

Apec® 1603

Polycarbonate
Covestro - Polycarbonates

Message:

MVR (330°C/2.16kg) 25 cm³/10 min; high viscosity; UV stabilized; softening temperature (VST/B 120)=159 °C; injection molding - melt temperature 320 - 340°C

General Information			
UL YellowCard	E41613-101343829		
Additive	UV Stabilizer		
Features	High Viscosity		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density (23°C)	1.18	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	26	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	25.0	cm³/10min	ISO 1133
Molding Shrinkage ¹			ISO 294-4
Across Flow : 2.00 mm	0.75	%	
Flow : 2.00 mm	0.75	%	
Water Absorption			ISO 62
Saturation, 23°C	0.40	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness	115	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	2300	MPa	ISO 527-2/1
Tensile Stress (Yield, 23°C)	65.0	MPa	ISO 527-2/50
Tensile Strain (Yield, 23°C)	7.0	%	ISO 527-2/50
Nominal Tensile Strain at Break (23°C)	> 50	%	ISO 527-2/50
Flexural Modulus ² (23°C)	2200	MPa	ISO 178
Flexural Stress ³ (23°C)	95.0	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	151	°C	ISO 75-2/B

1.8 MPa, Unannealed	139	°C	ISO 75-2/A
Vicat Softening Temperature	159	°C	ISO 306/B120
CLTE			ISO 11359-2
Flow : 23 to 55°C	7.0E-5	cm/cm/°C	
Transverse : 23 to 55°C	7.0E-5	cm/cm/°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	IEC 60093
Volume Resistivity (23°C)	1.0E+16	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	3.00		
23°C, 1 MHz	3.00		
Dissipation Factor			IEC 60250
23°C, 100 Hz	1.6E-3		
23°C, 1 MHz	8.7E-3		
Comparative Tracking Index			IEC 60112
Solution A	250	V	
Solution B	< 100	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index	850	°C	IEC 60695-2-12
Oxygen Index ⁴	24	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index ⁵	1.581		ISO 489
Transmittance (1000 μm)	90.0	%	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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