Makrolon® 1837 MAS081

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description			
MVR (300°C/1.2 kg) 8.0 cm³/10 min; impact modified; medium viscosity; easy release; injection molding - melt temperature 280 - 320°C; available in opaque colors only			
General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Impact Modifier		
Features	• Good Mold Release	• Impact Modified	• Medium Viscosity
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Opaque	
Processing Method	• Injection Molding		
ISO Designation	• ISO 7391-PC,MP,(,,)-09-9		

Properties [1]

Physical	**Nominal Value**	**Unit**	**Test Method**
Density (73°F)	1.19	g/cm³	ISO 1183
Apparent (Bulk) Density [2]	0.64	g/cm³	ISO 60
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.5	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	8.0	cm³/10min	ISO 1133
Molding Shrinkage			
Across Flow	0.60 to 0.80	%	ISO 2577
Flow	0.60 to 0.80	%	ISO 2577
Across Flow : 536°F, 0.0787 in [3]	0.70	%	ISO 294-4
Flow : 0.0787 in [3]	0.65	%	ISO 294-4
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73°F)	319000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8410	psi	ISO 527-2/50
Tensile Stress (Break, 73°F)	8700	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	5.7	%	ISO 527-2/50
Tensile Strain (Break, 73°F)	120	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Flexural Modulus [4] (73°F)	319000	psi	ISO 178
Flexural Stress [4]			ISO 178
73°F	12500	psi	
3.5% Strain, 73°F	9860	psi	
Flexural Strain at Flexural Strength (73°F)	6.8	%	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [5]			ISO 179/1eA
-22°F, Partial Break	24	ft·lb/in²	
73°F, Partial Break	29	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-76°F	No Break		
-22°F	No Break		

73°F	No Break		
Notched Izod Impact Strength [5]			ISO 180/A
-22°F, Complete Break	21	ft·lb/in²	
73°F, Partial Break	29	ft·lb/in²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	40.6	ft·lb	
73°F	36.9	ft·lb	
Multi-Axial Instrumented Impact Peak Force			ISO 6603-2
-22°F	1300	lbf	
73°F	1100	lbf	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Ball Indentation Hardness	15100	psi	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	273	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	250	°F	ISO 75-2/A
Vicat Softening Temperature			
--	289	°F	ISO 306/B120
--	286	°F	ISO 306/B50
Ball Pressure Test (273°F)	Pass		IEC 60695-10-2
CLTE - Flow (73 to 131°F)	3.9E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.9E-5	in/in/°F	ISO 11359-2
Thermal Conductivity [6] (73°F)	1.4	Btu·in/hr/ft²/°F	ISO 8302
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)	860	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
73°F, 100 Hz	3.20		
73°F, 1 MHz	3.10		
Dissipation Factor			IEC 60250
73°F, 100 Hz	1.4E-3		
73°F, 1 MHz	0.013		
Comparative Tracking Index			IEC 60112
Solution A	225	V	
Solution B	100	V	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (0.030 in)	HB		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
0.030 in	1560	°F	
0.06 in	1610	°F	
0.12 in	1650	°F	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.06 in	1520	°F	
0.08 in	1520	°F	
0.12 in	1560	°F	
Oxygen Index [7]	30	%	ISO 4589-2
Burning Rate [8] (> 39.4 mil)	passed		ISO 3795
Flash Ignition Temperature	842	°F	ASTM D1929
Needle Flame Test			IEC 60695-11-5
59.1 mil [9]	5	sec	
59.1 mil [10]	120	sec	
78.7 mil [9]	5	sec	
78.7 mil [10]	120	sec	
0.12 in [9]	10	sec	
0.12 in [10]	120	sec	
Temperature	986	°F	AST

Notes

perties: these are not to be construed as specifications.

[3] 60x60x2mm, 500 bar

[4] 0.079 in/min

[5] 3.0 mm

[6] Across Flow

[7] Procedure A

[8] US-FMVSS

[9] Method K

[10] Method F