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Crastin® FR685NH1 BK591LM

THERMOPLASTIC POLYESTER RESIN

Crastin® FR685NH1 BK591LM is a 30% Glass Reinforced, Flame Retardant, Non-Halogenated, Polybutylene Terephthalate

Product information

Resin Identification	PBT-GF30 FR(40+30)	ISO 1043
Part Marking Code	>PBT-GF30 FR(40+30)<	ISO 11469

Rheological properties

Melt volume-flow rate	26	cm^3/10min	ISO 1133
Temperature	250	°C	
Load	5	kg	
Viscosity number	88	cm^3/g	ISO 307, 1628

Typical mechanical properties

Tensile modulus	10800	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	96	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.1	%	ISO 527-1/-2
Charpy notched impact strength, 23°C	6.9	kJ/m^2	ISO 179/1eA
Poisson's ratio	0.34		

Thermal properties

Melting temperature, 10°C/min	224	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	55	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	208	°C	ISO 75-1/-2
Thermal conductivity, flow	0.37	W/(m K)	ISO 22007-2
RTI, electrical, 0.75mm	130[1]	°C	UL 746B
RTI, electrical, 1.5mm	130[1]	°C	UL 746B
RTI, electrical, 3.0mm	130[1]	°C	UL 746B
RTI, impact, 0.75mm	125[1]	°C	UL 746B
RTI, impact, 1.5mm	125[1]	°C	UL 746B
RTI, impact, 3.0mm	125[1]	°C	UL 746B
RTI, strength, 0.75mm	140[1]	°C	UL 746B
RTI, strength, 1.5mm	140[1]	°C	UL 746B
RTI, strength, 3.0mm	140[1]	°C	UL 746B

[1]: https://iq.ul.com/ul/cert.aspx?ULID=104511959

Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.4	mm	IEC 60695-11-10
UL recognition	yes[1]		UL 94
Glow Wire Flammability Index, 0.4mm	960[1]	°C	IEC 60695-2-12
Glow Wire Flammability Index, 0.75mm	960[1]	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	960[1]	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960[1]	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	750[1]	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 0.4mm	750[1]	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.5mm	750[1]	°C	IEC 60695-2-13

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Glow Wire Ignition Temperature, 3.0mm	800[1]	°C	IEC 60695-2-13
FMVSS Class	SE		ISO 3795 (FMVSS 302)

[1]: https://iq.ul.com/ul/cert.aspx?ULID=104511959

Electrical properties

Relative permittivity, 1000Hz	4.07[OT]		IEC 62631-2-1
Dissipation factor, 100Hz	35[OT]	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Electric strength	36	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112

[OT]: One time tested

Physical/Other properties

Humidity absorption, 2mm	0.1[DS]	%	Sim. to ISO 62
Water absorption, 2mm	0.25[DS]	%	Sim. to ISO 62
Density	1570	kg/m³	ISO 1183

[DS]: Derived from similar grade

Injection

Drying Recommended	yes	
Drying Temperature	120	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	250	°C
Min. melt temperature	240	°C
Max. melt temperature	260	°C
Mold Temperature Optimum	80	°C
Min. mould temperature	60	°C
Max. mould temperature	130	°C
Hold pressure range	≥60	MPa
Hold pressure time	3	s/mm
Back pressure	As low as possible	MPa
Ejection temperature	170	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent, Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant

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