



THERMOPLASTIC POLYESTER RESIN

Common features of Crastin® thermoplastic polyester resin include mechanical and physical properties such as stiffness and toughness, heat resistance, friction and wear resistance, excellent surface finishes and good colourability. Crastin® thermoplastic polyester resin has excellent electrical insulation characteristics and high arc-resistant grades are available. Many flame retardant grades have UL recognition (class V-0). Crastin® thermoplastic polyester resin typically has high chemical and heat ageing resistance.

The good melt stability of Crastin® thermoplastic polyester resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-24 kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Crastin® thermoplastic polyester resin typically is used in demanding applications in the electronics, electrical, automotive, mechanical engineering, chemical, domestic appliances and sporting goods industry.

Crastin® CE15330 NC010 is a 30% glass reinforced flame retardant polybutylene terephthalate moulding resin. It is recognized as UL94 V-0 at 0.71mm (0.028in).

Product information

1 Toddet information			
Resin Identification	PBT-GF30 FR(17)		ISO 1043
Part Marking Code	>PBT-GF30 FR(17)<		ISO 11469
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Rheological properties			
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.9	%	ISO 294-4, 2577
Postmoulding shrinkage, normal, 48h at 80°C	0.2	%	ISO 294-4
Postmoulding shrinkage, parallel, 48h at 80°C	0.1	%	ISO 294-4
Typical mechanical properties			
Tensile modulus	9950	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	130	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3.1	%	ISO 527-1/-2
Flexural modulus	10000	MPa	ISO 178
Flexural strength	220	MPa	ISO 178
Charpy impact strength, 23°C	60	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C		kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C		kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8.2	kJ/m²	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	55	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	208	°C	ISO 75-1/-2
RTI, electrical, 0.75mm	140	°C	UL 746B
RTI, electrical, 1.5mm	140	°C	UL 746B
RTI, electrical, 3.0mm	140	°C	UL 746B
RTI, impact, 0.75mm	120	°C	UL 746B
RTI, impact, 1.5mm	130	°C	UL 746B

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RTI, impact, 3.0mm RTI, strength, 0.75mm RTI, strength, 1.5mm RTI, strength, 3.0mm	130 140 140 140	°C	UL 746B UL 746B UL 746B UL 746B
Flammability			
Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition Burning Behav. at thickness h Thickness tested UL recognition Glow Wire Flammability Index, 0.4mm Glow Wire Flammability Index, 0.75mm	1.5 yes V-0 0.3 yes 960 960	°C	IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-2-12 IEC 60695-2-12
Glow Wire Flammability Index, 1.0mm Glow Wire Flammability Index, 1.5mm Glow Wire Flammability Index, 2.0mm Glow Wire Flammability Index, 3.0mm Glow Wire Ignition Temperature, 0.75mm	960 960 960 960 725	°C °C °C	IEC 60695-2-12 IEC 60695-2-12 IEC 60695-2-12 IEC 60695-2-12 IEC 60695-2-13
Glow Wire Ignition Temperature, 1.0mm Glow Wire Ignition Temperature, 1.5mm Glow Wire Ignition Temperature, 2.0mm Glow Wire Temperature, No Flame, 1mm Glow Wire Temperature, No Flame, 2mm FMVSS Class	800 725 750 750 650 DNI	°C °C	IEC 60695-2-13 IEC 60695-2-13 IEC 60695-2-13 IEC 60335-1 IEC 60335-1 ISO 3795 (FMVSS 302)
Electrical properties			
Comparative tracking index Comparative tracking index M	200 125		IEC 60112 IEC 60112
Physical/Other properties	1000	1 / 3	100 4400
Density	1620	kg/m³	ISO 1183
Injection			
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature	yes 120 2 - 4 ≤0.04 250 240 260	h % °C °C	
Mold Temperature Optimum Min. mould temperature Max. mould temperature Hold pressure range Hold pressure time	60 130 ≥60 3	MPa s/mm	
Back proceuro	Ac low ac	MDa	

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As low as MPa possible

Revised: 2025-04-21 Source: Celanese Materials Database

Back pressure





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Ejection temperature 170 °C

Characteristics

Processing Injection Moulding
Additives Flame retardant
Special characteristics Flame retardant

Automotive

OEM STANDARD

Hyundai MS941-03 Type F-5 FRV0

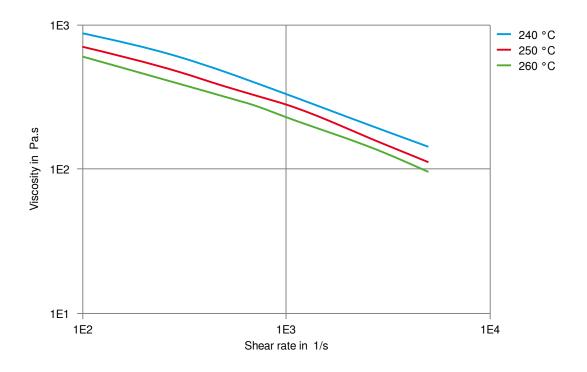
Viscosity-shear rate

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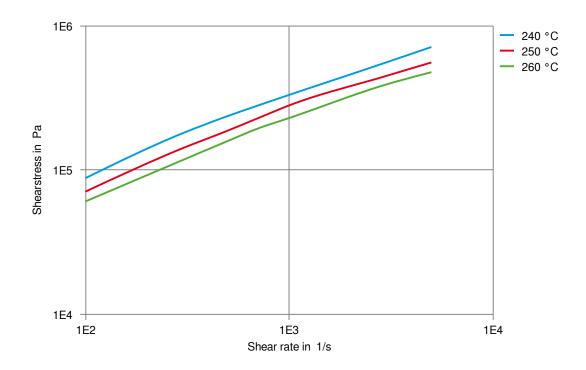
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Shearstress-shear rate



