PRODUCT INFORMATION

DuPont[™] Crastin[®] SK608 BK509 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® SK608 BK509 is a 45% glass fiber reinforced, lubricated, black polybutylene terephthalate resin for injection moulding.

Product information	Value		Test Standard
Resin Identification	PBT-GF45		ISO 1043
Part Marking Code	PBT-GF45		ISO 11469
Rheological properties	Value		Test Standard
Melt volume-flow rate		cm ³ /10min	ISO 1133
Temperature	250	°C	ISO 1133
Load	5	kg	ISO 1133
Melt mass-flow rate	6	g/10min	ISO 1133
Melt mass-flow rate, Temperature	250	°C	ISO 1133
Melt mass-flow rate, Load	5	kg	ISO 1133
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.1	%	ISO 294-4, 2577
Mechanical properties	Value	Unit	Test Standard
Tensile Modulus	14200	MPa	ISO 527-1/-2
Stress at break	140	MPa	ISO 527-1/-2
Strain at break	2	%	ISO 527-1/-2
Flexural Modulus	13300	MPa	ISO 178
Flexural Strength	210	MPa	ISO 178
Charpy impact strength			ISO 179/1eU
23°C	55	kJ/m²	
-30°C	65	kJ/m²	
Charpy notched impact strength, 23°C	10	kJ/m ²	ISO 179/1eA
Izod notched impact strength			ISO 180/1A
23°C	10	kJ/m²	
-30°C	10	kJ/m²	
Izod impact strength, -30°C	50	kJ/m ²	ISO 180/1U
Coefficient of sliding friction, 1h against steel	0.2	-	ASTM 1894
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
1.8 MPa	207	°C	
0.45 MPa	222	°C	
Vicat softening temperature, 50°C/h, 50N	215	°C	ISO 306
Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	80	E-6/K	ISO 11359-1/-2
RTI, electrical			UL 746B
0.75mm	130	°C	
1.5mm	130	°Č	
3mm	130	°Č	
	.50	-	

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RTI, impact UL 746B 0.75mm 125<'C 3mm 125<'C 3mm 125'C RTI, strength UL 746B 0.75mm 130'C 3mm 130'C 3mm 130'C 3mm 130'C 3mm 130'C Burning Behav. at 1.5mm nom. thickn. HB class Thickness tested 1.5 mm UL recognition yes Burning rate, Thickness 1 mm <80'C Relative permittivity IC 62631-2-1
1.5mm 125 °C 3mm 125 °C RTI, strength UL 7468 0.75mm 130 °C 1.5mm 130 °C 3mm 130 °C Thickness tested 1.5 <mm< td=""> IEC 60695:11:10 UL recognition yes - UL 94 Burning Behav. at thickness h HB class IEC 60695:11:00 Thickness tested 0.75<mm< td=""> IEC 60695:11:00 UL 94 Oxygen index 20 % ISO 4589:11:22 Glow Wire Flammability Index, 3mm 750 °C IEC 60695:21:22 Glow Wire Flammability Index, 3mm 750 °C IEC 60695:21:22 FMVSS Glass B ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <80</mm<></mm<>
3mm 125 °C RTI, strength UL 7468 0.75mm 130 °C 3mm 130 °C 3mm 130 °C Thickness tested 110 Test Standard Burning Behav. at 1.5mm nom. thickn. HB Class IEC 60095-11-10 Thickness tested 1.5 mm IEC 60095-11-10 UL recognition yes - UL 94 Burning Behav. at thickness h HB Class IEC 60095-11-10 Thickness tested 0.75 mm IEC 60095-11-10 UL recognition yes - UL 94 Oxygen index 20 % ISO 4589-1/-2 Glow Wire Flaumability Index, 3mm 750 °C IEC 60095-2-12 FMXSS Class B - ISO 3795 (FMXSS 302) Burning rate, Thickness 1 mm - ISO 3795 (FMXSS 302) Electrical properties Value Unit Test Standard NHz 3.9 - IEC 62631-2-1 IMHz
RTI, strength UL 746B 0.75mm 130 °C 1.5mm 130 °C 3mm 130 °C Flammability Value Unit Test Standard Burning Behav. at 1.5mm nom. thickn. HB class IEC 60695-11-10 Thickness tested 1.5 mm IEC 60695-11-10 UL recognition yes - UL 94 Burning Behav. at thickness h HB class IEC 60695-11-10 UL recognition yes - UL 94 Objection yes - UL 94 Oxygen index 20 % ISO 4589-1/-2 Glow Wire Flammability Index, 3mm 750 °C IEC 60695-2-12 FMVSS Class B - ISO 3795 (FMVSS 302) Burning rate, Thickness 1 mm <80
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Burning rate, Thickness 1 mm<80mm/minISO 3795 (FMVSS 302)Electrical propertiesValueUnitTest StandardRelative permittivityIEC 62631-2-1IEC 62631-2-1100Hz4.1-1MHz3.9-Dissipation factorIEC 62631-2-1100Hz38E-41MHz130E-4Volume resistivity>1E13Electric strength32kV/mmElectric strength, 20s, 2mm15kV/mmIEC 60243-1Comparative tracking index475Electric Strength, 20s, 2mm15kV/mmOther propertiesValueUnitHumidity absorption, 2mm0.1 %Sim. to ISO 62Water absorption, 2mm0.3 %Sim. to ISO 62Density1660kg/m³ISO 1183Density of melt1470kg/m³-VDA PropertiesValueUnitTest Standard
Electrical propertiesValueUnitTest StandardRelative permittivityIEC 62631-2-1100Hz4.11MHz3.9Dissipation factorIEC 62631-2-1100Hz38E-4100Hz100Hz38100Hz38100Hz38Edetric strength130Electric strength32KV/mmIEC 60243-1Comparative tracking index475Electric Strength, 20s, 2mm15KV/mmIEC 60243-1Other propertiesValueValueUnitHumidity absorption, 2mm0.10.3%Sim. to ISO 62Water absorption, 2mm0.3Density160kg/m³ISO 1183Density of melt1470KDA PropertiesValueValueUnitTest Standard
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Density1660kg/m³ISO 1183Density of melt1470kg/m³-VDA PropertiesValueUnitTest Standard
Density of melt 1470 kg/m³ - VDA Properties Value Unit Test Standard
VDA Properties Value Unit Test Standard
Emission of organic compounds 70 µgC/g VDA 277
Odour 3 class VDA 270
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 260 °C -
Min. melt temperature 250 °C -
Max. melt temperature 270 °C -
Mold Temperature Optimum 80 °C -
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 possible -
Ejection temperature 170 °C -
Characteristics

