

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® LW9030 BK851 is a 30% glass fiber reinforced polybutylene terephthalate blend for injection moulding. It has improved surface aesthetics, excellent dimensional stability and low warpage characteristics.

Product information

Resin Identification Part Marking Code	PBT+ASA-GF30 >PBT+ASA-GF30<		ISO 1043 ISO 11469
Rheological properties			
Melt volume-flow rate Temperature Load Moulding shrinkage, parallel	250	kg	ISO 1133 ISO 294-4, 2577
Moulding shrinkage, normal	0.7	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus Tensile stress at break, 5mm/min Tensile strain at break, 5mm/min Flexural modulus Flexural strength Charpy impact strength, 23°C Charpy impact strength, -30°C Charpy notched impact strength, 23°C Charpy notched impact strength, -30°C Izod notched impact strength, -30°C Izod notched impact strength, -30°C Izod impact strength, -30°C Izod impact strength, -30°C Izod impact strength, -30°C Poisson's ratio	2 8500 180 50 45 9 7 7 7 70 45	MPa %	ISO 527-1/-2 ISO 527-1/-2 ISO 527-1/-2 ISO 178 ISO 179/1eU ISO 179/1eU ISO 179/1eA ISO 179/1eA ISO 180/1A ISO 180/1A ISO 180/1U ISO 180/1U
Thermal properties Melting temperature, 10°C/min Glass transition temperature, 10°C/min Temperature of deflection under load, 1.8 MPa	224 120 170	°C	ISO 11357-1/-3 ISO 11357-1/-3 ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa Thermal conductivity of melt	210 0.28	°C W/(mK)	ISO 75-1/-2 ISO 22007-2

Printed: 2024-09-04



THERMOPLASTIC POLYESTER RESIN

RTI, electrical, 0.75mm RTI, electrical, 1.5mm RTI, electrical, 3.0mm RTI, electrical, 6mm RTI, impact, 0.75mm RTI, impact, 1.5mm RTI, impact, 3.0mm RTI, strength, 0.75mm RTI, strength, 1.5mm RTI, strength, 3.0mm RTI, strength, 6mm	130 130 130 130 125 125 125 130 130 130 130 130	ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝံ ဝ	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 Oxygen index Glow Wire Flammability Index, 3.0mm Glow Wire Ignition Temperature, 3.0mm FMVSS Class Burning rate, Thickness 1 mm	1.5 yes HB 3 yes 20 750 775 B	°C	IEC 60695-11-10 IEC 60695-11-10 UL 94 IEC 60695-11-10 IEC 60695-11-10 UL 94 ISO 4589-1/-2 IEC 60695-2-12 IEC 60695-2-13 ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302)
Electrical properties Relative permittivity, 100Hz Relative permittivity, 1MHz Dissipation factor, 100Hz Dissipation factor, 1MHz Volume resistivity Surface resistivity Electric strength Comparative tracking index	168 >1E13 1E14	Ohm.m	IEC 62631-2-1 IEC 62631-2-1 IEC 62631-2-1 IEC 62631-2-1 IEC 62631-3-1 IEC 62631-3-2 IEC 60243-1 IEC 60112
Physical/Other properties Density Injection		kg/m³	ISO 1183
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature Mold Temperature Optimum	yes 120 2 - 4 ≤0.04 250 240 260 80	h % °C °C	

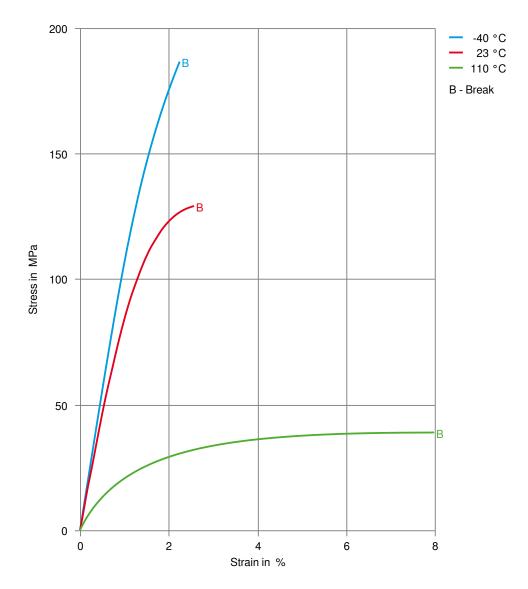
Printed: 2024-09-04



THERMOPLASTIC POLYESTER RESIN

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 MPa
	possible
Ejection temperature	183 °C

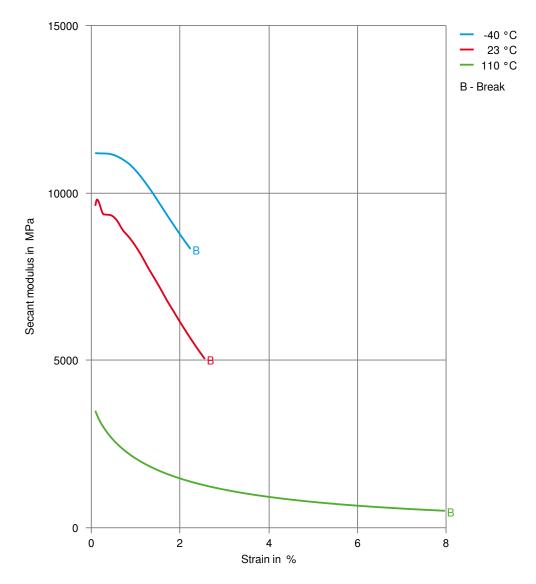
Stress-strain





THERMOPLASTIC POLYESTER RESIN

Secant modulus-strain





THERMOPLASTIC POLYESTER RESIN

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
- ★ 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

- ✗ 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
- X 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

Printed: 2024-09-04



THERMOPLASTIC POLYESTER RESIN

- 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
- ★ 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).

Printed: 2024-09-04

Page: 6 of 6

Revised: 2024-07-12 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. Colourants or other additives may cause significant variations in data values. Properties of moulded 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 product 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 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 s

© 2024 Celanese or its affiliates. All rights reserved. Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC. KEPITAL is a registered trademark of Korea Engineering Plastics Company, Ltd.