

DuPont™ Crastin® CE3054 BK580 (Preliminary Data)

THERMOPLASTIC POLYESTER RESIN

Product Information

Crastin® CE3054 BK580 is an Unreinforced Polybutylene Terephthalate

General information	Value	Unit	Test Standard
Resin Identification	PBT	-	ISO 1043
Part Marking Code	>PBT<	-	ISO 11469
Rheological properties	Value	Unit	Test Standard
Melt mass-flow rate	34	g/10min	ISO 1133
Melt mass-flow rate, Temperature	250	°C	ISO 1133
Melt mass-flow rate, Load	2.16	kg	ISO 1133
Moulding shrinkage, parallel	1.9	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.9	%	ISO 294-4, 2577
Moulding shrinkage, parallel, annealed	2.0	%	ISO 294-4
Moulding shrinkage, normal, annealed	2	%	ISO 294-4
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	2600	MPa	ISO 527-1/-2
Yield stress	57	MPa	ISO 527-1/-2
Yield strain	10	%	ISO 527-1/-2
Flexural Modulus	2500	MPa	ISO 178
Poisson's ratio	0.38	-	ISO 527-1/-2
Charpy impact strength, 23°C	276	kJ/m ²	ISO 179/1eU
Charpy notched impact strength			ISO 179/1eA
23°C	3.4	kJ/m ²	
-40°C	2.9	kJ/m ²	
Izod notched impact strength			ISO 180/1A
23°C	4.2	kJ/m ²	
-40°C	3.8	kJ/m ²	
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	223	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	54	°C	
0.45 MPa	147	°C	
1.8 MPa, annealed	65	°C	
CLTE			
Normal, 23-55°C (73-130°F)	104	E-6/K	ASTM E 831
Normal, -40-23°C	76	E-6/K	ISO 11359-1/-2
Normal, 55-160°C	180	E-6/K	ISO 11359-1/-2
Parallel, 23-55°C(73-130°F)	108	E-6/K	ASTM E 831
Parallel, -40-23°C	71	E-6/K	ISO 11359-1/-2
Parallel, 55-160°C	194	E-6/K	ISO 11359-1/-2
Flammability	Value	Unit	Test Standard
FMVSS Class	SE	-	ISO 3795 (FMVSS 302)
Other properties	Value	Unit	Test Standard
Density	1310	kg/m ³	ISO 1183
Injection	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	≥120	°C	-
Drying Time, Dehumidified Dryer	2 - 4	h	-
Processing Moisture Content	≤0.04	%	-
Melt Temperature Optimum	250	°C	-
Min. melt temperature	240	°C	-
Max. melt temperature	260	°C	-
Mold Temperature Optimum	80	°C	-
Min. mould temperature	30	°C	-

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

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Max. mould temperature	130 °C	-
Hold pressure range	≥60 MPa	-
Hold pressure time	4 s/mm	-
Back pressure	As low as possible	-
Ejection temperature	170 °C	-

Characteristics

Processing	• Injection Moulding
Regional Availability	• Asia Pacific

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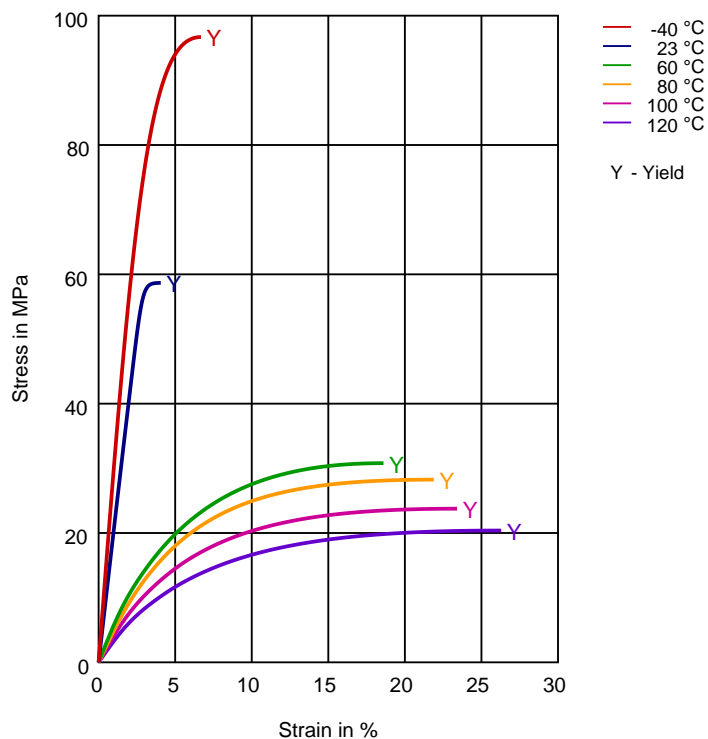


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Diagrams

Stress-strain



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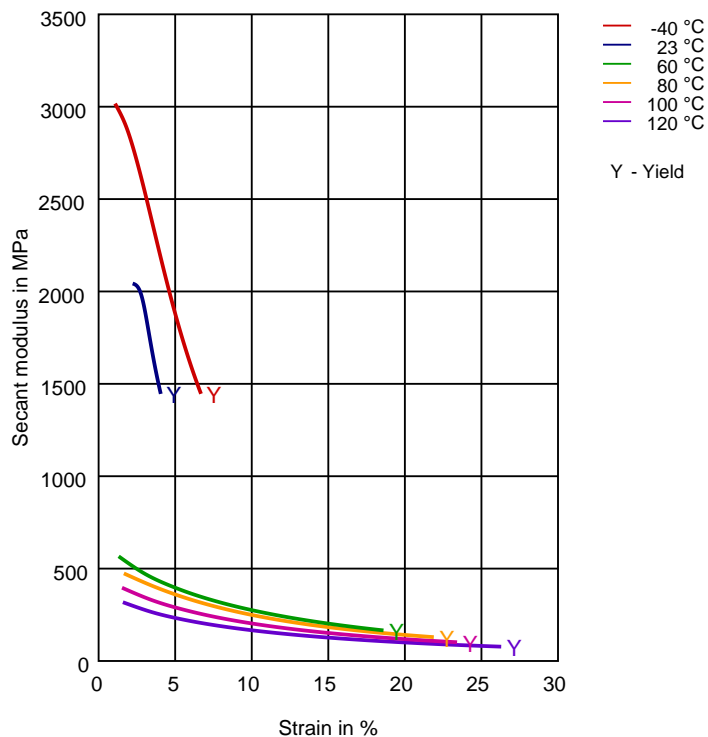


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Secant modulus-strain



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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)
- ✗ 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)

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 - E5 (60 °C)
- ✗ ISO 1817 Liquid 2 - M15E4 (60 °C)
- ✗ ISO 1817 Liquid 3 - M3E7 (60 °C)
- ✗ 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)



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- ✓ 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).

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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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the human body. For other medical applications, discuss with your DuPont customer representative and read Medical Caution H-50103-5.

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