

Apec® 1745

 Covestro - Polycarbonates - *Polycarbonate*

General Information

Product Description

MVR (330°C/2.16kg) 17 cm³/10 min; easy release; suitable for superheated steam sterilisation up to 143°C as well as for pharmaceutical applications according to United States Pharmacopeia (USP) XXII Class VI; softening temperature (VST/B 120)=170°C; injection molding - melt temperature 320 - 340°C; Films for medical packaging; Contact lens holders; Medical vessels; Safety valve for respiration aids; Syringe tops

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Mold Release • Steam Sterilizable		
Uses	• Film • Medical Devices	• Medical Packaging • Medical/Healthcare Applications	• Pharmaceuticals • Valves/Valve Parts
Agency Ratings	• ISO 10993 • USP Class VI		
RoHS Compliance	• RoHS Compliant		
Processing Method	• Injection Molding		

 Properties ¹

Physical	Nominal Value	Unit	Test Method
Density (73°F)	1.17	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (330°C/2.16 kg)	17	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (330°C/2.16 kg)	17	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)	348000	psi	ISO 527-1/1
Tensile Stress (Yield, 73°F)	10200	psi	ISO 527-2/50
Tensile Strain (Yield, 73°F)	6.8	%	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)	17400	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)	322	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	298	°F	ISO 75-2/A
Vicat Softening Temperature	338	°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
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	8.0E-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 (0.06 in)	HB	UL 94
Glow Wire Flammability Index (0.08 in)	1560 °F	IEC 60695-2-12
Oxygen Index ⁴	25 %	ISO 4589-2
Optical	Nominal Value Unit	Test Method
Refractive Index ⁵	1.578	ISO 489
Light Transmittance (39.37 mil)	88.0 %	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	230 to 266 °F
Back Pressure	725 to 2180 psi
Vent Depth	9.8E-4 to 3.0E-3 in

Injection Notes

Standard Melt Temperature: 330°C
Peripheral Screw Speed: 0.05 - 0.2 m/s
Hold Pressure (% of Injection Pressure): 50 - 75%

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

