Apec® 1745 RE

PC — Covestro Deutschland AG

Product Texts

- MVR (330°C/2.16kg) 17 cm³/10 min
- easy release
- for superheated steam sterilization up to 143 °C
- meets criteria of US Pharmacopeia (USP) Class VI
- biocompatible according to many ISO 10993-1 test requirements
- softening temperature (VST/B 120)=170 °C
- Films for medical packaging
- Contact lens holders
- Medical vessels
- Safety valve for respiration aids
- Syringe tops

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**17**	cm³/10min	ISO 1133
Temperature	**330**	°C	-
Load	**2.16**	kg	-
Melt flow index, MFI	**17**	g/10min	ISO 1133
Temperature	**330**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**0.8**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.8**	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2400**	MPa	ISO 527
[C] Yield stress	**70**	MPa	ISO 527
[C] Yield strain	**6.8**	%	ISO 527
[C] Nominal strain at break	**>50**	%	ISO 527
Flexural modulus, 23°C	**2400**	MPa	ISO 178
[C] Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Ball indentation hardness	**120**	MPa	ISO 2039-1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Temp. of deflection under load, 1.80 MPa	**148**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**161**	°C	ISO 75-1/-2
Vicat softening temperature, B	**170**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**65**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**65**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Yellow Card available	**yes**	-	-
[C] Oxygen index	**25**	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	**850**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**2**	mm	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**3**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**2.9**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**10**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**80**	E-4	IEC 62631-2-1
[C] Volume resistivity	**>1E13**	Ohm*m	IEC 62631-3-1

[C] Surface resistivity	**>1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**35**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**250**	-	IEC 60112

[C]: CAMPUS

Optical properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	**88**[1]	%	ISO 13468-1, -2
Other Standards[S]			
Index of Refraction	**1.58**	-	ISO 489

1: Clear transparent materials S: These properties are reported by the producer according standards that are different to our defaults.

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.3**	%	Sim. to ISO 62
[C] Humidity absorption	**0.12**	%	Sim. to ISO 62
[C] Density	**1170**	kg/m³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
[C] Injection Molding, melt temperature	**330**	°C	ISO 294
Injection Molding, mold temperature	**100**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**130**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**320 - 340**	°C	-
Mold temperature	**110 - 130**	°C	-
Zone 1	**290 - 300**	°C	-
Zone 2	**300 - 310**	°C	-
Zone 3	**310 - 320**	°C	-
Nozzle temperature	**320 - 330**	°C	-
Back pressure	**5 - 15**	MPa	-

Characteristics

Processing
Injection Molding

Additives
Release agent

Special Characteristics
Heat stabilized or stable to heat, Transparent, Sterilizable, Steam sterilization

Certifications
Contains renewable resources, Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved, ISCC Plus

Applications
Medical, Packaging

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa