

Product Texts

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® ST820 NC010 is an unreinforced, Super Tough polybutylene terephthalate resin for injection molding.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	2.4	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.9	%	ISO 294-4, 2577
^[C] Density of melt	1030	kg/m ³	-
^[C] Thermal conductivity of melt	0.2	W/(m K)	-
^[C] Spec. heat capacity of melt	2100	J/(kg K)	-
^[C] Ejection temperature	170	°C	-
ASTM Data			
Mold Shrinkage, MD	0.022	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.03	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	1700	MPa	ISO 527
^[C] Yield stress	38	MPa	ISO 527
^[C] Yield strain	7	%	ISO 527
^[C] Nominal strain at break	>50	%	ISO 527
^[C] Charpy impact strength, +23°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	85	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	10	kJ/m ²	ISO 179/1eA
ASTM Data			
Tensile Modulus	1600	MPa	ASTM D 638
Tensile Strength	37	MPa	ASTM D 638
Elongation at Break	145	%	ASTM D 638
Compressive Strength	43	MPa	ASTM D 695
Flexural Modulus	1682	MPa	ASTM D 790
Flexural Strength	53	MPa	ASTM D 790
Rockwell Hardness	R 98	-	ASTM D 785
Izod Impact notched, 1/8 in	N	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	117	J/m	ASTM D 256
Temperature	-40	°C	-

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	55	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	50	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	100	°C	ISO 75-1/-2
^[C] Vicat softening temperature, B	125	°C	ISO 306
^[C] Coeff. of linear therm. expansion, parallel	147	E-6/K	ISO 11359-1/-2

Crastin® ST820 NC010

PBT

Celanese

^[C] Coeff. of linear therm. expansion, normal	155	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	0.8	mm	-
Yellow Card available	yes	-	-
^[C] Burning rate, FMVSS, Thickness 1 mm	38	mm/min	ISO 3795 (FMVSS 302)
^[C] Oxygen index	19	%	ISO 4589-1/-2

ASTM Data

UL 94 Flame rating	HB	-	UL 94
Thickness tested	0.8	mm	-
DTUL @ 66 psi	120	°C	ASTM D 648
DTUL @ 264 psi	47	°C	ASTM D 648
Melting Temperature	225	°C	ASTM D 3418
Limiting Oxygen Index	22	%	ASTM D 2863

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Electrical properties	Value	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 1MHz	3.4	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	200	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	190	E-4	IEC 62631-2-1
^[C] Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
^[C] Surface resistivity	1E15	Ohm	IEC 62631-3-2
^[C] Electric strength	27	kV/mm	IEC 60243-1
^[C] Comparative tracking index	600	-	IEC 60112

ASTM Data

Dielectric Strength, Short Time	23	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.021	-	ASTM D 150
Dielectric Constant, 1 MHz	3.7	-	ASTM D 150
Surface Resistivity	1E14	Ohm	ASTM D 257
Volume Resistivity	>1E15	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
^[C] Water absorption	0.31	%	Sim. to ISO 62
^[C] Humidity absorption	0.12	%	Sim. to ISO 62
^[C] Density	1220	kg/m ³	ISO 1183
Density	1230	kg/m ³	ASTM D 792

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Characteristics**Processing**

Injection Molding, Pipe/Tube Extrusion, Profile Extrusion, Sheet Extrusion, Wire/Cable Extrusion, Other Extrusion, Coating

Delivery form

Pellets, Natural Color

Additives

Lubricants, Release agent

Special Characteristics

High impact or impact modified

Features

Weldable

Chemical Resistance

General Chemical Resistance

Applications

Automotive

Regional Availability

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