

Crastin® FR684NH1 OR162

THERMOPLASTIC POLYESTER RESIN

Crastin® FR684NH1 is a 25% Glass Reinforced, Flame Retardant, Non-Halogenated, Polybutylene Terephthalate

Product information

Resin Identification	PBT- GF25FR(40)	ISO 1043
Part Marking Code	>PBT-GF25FR(40)<	ISO 11469

Rheological properties

Moulding shrinkage, parallel	0.5 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.2 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	9500 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	96 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.5 %	ISO 527-1/-2
Charpy impact strength, 23°C	42 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	46 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	7.4 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	7.1 kJ/m ²	ISO 179/1eA
Poisson's ratio	0.34	

Thermal properties

Melting temperature, 10°C/min	223 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	205 ^[DS] °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	23 ^[DS] E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C(73-130°F)	29 ^[DS] E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160°C	20 ^[DS] E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	66 ^[DS] E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), Normal, 23-55°C (73-130°F)	122 ^[DS] E-6/K	ASTM E 831
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	127 ^[DS] E-6/K	ISO 11359-1/-2

[DS]: Derived from similar grade

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	UL 94
Oxygen index	40 ^[DS] %	ISO 4589-1/-2

[DS]: Derived from similar grade

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Electrical properties

Volume resistivity	>1E13 ^[DS] Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15 ^[DS] Ohm	IEC 62631-3-2
Electric strength	41 kV/mm	IEC 60243-1
Comparative tracking index	600	IEC 60112

[DS]: Derived from similar grade

Physical/Other properties

Humidity absorption, 2mm	0.1 ^[DS] %	Sim. to ISO 62
Water absorption, 2mm	0.25 ^[DS] %	Sim. to ISO 62
Density	1520 ^[DS] kg/m ³	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	30 °C
Max. mould temperature	130 °C
Hold pressure range	≥60 MPa
Hold pressure time	3 s/mm
Back pressure	As low as possible
Ejection temperature	170 °C

Characteristics

Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
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