

Apec® 1897

 Covestro - Polycarbonates - *Polycarbonate*
General Information
Product Description

MVR (330°C/2.16kg) 18 cm³/10 min; easy release; UV stabilized; 'softening temperature (VST/B 120)=182°C; injection molding - melt temperature 330 - 340°C; Lamp covers; Headlamp lenses

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• UV Stabilizer		
Features	• Good Flow	• Good Mold Release	• UV Stabilized
Uses	• Lenses		
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.15	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	19	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	18	cm³/10min	ISO 1133
Molding Shrinkage ²			ISO 294-4
Across Flow : 0.0787 in	0.85	%	
Flow : 0.0787 in	0.85	%	
Water Absorption (Saturation, 73°F)	0.30	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.12	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	341000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	10400	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.7	%	ISO 527-2/50
Nominal Tensile Strain at Break (73°F)	> 50	%	ISO 527-2/50
Flexural Modulus ³ (73°F)	348000	psi	ISO 178
Flexural Stress ³ (73°F)	15700	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	18400	psi	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	343	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	313	°F	ISO 75-2/A
Vicat Softening Temperature	360	°F	ISO 306/B120
CLTE - Flow (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	3.6E-5	in/in/°F	ISO 11359-2
RTI Elec	302	°F	UL 746B
RTI Imp	266	°F	UL 746B
RTI Str	302	°F	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093



Volume Resistivity (73°F)	1.0E+17 ohms·cm	IEC 60093
Electric Strength (73°F, 0.0394 in)	890 V/mil	IEC 60243-1
Relative Permittivity		IEC 60250
73°F, 100 Hz	2.90	
73°F, 1 MHz	2.80	
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	300 V	
Solution B	100 V	
Electrolytic Corrosion (73°F)	A1	IEC 60426
Flammability	Nominal Value Unit	Test Method
Flame Rating (0.06 in)	HB	UL 94
Glow Wire Flammability Index	1560 °F	IEC 60695-2-12
Oxygen Index ⁴	25 %	ISO 4589-2
Optical	Nominal Value Unit	Test Method
Refractive Index ⁵	1.573	ISO 489
Light Transmittance (39.37 mil)	89.0 %	ISO 13468-2

Processing Information

Injection	Nominal Value Unit
Drying Temperature - Dry Air Dryer	266 °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	563 to 581 °F
Middle Temperature	581 to 599 °F
Front Temperature	599 to 617 °F
Nozzle Temperature	617 to 635 °F
Processing (Melt) Temp	626 to 644 °F
Mold Temperature	248 to 284 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Standard Melt Temperature: 335°C
Hold Pressure (% of Injection Pressure): 50 - 75%
Peripheral Screw Speed: 0.05 - 0.2 m/s

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² 60x60x2mm
- ³ 0.079 in/min
- ⁴ Procedure A
- ⁵ Method A

