

## DuPont Performance Polymers Crastin® ST820 NC010 Polybutylene Terephthalate (PBT) (Unverified Data\*\*)

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

### Material Notes:

Unreinforced Polybutylene Terephthalate with Excellent Impact Resistance Crastin ST820 NC010 is an unreinforced Super Tough 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-NC010-Polybutylene-Terephthalate-PBT-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Crastin-ST820-NC010-Polybutylene-Terephthalate-PBT-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Density	1.03 g/cc	0.0372 lb/in <sup>3</sup>	
	1.22 g/cc	0.0441 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.31 %	0.31 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Moisture Absorption	0.120 %	0.120 %	Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Viscosity	219200 cP	219200 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 250 °C	@Shear Rate 5000 1/s, Temperature 482 °F	
Linear Mold Shrinkage, Flow	742560 cP	742560 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 250 °C	@Shear Rate 500 1/s, Temperature 482 °F	
Linear Mold Shrinkage, Transverse	0.019 cm/cm	0.019 in/in	ISO 294-4 2577
	0.025 cm/cm	0.025 in/in	annealed; ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm	0.018 in/in	ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	104	104	ISO 2039-2
Tensile Stress	7.03 MPa	1020 psi	ISO 11403-1 -2
	@Strain 3.09 %, Temperature 90.0 °C	@Strain 3.09 %, Temperature 194 °F	
Tensile Stress	10.05 MPa	1458 psi	ISO 11403-1 -2
	@Strain 0.620 %, Temperature 23.0 °C	@Strain 0.620 %, Temperature 73.4 °F	

Mechanical Properties	14.2 MPa Metric	2060 psi English	Comments
	@Strain 12.19 %, Temperature 90.0 °C	@Strain 12.19 %, Temperature 194 °F	ISO 11403-1 -2
	15.53 MPa	2252 psi	
	@Strain 2.75 %, Temperature 40.0 °C	@Strain 2.75 %, Temperature 104 °F	ISO 11403-1 -2
	16.0 MPa	2320 psi	
	@Strain 21.29 %, Temperature 90.0 °C	@Strain 21.29 %, Temperature 194 °F	ISO 11403-1 -2
	16.6 MPa	2410 psi	
	@Strain 30.38 %, Temperature 90.0 °C	@Strain 30.38 %, Temperature 194 °F	ISO 11403-1 -2
	23.84 MPa	3458 psi	
	@Strain 10.69 %, Temperature 40.0 °C	@Strain 10.69 %, Temperature 104 °F	ISO 11403-1 -2
	25.71 MPa	3729 psi	
	@Strain 18.63 %, Temperature 40.0 °C	@Strain 18.63 %, Temperature 104 °F	ISO 11403-1 -2
	26.21 MPa	3801 psi	
	@Strain 26.77 %, Temperature 40.0 °C	@Strain 26.77 %, Temperature 104 °F	ISO 11403-1 -2
	30.79 MPa	4466 psi	
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	ISO 11403-1 -2
	34.28 MPa	4972 psi	
	@Strain 4.18 %, Temperature 23.0 °C	@Strain 4.18 %, Temperature 73.4 °F	ISO 11403-1 -2
	34.65 MPa	5026 psi	
	@Strain 5.97 %, Temperature 23.0 °C	@Strain 5.97 %, Temperature 73.4 °F	ISO 11403-1 -2
	5.00 MPa	725 psi	
	@Strain 0.325 %, Time 3600 sec	@Strain 0.325 %, Time 1.00 hour	isochronous; ISO 11403-1 -2
	5.00 MPa	725 psi	
	@Strain 0.355 %, Time 36000 sec	@Strain 0.355 %, Time 10.0 hour	isochronous; ISO 11403-1 -2
	5.00 MPa	725 psi	
	@Strain 0.423 %,	@Strain 0.423 %,	isochronous; ISO 11403-1 -2

