



Apec® 2045
PC

Covestro Deutschland AG

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	8	cm³/10min	ISO 1133
Temperature	330	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	1.1	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1	%	ISO 294-4, 2577
Melt Flow Index, MFI	8	g/10min	ISO 1133
MFI temperature	330	°C	-
MFI load	2.16	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	75	MPa	ISO 527
Yield strain	6.8	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Impact Strength (Charpy), +23°C	no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	no break	kJ/m²	ISO 179/1eU
Puncture - maximum force, +23°C	5000	N	ISO 6603-2
Puncture - maximum force, -30°C	5500	N	ISO 6603-2
Puncture energy, +23°C	50	J	ISO 6603-2
Puncture energy, -30°C	58	J	ISO 6603-2
Flexural Modulus (23°C)	2450	MPa	ISO 178
Flexural strength	110	MPa	ISO 178
Ball Indentation Hardness	130	MPa	ISO 2039-1

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	173	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	192	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	203	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	65	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	65	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	3.0	mm	-

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	2.9	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	10	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	90	E-4	IEC 62631-2-1
Volume Resistivity	1E15	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E16	Ohm	IEC 62631-3-2
Electric Strength	35	kV/mm	IEC 60243-1

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.3	%	Sim. to ISO 62
Humidity absorption	0.12	%	Sim. to ISO 62
Density	1130	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	90	%	ISO 13468-1, -2

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Optical Properties	Value	Unit	Test Standard
ASTM Data			
Index of Refraction	1.57	-	ISO 489

Test specimen production	Value	Unit	Test Standard
ISO Data			
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

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	330 - 340	°C	-
Mold temperature	130 - 150	°C	-
Zone 1	295 - 305	°C	-
Zone 2	305 - 315	°C	-
Zone 3	315 - 325	°C	-
Nozzle temperature	325 - 335	°C	-
Back pressure	5 - 15	MPa	-

Characteristics

Processing

Injection Molding

Additives

Release agent

Special Characteristics

Heat aging stabilized, Sterilizable, Steam sterilization

Certifications

Medical, Biocompatibility ISO 10993, US Pharmacopeia Class VI
Approved

Applications

Medical