

DuPont™ Crastin® LW9020FR BK851

THERMOPLASTIC POLYESTER RESIN

Product Information

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, DuPont recommends, 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® LW9020FR BK851 is a 20% glass fiber reinforced, flame retardant polybutylene terephthalate alloy for injection moulding. It has improved surface aesthetics, excellent dimensional stability and low warpage characteristics.

General information			
Resin Identification	PBT+ASA- GF20FR(17)	-	-
Part Marking Code	>PBT+ASA- GF20FR(17)<	-	ISO 11469
Mechanical properties			
Tensile Modulus	7800	MPa	ISO 527-1/-2
Stress at break	100	MPa	ISO 527-1/-2
Strain at break	2	%	ISO 527-1/-2
Flexural Strength	140	MPa	ISO 178
Charpy impact strength, 23°C	35	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	6.5	kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	5.5	kJ/m ²	ISO 180/1A
Thermal properties			
Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	170	°C	ISO 75-1/-2
RTI, electrical, 0.8mm	140	°C	UL 746B
RTI, impact			UL 746B
0.8mm	115	°C	
1.5mm	115	°C	
3mm	120	°C	
RTI, strength			UL 746B
0.8mm	120	°C	
1.5mm	120	°C	
3mm	130	°C	
Flammability			
Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
UL recognition	UL	-	-
Other properties			
Density	1500	kg/m ³	ISO 1183

Characteristics

Processing	• Injection Moulding		
Regional Availability	• North America • Europe	• Asia Pacific • South and Central America	• Near East/Africa • Global

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

Tel: +1 302 999-4592

Toll-Free (USA): 800 441-0575

Asia Pacific

Tel: +81 3 5521 8600

Europe/Middle East/Africa

Tel: +41 22 717 51 11



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Processing Texts

Injection molding

PREPROCESSING

Drying recommended = Yes
Drying temperature = 110-130 °C
Drying time, dehumidified dryer = 2-4 h
Processing moisture content = <0.04 %

PROCESSING

Melt temperature optimum = 250 °C
Melt temperature range = 240-260 °C
Mould temperature optimum = 80 °C
Mould temperature range = 30-130 °C

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)
- ✗ Nitric Acid (40% by mass) (23 °C)
- ✗ Sulfuric Acid (38% by mass) (23 °C)
- ✗ Sulfuric Acid (5% by mass) (23 °C)
- ✗ 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)



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Mineral oils

- ✓ SAE 10W40 multigrade motor oil (23°C)
- ✗ SAE 10W40 multigrade motor oil (130°C)
- ✗ SAE 80/90 hypoid-gear oil (130°C)
- ✓ Insulating Oil (23°C)

Standard Fuels

- ✗ ISO 1817 Liquid 1 (60°C)
- ✗ ISO 1817 Liquid 2 (60°C)
- ✗ ISO 1817 Liquid 3 (60°C)
- ✗ ISO 1817 Liquid 4 (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)
- ✓ 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)
- ✗ Hydrogen peroxide (23°C)
- ✗ 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).

✗ 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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Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4.0mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2.0mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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