

DuPont Performance Polymers Crastin® SO653 NC010 Polybutylene Terephthalate (PBT) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Glass Bead Filled

Material Notes:

20% Glass Bead Filled Polybutylene Terephthalate with Low Warpage Characteristics Crastin SO653 NC010 is a 20% glass bead filled polybutylene terephthalate resin for injection molding. It has isotropic properties and low warpage characteristics. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-SO653-NC010-Polybutylene-Terephthalate-PBT-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.25 g/cc	0.0452 lb/in ³	
	1.45 g/cc	0.0524 lb/in ³	ISO 1183
Water Absorption	0.35 %	0.35 %	
	@Thickness 2.00 mm	@Thickness 0.0787 in	Sim. to ISO 62
Moisture Absorption	0.200 %	0.200 %	
	@Thickness 2.00 mm	@Thickness 0.0787 in	Sim. to ISO 62
Viscosity	157000 cP	157000 cP	
	@Shear Rate 5000 1/s, Temperature 260 °C	@Shear Rate 5000 1/s, Temperature 500 °F	ISO 11403-1 -2
	193000 cP	193000 cP	
	@Shear Rate 5000 1/s, Temperature 250 °C	@Shear Rate 5000 1/s, Temperature 482 °F	ISO 11403-1 -2
	241000 cP	241000 cP	
	@Shear Rate 5000 1/s, Temperature 240 °C	@Shear Rate 5000 1/s, Temperature 464 °F	ISO 11403-1 -2
	408000 cP	408000 cP	
	@Shear Rate 500 1/s, Temperature 260 °C	@Shear Rate 500 1/s, Temperature 500 °F	ISO 11403-1 -2
	530000 cP	530000 cP	
	@Shear Rate 500 1/s, Temperature 250 °C	@Shear Rate 500 1/s, Temperature 482 °F	ISO 11403-1 -2
	692000 cP	692000 cP	
	@Shear Rate 500 1/s, Temperature 240 °C	@Shear Rate 500 1/s, Temperature 464 °F	ISO 11403-1 -2

Linear Mold Shrinkage, Flow Physical Properties	0.018 cm/cm Metric	0.018 in/in English	ISO 294-4 2577 Comments
Linear Mold Shrinkage, Transverse	0.016 cm/cm	0.016 in/in	ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	47.0 MPa	6820 psi	ISO 527-1/-2
Tensile Stress	5.00 MPa	725 psi	isochronous; ISO 11403-1 -2
	@Strain 0.160 %, Time 3600 sec	@Strain 0.160 %, Time 1.00 hour	
	5.00 MPa	725 psi	isochronous; ISO 11403-1 -2
	@Strain 0.175 %, Time 36000 sec	@Strain 0.175 %, Time 10.0 hour	
	5.00 MPa	725 psi	isochronous; ISO 11403-1 -2
	@Strain 0.177 %, Time 360000 sec	@Strain 0.177 %, Time 100 hour	
	5.00 MPa	725 psi	isochronous; ISO 11403-1 -2
	@Strain 0.210 %, Time 3.60e+6 sec	@Strain 0.210 %, Time 1000 hour	
Elongation at Break	10 %	10 %	ISO 527-1/-2
Tensile Modulus	3.50 GPa	508 ksi	ISO 527-1/-2
Flexural Strength	90.0 MPa	13100 psi	ISO 178
Shear Modulus	0.120 GPa	17.4 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 160 °C	@Temperature 320 °F	
	0.191 GPa	27.7 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.419 GPa	60.8 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 70.0 °C	@Temperature 158 °F	
	1.17 GPa	170 ksi	Dynamic; ISO 11403-1 -2
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	1.31 GPa	190 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	1.43 GPa	207 ksi	Dynamic; ISO 11403-1 -2
	@Temperature -50.0 °C	@Temperature -58.0 °F	
Izod Impact, Notched (ISO)	3.50 kJ/m ²	1.67 ft-lb/in ²	ISO 180/1A

