

# Crastin® FR684NH1 OR162

## THERMOPLASTIC POLYESTER RESIN

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

### Product information

Resin Identification	PBT-GF25 FR(40+30)	ISO 1043
Part Marking Code	>PBT-GF25 FR(40+30)<	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 <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	46 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	7.4 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	7.1 kJ/m <sup>2</sup>	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 <sup>[DS]</sup> °C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	23 <sup>[DS]</sup> E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C(73-130°F)	29 <sup>[DS]</sup> E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160°C	20 <sup>[DS]</sup> E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	66 <sup>[DS]</sup> E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	127 <sup>[DS]</sup> E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal,23-55°C (73-130°F)	122 <sup>[DS]</sup> E-6/K	ASTM E 831

[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 <sup>[DS]</sup> %	ISO 4589-1/-2

[DS]: Derived from similar grade

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### Electrical properties

Volume resistivity	>1E13 <sup>[DS]</sup> Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15 <sup>[DS]</sup> 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 <sup>[DS]</sup> %	Sim. to ISO 62
Water absorption, 2mm	0.25 <sup>[DS]</sup> %	Sim. to ISO 62
Density	1520 <sup>[DS]</sup> kg/m <sup>3</sup>	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

### Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Stellantis	B62 0300 / 61/219E/170M/C1/C4	01378_19_02640, OR162