



Makrolon® 2405 MAS048 RE
PC

Covestro Deutschland AG

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	19	cm ³ /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	20	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
Stress at Break	65	MPa	ISO 527
Strain at Break	120	%	ISO 527
Tensile Creep Modulus, 1h	2200	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1900	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	no break	kJ/m ²	ISO 179/1eU
Puncture - maximum force, +23°C	5100	N	ISO 6603-2
Puncture - maximum force, -30°C	6000	N	ISO 6603-2
Puncture energy, +23°C	55	J	ISO 6603-2
Puncture energy, -30°C	65	J	ISO 6603-2
Flexural Modulus (23°C)	2350	MPa	ISO 178
Flexural strength	97	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	60	kJ/m ²	ISO 180/1A
Notched Impact Strength (Izod)	12	kJ/m ²	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)	125	°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	-
Oxygen index	27	%	ISO 4589-1/-2
Glow Wire (GWFI, Flammability Index)	850	°C	IEC 60695-2-12
GWFI - thickness tested (1)	1	mm	-
Glow Wire (GWFI, Flammability Index)	850	°C	IEC 60695-2-12
GWFI - thickness tested (2)	1.5	mm	-
Glow Wire (GWFI, Flammability Index)	850	°C	IEC 60695-2-12
GWFI - thickness tested (3)	2	mm	-
Glow Wire Ignition Temperature)	875	°C	IEC 60695-2-13
GWIT - thickness tested (1)	1	mm	-
Glow Wire Ignition Temperature)	875	°C	IEC 60695-2-13
GWIT - thickness tested (2)	1.5	mm	-
Glow Wire Ignition Temperature)	875	°C	IEC 60695-2-13
GWIT - thickness tested (3)	2	mm	-

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

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Dissipation Factor, 100Hz	5	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	90	E-4	IEC 62631-2-1
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	250	-	IEC 60112

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	-

Film Properties	Value	Unit	Test Standard
ISO Data			
Haze	0.8	-	ISO 14782
WVTR, 23°C/85%r.h.	15	g/(m²*d)	ISO 15106-1/-2

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

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	190 - 300	°C	-
Back pressure	5 - 15	MPa	-

Characteristics

Processing	Special Characteristics
Injection Molding	Transparent, Opaque, Translucent
Delivery form	Certifications
Pellets	Contains renewable resources, ISCC Plus
Additives	Applications
Release agent	General Purpose