Crastin® FRHR5325NH NC010

THERMOPLASTIC POLYESTER RESIN

Crastin® FRHR5325NH NC010 is a 25% Glass Reinforced, Flame Retardant, Non-Halogenated, Hydrolysis resistant, 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

Molding shrinkage, parallel	0.4	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	1.31E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	13100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	1.31E6	psi	ISO 178
Flexural strength	20000	psi	ISO 178
Charpy impact strength, 23°C	16.6	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	2.66	ftlb/in²	ISO 179/1eA

Thermal properties

Melting temperature, 10°C/min	428	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	149	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	392	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.18	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.167	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel, 55-160°C	0.139	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.578	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.378	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal, 55-160°C	0.761	E-4/°F	ISO 11359-1/-2
Thermal conductivity, flow	0.36	W/(m K)	ISO 22007-2
RTI, electrical, 0.75mm	266	°F	UL 746B
RTI, electrical, 3.0mm	266	°F	UL 746B
RTI, impact, 0.75mm	284	°F	UL 746B
RTI, impact, 3.0mm	284	°F	UL 746B
RTI, strength, 0.75mm	284	°F	UL 746B
RTI, strength, 3.0mm	284	°F	UL 746B

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Flammability

Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0295	in	IEC 60695-11-10
UL recognition	yes		UL 94
Glow Wire Flammability Index, 0.4mm	1760	°F	IEC 60695-2-12
Glow Wire Flammability Index, 0.75mm	1760	°F	IEC 60695-2-12
Glow Wire Flammability Index, 1.5mm	1760	°F	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	1760	°F	IEC 60695-2-12
Glow Wire Ignition Temperature, 0.75mm	1340	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 1.5mm	1340	°F	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	1430	°F	IEC 60695-2-13
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	in/min	ISO 3795 (FMVSS 302)

Electrical properties

Volume resistivity	>1E13[DS]	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15[DS]	Ohm	IEC 62631-3-2
Electric strength	1120	kV/in	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	0.0549	lb/in^3	ISO 1183

[DS]: Derived from similar grade

Emissions

Emission of organic compounds	14	µgC/g	VDA 277
Odor test	3.5[1]	class	VDA 270

[1]: condition3, tested with 100x100x2mmt plate

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.04	%
Melt Temperature Optimum	482	°F
Min. melt temperature	464	°F
Max. melt temperature	500	°F
Mold Temperature Optimum	176	°F
Min. mold temperature	140	°F
Max. mold temperature	266	°F
Hold pressure range	≥8700	psi
Hold pressure time	0.0762	s/mil
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s

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Back pressure	as low as possible	psi
Ejection temperature	369	°F

Characteristics

Processing	Injection Molding
Additives	Flame retardant, Non-halogenated/Red phosphorus free flame retardant
Special characteristics	Flame retardant, Hydrolysis resistant

Revised: 2026-02-28 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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