

## 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® HR5330HF is a 30% glass reinforced PBT with high flow (HF), moderately toughened, hydrolysis resistant (HR) resin. Excellent balance of properties between terminal pullout and impact resistance. Developed for USCAR Class 3 and 4 environments.**

Processing/Physical Characteristics	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	8	cm <sup>3</sup> /10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
<sup>[C]</sup> Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.0	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	1290	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	0.28	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	1730	J/(kg K)	-
<sup>[C]</sup> Ejection temperature	170	°C	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	8500	MPa	ISO 527
<sup>[C]</sup> Stress at break	125	MPa	ISO 527
<sup>[C]</sup> Strain at break	3.2	%	ISO 527
<sup>[C]</sup> Charpy impact strength, +23°C	70	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	13	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	11.5	kJ/m <sup>2</sup>	ISO 179/1eA
<b>ASTM Data</b>			
Tensile Strength	120	MPa	ASTM D 638
Elongation at Break	2.8	%	ASTM D 638
Flexural Modulus	7500	MPa	ASTM D 790
Flexural Strength	190	MPa	ASTM D 790
Izod Impact notched, 1/8 in	120	J/m	ASTM D 256

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	65	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	207	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	221	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	215	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	20	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	150	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	-
<sup>[C]</sup> Burning Behav. at thickness h	HB	class	IEC 60695-11-10

**Crastin® HR5330HF NC010**

PBT-I-GF30

Celanese

Thickness tested	<b>0.8</b>	mm	-
Yellow Card available	<b>yes</b>	-	-
<sup>[C]</sup> Burning rate, FMVSS, Thickness 1 mm	<b>30</b>	mm/min	ISO 3795 (FMVSS 302)
<sup>[C]</sup> Oxygen index	<b>19</b>	%	ISO 4589-1/-2

**ASTM Data**

UL 94 Flame rating	<b>HB</b>	-	UL 94
Thickness tested	<b>0.75</b>	mm	-

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	<b>4.4</b>	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	<b>4.1</b>	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	<b>25</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	<b>200</b>	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	<b>&gt;1E13</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	<b>1E13</b>	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	<b>44</b>	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	<b>450</b>	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
<sup>[C]</sup> Water absorption	<b>0.35</b>	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	<b>0.15</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>1500</b>	kg/m <sup>3</sup>	ISO 1183
Density	<b>1480</b>	kg/m <sup>3</sup>	ASTM D 792

[C]: CAMPUS

Material specific properties	Value	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Viscosity number	<b>95</b>	cm <sup>3</sup> /g	ISO 307, 1157, 1628

[C]: CAMPUS

**Characteristics****Processing**

Injection Molding

**Features**

Weldable

**Delivery form**

Pellets, Natural Color

**Chemical Resistance**

General Chemical Resistance, Hydrolytically Stable

**Additives**

Lubricants, Release agent

**Applications**

Automotive, Electrical and Electronical

**Special Characteristics**

High impact or impact modified

**Regional Availability**

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

**Other text information****Injection molding**

Use of hot-runners is possible with Crastin® HR resins.

However we do not recommend temperature settings above 270°C and residence times at 265°C should be below 10 minutes.

In case of longer residence times using hot-runners, for example after a shut-down, the complete system must be purged with glass reinforced Crastin® (type SK602/605) before starting up again.

For successful processing of Crastin® HR with hot-runners, care should be taken

to maintain a uniform temperature, avoid hot-spots and long residence times.