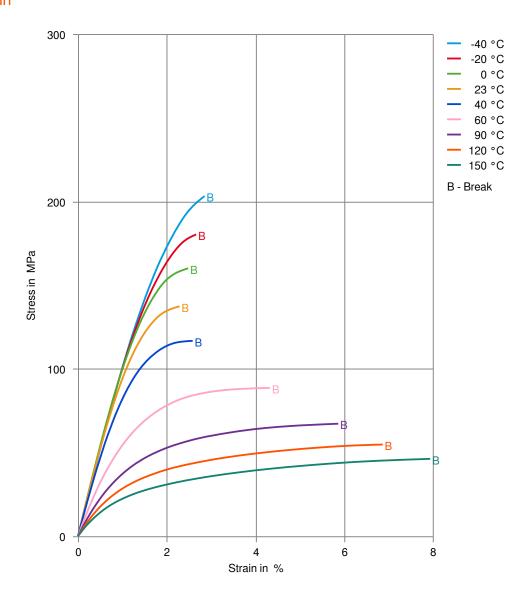
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Stress-strain



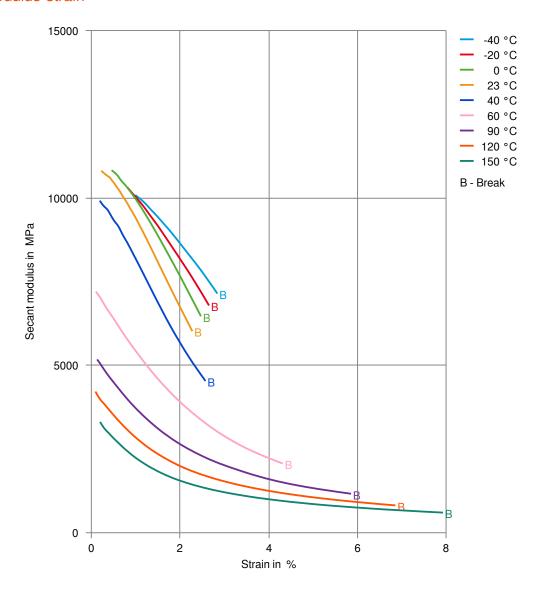
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Secant modulus-strain



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Crastin® CE15330 NC010

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Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass), 23°C
- ✓ Citric Acid solution (10% by mass), 23°C
- ✓ Lactic Acid (10% by mass), 23°C
- X Hydrochloric Acid (36% by mass), 23°C
- X Nitric Acid (40% by mass), 23°C
- X Sulfuric Acid (38% by mass), 23°C
- X Sulfuric Acid (5% by mass), 23°C
- X Chromic Acid solution (40% by mass), 23°C

Bases

- X Sodium Hydroxide solution (35% by mass), 23°C
- ✓ Sodium Hydroxide solution (1% by mass), 23°C
- ✓ Ammonium Hydroxide solution (10% by mass), 23°C

Alcohols

- ✓ Isopropyl alcohol, 23°C
- ✓ Methanol, 23°C
- ✓ Ethanol, 23°C

Hydrocarbons

- ✓ n-Hexane, 23°C
- ✓ Toluene, 23°C
- ✓ iso-Octane, 23°C

Ketones

✓ Acetone, 23°C

Ethers

✓ Diethyl ether, 23°C

Mineral oils

- ✓ SAE 10W40 multigrade motor oil, 23°C
- X SAE 10W40 multigrade motor oil, 130°C
- X SAE 80/90 hypoid-gear oil, 130°C
- ✓ Insulating Oil, 23°C

Standard Fuels

- X ISO 1817 Liquid 1 E5, 60°C
- ★ ISO 1817 Liquid 2 M15E4, 60°C
- X ISO 1817 Liquid 3 M3E7, 60°C
- X ISO 1817 Liquid 4 M15, 60°C
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ➤ Diesel fuel (pref. ISO 1817 Liquid F), >90°C

Salt solutions

- ✓ Sodium Chloride solution (10% by mass), 23°C
- ✓ Sodium Hypochlorite solution (10% by mass), 23°C

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- ✓ Sodium Carbonate solution (20% by mass), 23°C
- ✓ Sodium Carbonate solution (2% by mass), 23°C
- ✓ Zinc Chloride solution (50% by mass), 23°C

Other

- ✓ Ethyl Acetate, 23°C
- X Hydrogen peroxide, 23°C
- X DOT No. 4 Brake fluid, 130°C
- ➤ Ethylene Glycol (50% by mass) in water, 108°C
- √ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✓ 50% Oleic acid + 50% Olive Oil, 23°C
- ✓ Water. 23°C
- X Water, 90°C
- ✓ Phenol solution (5% by mass), 23°C

Symbols used:

✓ possibly resistant

Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

x not recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

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