴ (73°F)	14500	psi	ISO 178
Flexural Strain at Flexural Strength ⁵ (73°F)	6.2	%	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F, Complete Break	71	ft·lb/in²	
-22°F, Complete Break	76	ft·lb/in²	
73°F, Complete Break	100	ft·lb/in²	
Notched Izod Impact Strength ⁶ (73°F, Complete Break)	5.7	ft·lb/in²	ISO 180/A
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	18.4	ft·lb	
73°F	22.1	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1100	lbf	
73°F	989	lbf	
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)	270 °F	ISO 75-2/A
Vicat Softening Temperature	291 °F	ISO 306/B50
CLTE - Flow (73 to 131°F)	3.1E-5 in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.9E-5 in/in/°F	ISO 11359-2
Electrical	Nominal Value Unit	Test Method
Comparative Tracking Index		IEC 60112
Solution A	175 V	
Solution B	125 V	
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.24 in	• V-0 • 5VA	
0.24 in ⁷	• V-0 • 5VA	
Glow Wire Flammability Index		IEC 60695-2-12
0.06 in	1760 °F	
0.12 in	1760 °F	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.030 in	1710 °F	
0.06 in	1710 °F	
0.12 in	1710 °F	
Oxygen Index ⁸	36 %	ISO 4589-2

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 3.0 mm

⁷ Foamed; density in the foamed state 900-1000 kg/m³

⁸ Procedure A

