Apec® 1695

Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (330°C/2.16kg) 45 cm³/10 min; easy release; softening temperature (VST/B 120)=158°C; injection molding - melt temperature 320 - 340°C; Covers for brake lights and indicator lights; Headlamp reflectors/bezels

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Flow	• Good Mold Release	
Uses	• Automotive Applications • Automotive Backlights	• Lighting Applications • Reflectors	
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.18	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	46	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	45	cm³/10min	ISO 1133
Molding Shrinkage [2]			ISO 294-4
Across Flow : 0.0787 in	0.75	%	
Flow : 0.0787 in	0.75	%	
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)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	9860	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.2	%	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)	14500	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	17400	psi	ISO 2039-1
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	300	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	277	°F	ISO 75-2/A
Vicat Softening Temperature	316	°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	284	°F	UL 746B
RTI Imp	266	°F	UL 746B
RTI Str	284	°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	3.00		
73°F, 1 MHz	2.90		
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	250	V	
Solution B	125	V	
Electrolytic Corrosion (73°F)	A1		IEC 60426
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.06 in	HB		
0.12 in	HB		
Glow Wire Flammability Index (0.08 in)	1560	°F	IEC 60695-2-12
Oxygen Index [4]	26	%	ISO 4589-2
Optical	**Nominal Value**	**Unit**	**Test Method**
Refractive Index [5]	1.578		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	554 to 572	°F
Middle Temperature	572 to 590	°F
Front Temperature	590 to 608	°F
Nozzle Temperature	608 to 626	°F
Processing (Melt) Temp	608 to 644	°F
Mold Temperature	212 to 248	°F
Back Pressure	725 to 2180	psi
Vent Depth	9.8E-4 to 3.0E-3	in

Injection Notes

Standard Melt Temperature: 330°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