



Makrolon® 2258 RE

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 34 cm³/10 min
- medical devices
- suitable for ETO and steam sterilization at 121 °C
- biocompatible according to many ISO 10993-1 test requirements
- low viscosity
- easy release

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	34	cm³/10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-
Molding shrinkage, parallel	0.7	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577
Melt Flow Index, MFI	37	g/10min	ISO 1133
MFI temperature	300	°C	-
MFI load	1.2	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	65	MPa	ISO 527
Yield strain	6	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Tensile Creep Modulus, 1h	2100	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1700	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	no break	kJ/m²	ISO 179/1eU
Puncture - maximum force, +23°C	4900	N	ISO 6603-2
Puncture - maximum force, -30°C	5900	N	ISO 6603-2
Puncture energy, +23°C	55	J	ISO 6603-2
Puncture energy, -30°C	60	J	ISO 6603-2
Flexural Modulus (23°C)	2350	MPa	ISO 178
Flexural strength	97	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	55	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	12	kJ/m²	ISO 180/1A
Temperature	-30	°C	-
Ball Indentation Hardness	115	MPa	ISO 2039-1

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	145	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	124	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	137	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	145	°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 thickness h	V-2	class	UL 94
Thickness tested	0.8	mm	-
Glow Wire Ignition Temperature	875	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.75	mm	-
Glow Wire Ignition Temperature	875	°C	IEC 60695-2-13
GWIT - thickness tested (2)	1.5	mm	-
Glow Wire Ignition Temperature	900	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-
ASTM Data			
Thermal Conductivity, solid state	0.2	W/(m K)	ISO 8302

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.1	-	IEC 62631-2-1
Relative permittivity, 1MHz	3	-	IEC 62631-2-1
Dissipation Factor, 100Hz	5	E-4	IEC 62631-2-1

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Dissipation Factor, 1MHz	90	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2
Electric Strength	34	kV/mm	IEC 60243-1
Comparative tracking index	250	-	IEC 60112
Relative permittivity, 100Hz	3.1	-	IEC 60250
Relative permittivity, 1MHz	3	-	IEC 60250
Dissipation Factor, 100Hz	5	E-4	IEC 60250
Dissipation Factor, 1MHz	90	E-4	IEC 60250
Volume Resistivity	1E14	Ohm*m	IEC 60093
Surface Resistivity	1E16	Ohm	IEC 60093

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	1200	kg/m³	ISO 1183
Bulk density	660	kg/m³	-

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	89	%	ISO 13468-1, -2

Optical Properties	Value	Unit	Test Standard
ASTM Data			
Index of Refraction	1.59	-	ISO 489

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°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

Additives

Release agent

Special Characteristics

Transparent, Opaque, Sterilizable, Ethylene Oxide (EtO)
Sterilization, Steam sterilization

Certifications

Contains renewable resources, Medical, Biocompatibility ISO 10993, ISCC Plus

Applications

Medical