Characteristics Processing

• Profile Extrusion

• Other Extrusion

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• Injection Moulding



Delivery form Additives

• Pellets

• Release agent

Regional Availability

- North America
- Europe
- Asia Pacific
- South and Central America
- Near East/Africa
- Global

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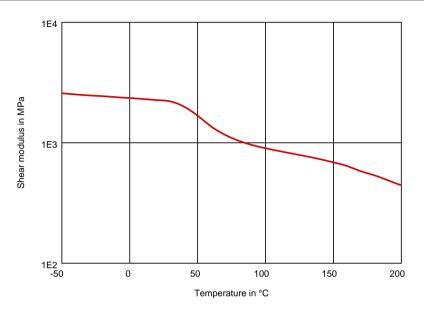
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Diagrams

Dynamic Shear modulus-temperature



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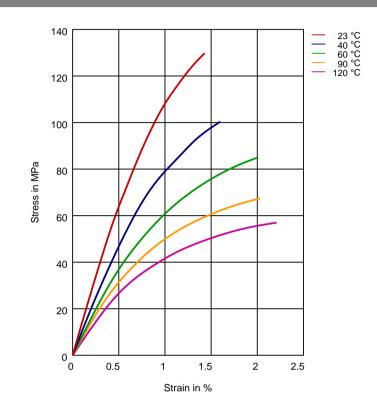
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Stress-strain



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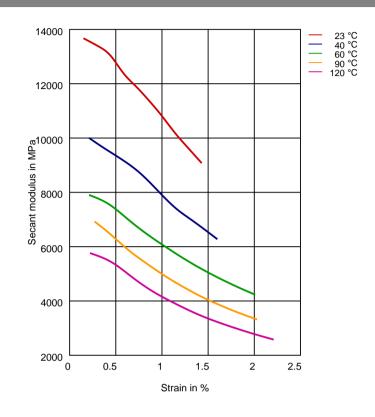
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Secant modulus-strain



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Chemical Media Resistance Acids Acetic Acid (5% by mass) (23°C) 1 1 Citric Acid solution (10% by mass) (23°C) Lactic Acid (10% by mass) (23°C) / XXXXXX 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 Х 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 1 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 1 SAE 10W40 multigrade motor oil (23°C) Ŷ 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) XXXX 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) Revised: 2019-06-06 Page: 7 of 8

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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)	
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- 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).

Xnot 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).

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 4mm (Hytrel® measured at 2 mm), IEC Electrical properties measured at 2mm, all ASTM properties measured at 3.2mm, and test temperatures are 23°C unless otherwise stated.

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