Makrolon® 1248 RE

PC — Covestro Deutschland AG

Product Texts

Partially bio-circular grade.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**7**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Melt flow index, MFI	**7.5**	g/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Molding shrinkage, parallel	**0.8**	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.8**	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2250**	MPa	ISO 527
Yield stress	**61**	MPa	ISO 527
Yield strain	**6**	%	ISO 527
Nominal strain at break	**>50**	%	ISO 527
Stress at break	**70**	MPa	ISO 527
Strain at break	**130**	%	ISO 527
Flexural modulus, 23°C	**2250**	MPa	ISO 178
Flexural strength	**88**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C, 3mm	**70**	kJ/m²	ISO 179/1eA
Type of failure	**P**	-	-
Charpy notched impact strength, -30°C, 3mm	**60**	kJ/m²	ISO 179/1eA
Type of failure	**P(C)**	-	-
Izod notched impact strength, +23°C	**65**	kJ/m²	ISO 180/1A
Izod notched impact strength	**30**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
Puncture - maximum force, +23°C	**5200**	N	ISO 6603-2
Puncture - maximum force, -30°C	**6100**	N	ISO 6603-2
Puncture energy, +23°C	**55**	J	ISO 6603-2
Puncture energy, -30°C	**60**	J	ISO 6603-2
Ball indentation hardness	**108**	MPa	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
ISO Data			
Glass transition temperature, 10°C/min	**148**	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	**125**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**139**	°C	ISO 75-1/-2
Vicat softening temperature, B	**146**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**70**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**70**	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Oxygen index	**30**	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	**850**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**0.75**	mm	-
Glow Wire Flammability Index (GWFI)	**850**	°C	IEC 60695-2-12
GWFI - thickness tested (2)	**1.5**	mm	-
Glow Wire Flammability Index (GWFI)	**900**	°C	IEC 60695-2-12
GWFI - thickness tested (3)	**3**	mm	-
Glow Wire Ignition Temperature (GWIT)	**800**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**0.75**	mm	-
Glow Wire Ignition Temperature (GWIT)	**875**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**1.5**	mm	-

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Glow Wire Ignition Temperature (GWIT)	**875**	°C	IEC 60695-2-13
GWIT - thickness tested (3)	**3**	mm	-
Other Standards[S]			
Thermal Conductivity, solid state	**0.2**	W/(m K)	ISO 8302

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

Electrical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
Volume resistivity	**1E14**	Ohm*m	IEC 62631-3-1
Surface resistivity	**1E16**	Ohm	IEC 62631-3-2
Electric strength	**34**	kV/mm	IEC 60243-1
Comparative tracking index	**225**	-	IEC 60112
Other Standards[S]			
Relative permittivity, 100Hz	**3.1**	-	IEC 60250
Relative permittivity, 1MHz	**3**	-	IEC 60250
Dissipation factor, 100Hz	**12**	E-4	IEC 60250
Dissipation factor, 1MHz	**120**	E-4	IEC 60250

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

Optical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
Luminous transmittance	**89[1]**	%	ISO 13468-1, -2
Other Standards[S]			
Index of Refraction	**1.59**	-	ISO 489

1: 2 mm S: These properties are reported by the producer according standards that are different to our defaults.

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.4**	%	Sim. to ISO 62
Humidity absorption	**0.12**	%	Sim. to ISO 62
Density	**1200**	kg/m³	ISO 1183
Bulk density	**640**	kg/m³	-

Test specimen production	**Value**	**Unit**	**Test Standard**
ISO Data			
Injection Molding, melt temperature	**300**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**120**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**280 - 320**	°C	-
Mold temperature	**80 - 120**	°C	-
Zone 1	**250 - 260**	°C	-
Zone 2	**270 - 280**	°C	-
Zone 3	**280 - 290**	°C	-
Nozzle temperature	**290 - 300**	°C	-
Back pressure	**5 - 15**	MPa	-

Characteristics

Processing
Injection Molding

Certifications
Contains renewable resources, Food contact, ISCC Plus

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Special Characteristics
High impact or impact modified

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

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