

Makrolon® SF805

Polycarbonate

Covestro - Polycarbonates

Message:

MVR (300 °C/1.2 kg) 7.0 cm³/10 min; structural foam; 5 % glass fiber reinforced; flame retardant; high viscosity; easy release; injection molding; available in natural (opaque) and opaque colors; in combination with an appropriate blowing agent for the production of structural foam moldings

General Information			
UL YellowCard	E41613-100037156	E41613-100604395	
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		
Appearance	Colors Available		
	Natural Color		
	Opaque		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.23	g/cm³	ISO 1183
Apparent Density ¹	0.65	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.00	cm³/10min	ISO 1133
Molding Shrinkage ²			ISO 294-4
Across Flow : 2.00 mm	0.55	%	
Flow : 2.00 mm	0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	0.30	%	
Equilibrium, 23°C, 50% RH	0.10	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness			ISO 2039-1
--	119	MPa	
6.00 mm ³	50.0	MPa	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	2900	MPa	ISO 527-2/1

23°C, 6.00 mm ⁴	1800	MPa	ISO 527-2/25
Tensile Stress			ISO 527-2/5
Yield, 23°C	62.0	MPa	
Break, 23°C, 6.00 mm ⁵	35.0	MPa	
Break, 23°C	60.0	MPa	
Tensile Strain			ISO 527-2/5
Yield, 23°C	4.7	%	
Break, 23°C, 6.00 mm ⁶	6.0	%	
Break, 23°C	20	%	
Flexural Modulus ⁷			ISO 178
23°C, 6.00 mm ⁸	1800	MPa	
23°C	2900	MPa	
Flexural Stress ⁹			ISO 178
3.5% Strain, 23°C	85.0	MPa	
3.5% Strain, 23°C, 6.00 mm ¹⁰	55.0	MPa	
23°C	100	MPa	
23°C, 6.00 mm ¹¹	55.0	MPa	
Flexural Strain at Flexural Strength			ISO 178
23°C ¹²	6.0	%	
23°C, 6.00 mm ¹³	5.0	%	
ISO Shortname	ISO 7391-PC,MFR,(,,)-09-9,GF5		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁴ (23°C, Complete Break)	15	kJ/m ²	ISO 7391
Charpy Unnotched Impact Strength			ISO 179/1eU
-60°C, Complete Break	90	kJ/m ²	
-30°C, Complete Break	140	kJ/m ²	
-20°C, Complete Break ¹⁵	25	kJ/m ²	
-20°C, Complete Break	160	kJ/m ²	
23°C, Complete Break	190	kJ/m ²	
23°C, Complete Break ¹⁶	25	kJ/m ²	
Notched Izod Impact Strength ¹⁷ (23°C, Complete Break)	12	kJ/m ²	ISO 7391
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-30°C	25.0	J	
23°C	30.0	J	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-30°C	4900	N	
23°C	4300	N	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	140	°C	ISO 75-2/B

0.45 MPa, Unannealed, 6.00 mm Span ¹⁸	133	°C	ISO 75-2/B
1.8 MPa, Unannealed	130	°C	ISO 75-2/A
1.8 MPa, Unannealed, 6.00 mm ¹⁹	125	°C	ISO 75-2/A
Vicat Softening Temperature			ISO 306/B50
-- ²⁰	132	°C	
--	143	°C	
Ball Pressure Test (136°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 55°C	5.5E-5	cm/cm/°C	
Transverse : 23 to 55°C	7.0E-5	cm/cm/°C	
Thermal Conductivity ²¹ (23°C)	0.22	W/m/K	ISO 8302
RTI Elec (3.00 mm)	80.0	°C	UL 746
RTI Imp (3.00 mm)	80.0	°C	UL 746
RTI Str (3.00 mm)	80.0	°C	UL 746
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)	34	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	3.10		
23°C, 1 MHz	3.00		
Dissipation Factor			IEC 60250
23°C, 100 Hz	8.0E-4		
23°C, 1 MHz	9.0E-3		
Comparative Tracking Index			IEC 60112
Solution A	175	V	
Solution B	125	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
3.00 mm, GY	V-0		
	V-0		
6.00 mm, GY ²²	5VA		
5.00 mm, GY	5VA		
Glow Wire Flammability Index			IEC 60695-2-12
1.00 mm	850	°C	
1.50 mm	960	°C	
3.00 mm	960	°C	
4.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.800 mm	825	°C	

1.50 mm	825	°C	
3.00 mm	825	°C	
Oxygen Index ²³	32	%	ISO 4589-2

NOTE

1.	Pellets
2.	60x60x2 mm, 500 bar
3.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
4.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
5.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
6.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
7.	2.0 mm/min
8.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
9.	2.0 mm/min
10.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
11.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
12.	2 mm/min
13.	2 mm/min, Foamed; density in the foamed state: 900 to 1000 kg/m ³
14.	Based on ISO 179-1eA, 3 mm
15.	Foamed 6.0 mm; density in the foamed state: 900 to 1000 kg/m ³
16.	Foamed 6.0 mm; density in the foamed state: 900 to 1000 kg/m ³
17.	Based on ISO 180-A, 3 mm
18.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
19.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
20.	6.0 mm, Foamed; density in the foamed state: 900 to 1000 kg/m ³
21.	Cross-flow
22.	Foamed; density in the foamed state: 900 to 1000 kg/m ³
23.	Procedure A

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