Mechanical Properties	Time 360000 sec Metric	Time 100 hour English	Comments
	5.00 MPa	725 psi	
	@Strain 0.558 %, Time 3.60e+6 sec	@Strain 0.558 %, Time 1000 hour	isochronous; ISO 11403-1 -2
	5.00 MPa	725 psi	
	@Strain 0.846 %, Time 3.60e+7 sec	@Strain 0.846 %, Time 10000 hour	isochronous; ISO 11403-1 -2
Tensile Strength, Yield	38.0 MPa	5510 psi	ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	Nominal; ISO 527-1/-2
Elongation at Yield	7.0 %	7.0 %	ISO 527-1/-2
Tensile Modulus	1.70 GPa	247 ksi	ISO 527-1/-2
	0.177 GPa	25.7 ksi	
	@Temperature 120 °C	@Temperature 248 °F	ISO 11403-1 -2
	0.800 GPa	116 ksi	
	@Temperature 40.0 °C	@Temperature 104 °F	ISO 11403-1 -2
	2.30 GPa	334 ksi	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ISO 11403-1 -2
Flexural Strength	50.0 MPa	7250 psi	ISO 178
Flexural Modulus	1.55 GPa	225 ksi	ISO 178
Secant Modulus	0.12095 GPa	17.543 ksi	
	@Strain 21.48 %, Temperature 40.0 °C	@Strain 21.48 %, Temperature 104 °F	ISO 11403-1 -2
	0.223 GPa	32.3 ksi	
	@Strain 10.69 %, Temperature 40.0 °C	@Strain 10.69 %, Temperature 104 °F	ISO 11403-1 -2
	0.565 GPa	81.9 ksi	
	@Strain 2.75 %, Temperature 40.0 °C	@Strain 2.75 %, Temperature 104 °F	ISO 11403-1 -2
	0.720 GPa	104 ksi	
	@Strain 4.79 %, Temperature 23.0 °C	@Strain 4.79 %, Temperature 73.4 °F	ISO 11403-1 -2
	1.28 GPa	186 ksi	
	@Strain 2.40 %, Temperature 23.0 °C	@Strain 2.40 %, Temperature 73.4 °F	ISO 11403-1 -2

Mechanical Properties	1.62 GPa Metric	235 ksi English	Comments ISO 11403-1-2
	@Strain 0.620 %, Temperature 23.0 °C	@Strain 0.620 %, Temperature 73.4 °F	
Izod Impact, Notched (ISO)	60.0 kJ/m <sup>2</sup>	28.6 ft-lb/in <sup>2</sup>	ISO 180/1A
	10.0 kJ/m <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	15.0 kJ/m <sup>2</sup>	7.14 ft-lb/in <sup>2</sup>	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180/1U
	270 kJ/m <sup>2</sup>	128 ft-lb/in <sup>2</sup>	ISO 180/1U
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	NB	NB	ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	8.50 J/cm <sup>2</sup>	40.4 ft-lb/in <sup>2</sup>	ISO 179/1eA
	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.00 J/cm <sup>2</sup>	4.76 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Creep Modulus, 1 hour	1500 MPa	217000 psi	ISO 11403-1 -2
	@Pressure 10.0 MPa, Temperature 23.0 °C	@Pressure 1450 psi, Temperature 73.4 °F	
	1510 MPa	219000 psi	ISO 11403-1 -2
	@Pressure 8.00 MPa, Temperature 23.0 °C	@Pressure 1160 psi, Temperature 73.4 °F	
	1530 MPa	222000 psi	ISO 11403-1 -2
	@Pressure 6.00 MPa, Temperature 23.0 °C	@Pressure 870 psi, Temperature 73.4 °F	
	1550 MPa	224000 psi	ISO 11403-1 -2
	@Pressure 4.00 MPa, Temperature 23.0 °C	@Pressure 580 psi, Temperature 73.4 °F	

Mechanical Properties	1560 MPa Metric	226000 psi English	Comments ISO 11403-1 -2
	@Pressure 2.00 MPa, Temperature 23.0 °C	@Pressure 290 psi, Temperature 73.4 °F	
Tensile Creep Modulus, 1000 hours	714 MPa	104000 psi	ISO 11403-1 -2
	@Pressure 10.0 MPa, Temperature 23.0 °C	@Pressure 1450 psi, Temperature 73.4 °F	
	770 MPa	112000 psi	ISO 11403-1 -2
	@Pressure 8.00 MPa, Temperature 23.0 °C	@Pressure 1160 psi, Temperature 73.4 °F	
	850 MPa	123000 psi	ISO 11403-1 -2
	@Pressure 6.00 MPa, Temperature 23.0 °C	@Pressure 870 psi, Temperature 73.4 °F	
	939 MPa	136000 psi	ISO 11403-1 -2
	@Pressure 4.00 MPa, Temperature 23.0 °C	@Pressure 580 psi, Temperature 73.4 °F	
	1000 MPa	146000 psi	ISO 11403-1 -2
	@Pressure 2.00 MPa, Temperature 23.0 °C	@Pressure 290 psi, Temperature 73.4 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	IEC 60093
Dielectric Strength	27.0 kV/mm	686 kV/in	IEC 60243-1

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