Makrolon® FR6005

PC FR

Covestro Deutschland AG

- MVR (300 °C/1.2 kg) 9.0 cm³/10 min
- medium viscosity
- easy release
- flame retardant
- impact modified
- good surface quality
- electrical/electronic
- housing parts

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	9	cm³/10min	ISO 1133
Temperature	300	°C	-
Load	1.2	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2300	MPa	ISO 527
Yield stress	62	MPa	ISO 527
Yield strain	6	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Puncture - maximum force, +23°C	5100	N	ISO 6603-2
Puncture - maximum force, -30°C	6100	N	ISO 6603-2
Puncture energy, +23°C	54	J	ISO 6603-2
Puncture energy, -30°C	55	J	ISO 6603-2
Flexural Modulus (23°C)	2400	MPa	ISO 178
Flexural strength	90	MPa	ISO 178
Notched Impact Strength (Izod), 23°C	60	kJ/m²	ISO 180/1A
Notched Impact Strength (Izod)	15	kJ/m²	ISO 180/1A
Temperature	-30	°C	-

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load (1.80 MPa)	121	°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	142	°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 thickness h	V-0	class	UL 94
Thickness tested	1.0	mm	-
Glow Wire (GWFI, Flammability Index)	850	°C	IEC 60695-2-12
GWFI - thickness tested (1)	1	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (2)	1.5	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3	mm	-
Glow Wire Ignition Temperature)	875	°C	IEC 60695-2-13
GWIT - thickness tested (1)	1	mm	-
Glow Wire Ignition Temperature)	850	°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	-

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	>1E15	Ohm	IEC 62631-3-2
Comparative tracking index	200	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1200	kg/m³	ISO 1183

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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

Special Characteristics
Flame retardant, Impact modified, Transparent

Delivery form
Black

Applications
Electrical and Electronical, Encapsulation

Additives
Release agent