



Makrolon® LED5102

PC

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 34 cm³/10 min
- low viscosity
- UV stabilized
- easy release
- high optical transmittance
- LED Lighting, optics and lenses

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

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	63	MPa	ISO 527
Yield strain	6	%	ISO 527
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	-

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	123	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	136	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	143	°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	-

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1190	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	90	%	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	4	h	-
Processing humidity	≤0.02	%	-
Melt temperature	250 - 300	°C	-
Mold temperature	70 - 110	°C	-

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Zone 1	230 - 240	°C	-
Zone 2	250 - 260	°C	-
Zone 3	260 - 270	°C	-
Nozzle temperature	260 - 270	°C	-
Back pressure	10 - 20	MPa	-

Characteristics

Processing

Injection Molding

Special Characteristics

UV stabilized, Transparent

Additives

Release agent