Crastin® HR5315HF NC010

PBT-I-GF15 Celanese

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® HR5315HF is a 15% 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
ISO Data			
[C] Melt volume-flow rate, MVR	**12**	cm³/10min	ISO 1133
Temperature	**250**	°C	-
Load	**2.16**	kg	-
[C] Molding shrinkage, parallel	**0.5**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.1**	%	ISO 294-4, 2577
[C] Density of melt	**1140**	kg/m³	-
[C] Thermal conductivity of melt	**0.26**	W/(m K)	-
[C] Spec. heat capacity of melt	**1860**	J/(kg K)	-
[C] Ejection temperature	**170**	°C	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**5200**	MPa	ISO 527
[C] Stress at break	**95**	MPa	ISO 527
[C] Strain at break	**3.3**	%	ISO 527
[C] Tensile creep modulus, 1h	**5000**	MPa	ISO 899-1
[C] Tensile creep modulus, 1000h	**4200**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**60**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**30**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**10**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**7**	kJ/m²	ISO 179/1eA

[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	**60**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**200**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**220**	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**41**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**110**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
[C] Oxygen index	**20**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**3.8**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**3.6**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**100**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**100**	E-4	IEC 62631-2-1
[C] Volume resistivity	**>1E13**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**1E13**	Ohm	IEC 62631-3-2
[C] Electric strength	**42**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**350**	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.4**	%	Sim. to ISO 62
[C] Humidity absorption	**0.15**	%	Sim. to ISO 62
[C] Density	**1370**	kg/m³	ISO 1183

[C]: CAMPUS

Material specific properties	Value	Unit	Test Standard
ISO Data			
[C] Viscosity number	**95**	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets, Natural Color

Additives
Release agent

Special Characteristics
High impact or impact modified

Chemical Resistance
Hydrolytically Stable

Regional Availability
North America, Europe, Asia Pacific, South and Central America

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.