

Makrolon® M6011 FR

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

medium viscosity; impact modified; UV stabilized; flame retardant; improved chemical resistance compared to standard Makrolon grades; tested only according to ISO 10993-5 and ISO 10993-10 for contact with uncompromised skin only; available in opaque colors only; electrical/electronic; housing parts

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Flame Retardant		• UV Stabilizer
Features	• Chemical Resistant • Flame Retardant	• Impact Modifier • Medium Viscosity	• UV Stabilized
Uses	• Electrical/Electronic Applications	• Housings	• Medical/Healthcare Applications
Agency Ratings	• ISO 10993-10	• ISO 10993-5	
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Opaque	
Processing Method	• Injection Molding		
ISO Designation	• PC-I FR(40)		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.19	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
300°C/1.2 kg	4.0	cm ³ /10min	
300°C/5.0 kg	25	cm ³ /10min	
Molding Shrinkage			ISO 2577
Across Flow	0.60 to 0.80	%	
Flow	0.60 to 0.80	%	
Water Absorption (Saturation, 73°F)	0.36	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	326000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	8700	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	5.9	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Flexural Modulus ² (73°F)	326000	psi	ISO 178
Flexural Stress ² (73°F)	12900	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength ³			ISO 180/A
-22°F, Complete Break	9.5	ft·lb/in ²	
14°F, Partial Break	29	ft·lb/in ²	
73°F, Partial Break	33	ft·lb/in ²	
Multi-Axial Instrumented Impact Energy			ISO 6603-2
-22°F	42.0	ft·lb	



73°F	37.6 ft·lb	
Multi-Axial Instrumented Impact Peak Force		ISO 6603-2
-22°F	1390 lbf	
73°F	1120 lbf	
Thermal	Nominal Value	Unit
Deflection Temperature Under Load (66 psi, Unannealed)	264	°F
Deflection Temperature Under Load (264 psi, Unannealed)	239	°F
Vicat Softening Temperature		
--	280	°F
--	277	°F
Flammability	Nominal Value	Unit
Flame Rating		
0.04 in	V-1	
0.06 in	V-0	
Glow Wire Flammability Index		IEC 60695-2-12
0.04 in	1760	°F
0.06 in	1760	°F
Glow Wire Ignition Temperature		IEC 60695-2-13
0.04 in	1610	°F
0.06 in	1560	°F
Fill Analysis	Nominal Value	Unit
Melt Viscosity (572°F, 1000 sec ⁻¹)	320	Pa·s

Processing Information

Injection	Nominal Value	Unit
Drying Temperature - Dry Air Dryer	248	°F
Drying Time - Dry Air Dryer	4.0	hr
Processing (Melt) Temp	572	°F
Mold Temperature	194	°F

Notes

¹ Typical properties: these are not to be construed as specifications.

² 0.079 in/min

³ 3.0 mm

