

Apec® 1803

Polycarbonate
Covestro - Polycarbonates

Message:

MVR (330°C/2.16kg) 10 cm³/10 min; high viscosity; UV stabilized; 'softening temperature (VST/B 120)=184 °C; injection molding - melt temperature 330 - 340°C; Covers for brake lights and indicator lights; car interior light covers; Domestic lamp covers; Headlamp lenses; Covers for ships' lights; Connector pieces for halogen systems

General Information			
UL YellowCard	E41613-233131		
Additive	UV Stabilizer		
Features	High Viscosity		
Uses	Automotive Applications		
	Automotive Backlights		
	Connectors		
	Lighting Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1)		
	Isochronous Stress vs. Strain (ISO 11403-1)		
	Isothermal Stress vs. Strain (ISO 11403-1)		
	Secant Modulus vs. Strain (ISO 11403-1)		
	Shear Modulus vs. Temperature (ISO 11403-1)		
	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.15	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	10	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	10.0	cm³/10min	ISO 1133
Molding Shrinkage ¹			ISO 294-4
Across Flow : 2.00 mm	0.85	%	
Flow : 2.00 mm	0.85	%	
Water Absorption			ISO 62
Saturation, 23°C	0.30	%	
Equilibrium, 23°C, 50% RH	0.12	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	121	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus (23°C)	2400	MPa	ISO 527-2/1
Tensile Stress (Yield, 23°C)	72.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	6.8	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Flexural Modulus ² (23°C)	2400	MPa	ISO 178
Flexural Stress ³ (23°C)	108	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	174	°C	ISO 75-2/B
1.8 MPa, Unannealed	159	°C	ISO 75-2/A
Vicat Softening Temperature	184	°C	ISO 306/B120
CLTE			ISO 11359-2
Flow : 23 to 55°C	6.5E-5	cm/cm/°C	
Transverse : 23 to 55°C	6.5E-5	cm/cm/°C	
RTI Elec	150	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Str	150	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+17	ohms·cm	IEC 60093
Electric Strength (23°C, 1.00 mm)	35	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
23°C, 100 Hz	2.90		
23°C, 1 MHz	2.80		
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.0E-3		
23°C, 1 MHz	8.0E-3		
Comparative Tracking Index			IEC 60112
Solution A	450	V	
Solution B	100	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	HB		UL 94
Glow Wire Flammability Index	850	°C	IEC 60695-2-12
Oxygen Index ⁴	25	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index ⁵	1.573		ISO 489
Transmittance (1000 µm)	89.0	%	ISO 13468-2
Additional Information	Nominal Value		Test Method

Electrolytical Corrosion (23°C)	A1	IEC 60426
NOTE		
1.	60x60x2 mm	
2.	2.0 mm/min	
3.	2.0 mm/min	
4.	Procedure A	
5.	Method A	

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