

DuPont Performance Polymers Crastin® ST820 BK503 PBT (Unverified Data**)

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

Material Notes:

Crastin® ST820 BK503 is an unreinforced, Super Tough, black polybutylene terephthalate resin for injection molding. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-ST820-BK503-PBT-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.23 g/cc	1.23 g/cc	ASTM D792
Density	1.22 g/cc	0.0441 lb/in ³	ISO 1183
Linear Mold Shrinkage	0.011 cm/cm	0.011 in/in	Flow
	0.017 cm/cm	0.017 in/in	Transverse
Linear Mold Shrinkage, Flow	0.018 cm/cm	0.018 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength	37.0 MPa	5370 psi	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	36.0 MPa	5220 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	>= 50 %	>= 50 %	nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	130 %	130 %	50mm/min; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	145 %	145 %	ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	7.0 %	7.0 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 527
Tensile Modulus	1.60 GPa	232 ksi	ASTM D638

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
	1.60 GPa	232 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	50.0 MPa	7250 psi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	53.0 MPa	7690 psi	ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	1.50 GPa	218 ksi	ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.682 GPa	244.0 ksi	ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	1.17 J/cm	2.19 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	NB	NB	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	NB	NB	ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	60.0 kJ/m ²	28.6 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties Charpy Impact, Notched	Metric 1.00 J/cm ²	English 4.75 ft-lb/in ²	Comments ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.50 J/cm ²	40.4 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Melting Point	225 °C	437 °F	10°C/min; ISO 11357-1/-3
	225 °C	437 °F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	100 °C	212 °F	ISO 75-1/-2
	120 °C	248 °F	ASTM D648
	145 °C	293 °F	Annealed; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	47.0 °C	117 °F	ASTM D648
	50.0 °C	122 °F	ISO 75-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	ASTM D257
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1.00e+6 Hz, Temperature 23.0 °C	@Frequency 1.00e+6 Hz, Temperature 73.4 °F	
	3.8	3.8	ASTM D150
	@Frequency 1000 Hz, Temperature 23.0 °C	@Frequency 1000 Hz, Temperature 73.4 °F	
Dielectric Strength	15.0 kV/mm	381 kV/in	Short Time; ASTM D149
	@Thickness 3.20 mm, Temperature 23.0 °C	@Thickness 0.126 in, Temperature 73.4 °F	
	23.0 kV/mm	584 kV/in	Short Time; ASTM D149
	@Thickness 1.60 mm, Temperature 23.0 °C	@Thickness 0.0630 in, Temperature 73.4 °F	
Dissipation Factor	0.0030	0.0030	ASTM D150

Electrical Properties	Metric @Frequency 1000 Hz, Temperature 23.0 °C	English @Frequency 1000 Hz, Temperature 73.4 °F	Comments
	0.021	0.021	
	@Frequency 1.00e+6 Hz, Temperature 23.0 °C	@Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150

Processing Properties	Metric	English	Comments
Melt Temperature	250 °C	482 °F	Optimum
	240 - 260 °C	464 - 500 °F	
Mold Temperature	80.0 °C	176 °F	optimum
	30.0 - 130 °C	86.0 - 266 °F	
Drying Temperature	110 - 130 °C	230 - 266 °F	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	
Moisture Content	<= 0.040 %	<= 0.040 %	

Descriptive Properties	Value	Comments
Additive	Impact Modifier	
	Lubricant	
Appearance	Black Color	
Drying Recommended	Yes	
Features	Chemical Resistance, Good	
	Dimensional Stability, Good	
	Elongation, Good	
	Impact Resistance, High	
	Moisture Absorption, Low	
	Processability, Good	
	Toughness, Good	
Forms	Pellets	
Generic	PBT	
Material Status	Current	

Part Marking Code Descriptive Properties	~PBT-HI~ Value	ISO 11469 Comments
Processing Method	Extrusion	
	Injection Molding	
Product Category	Extrusion Resins	
	Toughened Resins	
	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	PBT-HI	ISO 1043
RoHS Compliance	Contact Manufacturer	
Uses	Automotive Applications	
	Industrial Applications	
	Parts, Engineering	

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