Mechanical Properties	Metric $\frac{J}{m^2}$	English $\frac{ft-lb}{in^2}$	Comments ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	37.0 kJ/m ²	17.6 ft-lb/in ²	ISO 180/1U
	34.0 kJ/m ²	16.2 ft-lb/in ²	ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179/1eU
	5.00 J/cm ²	23.8 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.350 J/cm ²	1.67 ft-lb/in ²	ISO 179/1eA
	0.350 J/cm ²	1.67 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Creep Modulus, 1 hour	2870 MPa	417000 psi	ISO 11403-1 -2
	@Pressure 25.0 MPa, Temperature 23.0 °C	@Pressure 3630 psi, Temperature 73.4 °F	
	2920 MPa	423000 psi	ISO 11403-1 -2
	@Pressure 20.0 MPa, Temperature 23.0 °C	@Pressure 2900 psi, Temperature 73.4 °F	
	2970 MPa	431000 psi	ISO 11403-1 -2
	@Pressure 15.0 MPa, Temperature 23.0 °C	@Pressure 2180 psi, Temperature 73.4 °F	
	3050 MPa	442000 psi	ISO 11403-1 -2
	@Pressure 10.0 MPa, Temperature 23.0 °C	@Pressure 1450 psi, Temperature 73.4 °F	
	3125 MPa	453200 psi	ISO 11403-1 -2
	@Pressure 5.00 MPa, Temperature 23.0 °C	@Pressure 725 psi, Temperature 73.4 °F	
	3500 MPa	508000 psi	ISO 899-1
	@Time 3600 sec	@Time 1.00 hour	
Tensile Creep Modulus, 1000 hours	1500 MPa	217000 psi	ISO 11403-1 -2
	@Pressure 25.0 MPa, Temperature 23.0 °C	@Pressure 3630 psi, Temperature 73.4 °F	
	1640 MPa	238000 psi	ISO 11403-1 -2
	@Pressure 20.0 MPa, Temperature 23.0 °C	@Pressure 2900 psi, Temperature 73.4 °F	

Mechanical Properties	1870 MPa Metric	271000 psi English	Comments ISO 11403-1 -2
	@Pressure 15.0 MPa, Temperature 23.0 °C	@Pressure 2180 psi, Temperature 73.4 °F	
	2170 MPa	315000 psi	
	@Pressure 10.0 MPa, Temperature 23.0 °C	@Pressure 1450 psi, Temperature 73.4 °F	ISO 11403-1 -2
	2380 MPa	345000 psi	
	@Pressure 5.00 MPa, Temperature 23.0 °C	@Pressure 725 psi, Temperature 73.4 °F	ISO 11403-1 -2
	2400 MPa	348000 psi	
	@Time 3.60e+6 sec	@Time 1000 hour	ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 µin/in-°F	ISO 11359-1/-2
Specific Heat Capacity	1.85 J/g-°C	0.442 BTU/lb-°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft²-°F	of melt
Melting Point	225 °C	437 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	165 °C	329 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ISO 75-1/-2
Vicat Softening Point	195 °C	383 °F	50°C/h 50N; ISO 306
Flammability, UL94	HB	HB	IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	IEC 60695-11-10
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Flame Spread	24 mm/min	0.94 in/min	SE/B; ISO 3795 (FMVSS 302)
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Oxygen Index	22 %	22 %	ISO 4589-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
	3.7	3.7	

Dielectric Constant Electrical Properties	Metric @Frequency 1.00e+6 Hz	English @Frequency 1.00e+6 Hz	IEC 60250 Comments
	4.0	4.0	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	25.0 kV/mm	635 kV/in	IEC 60243-1
Dissipation Factor	0.0090	0.0090	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.016	0.016	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	250 V	250 V	IEC 60112

Descriptive Properties	Value	Comments
Additives	Release agent	
Delivery Form	Pellets	
Part Marking Code	>PBT-GB20<	ISO 11469
Processing	Injection Moulding	
Regional Availability	Asia Pacific	
	Europe	
	Global	
	Near East/Africa	
	North America	
	South and Central America	

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