

## DuPont Performance Polymers Zytel® ST811HS BK038 Nylon 6 (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Nylon , Nylon 6

### Material Notes:

Zytel® ST811HS BK038 is a flexible, non-plasticized, black Super Tough nylon 6 resin developed for extrusion and injection molding applications such as cable and rope jacketing, hose inner cores and molded fasteners and ski binding parts. Information provided by DuPont

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Zytel-ST811HS-BK038-Nylon-6-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-ST811HS-BK038-Nylon-6-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in <sup>3</sup>	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.0090 cm/cm @Thickness 2.00 mm	0.0090 in/in @Thickness 0.0787 in	DAM; ISO 294-4
Linear Mold Shrinkage, Transverse	0.014 cm/cm @Thickness 2.00 mm	0.014 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	44.0 MPa @Temperature 23.0 °C	6380 psi @Temperature 73.4 °F	DAM; 50mm/min; ISO 527
Elongation at Break	200 % @Temperature 23.0 °C	200 % @Temperature 73.4 °F	DAM; ISO 527
	230 % @Temperature 23.0 °C	230 % @Temperature 73.4 °F	DAM; 50mm/min; ISO 527
Tensile Modulus	0.850 GPa @Temperature 23.0 °C	123 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Modulus	0.850 GPa @Temperature 23.0 °C	123 ksi @Temperature 73.4 °F	DAM; ISO 178
Izod Impact, Notched (ISO)	13.0 kJ/m <sup>2</sup> @Temperature -40.0 °C	6.19 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	DAM; ISO 180/1A
	36.0 kJ/m <sup>2</sup> @Temperature -20.0 °C	17.1 ft-lb/in <sup>2</sup> @Temperature -4.00 °F	DAM; ISO 180/1A
	65.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	30.9 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	DAM; ISO 180/1A

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)			DAM; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	DAM; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.20 J/cm <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	DAM; ISO 179/1eA
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	8.00 J/cm <sup>2</sup>	38.1 ft-lb/in <sup>2</sup>	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	130 µm/m-°C	72.2 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	140 µm/m-°C	77.8 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	218 °C	424 °F	DAM; 10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	85.0 °C	185 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	40.0 °C	104 °F	DAM; ISO 75-1/-2

Processing Properties	Metric	English	Comments
Melt Temperature	240 °C	464 °F	DAM; optimum; Extrusion
	235 - 250 °C	455 - 482 °F	DAM; Extrusion
	260 - 280 °C	500 - 536 °F	DAM; Injection Molding
	270 °C	518 °F	DAM; optimum; Injection Molding
Mold Temperature	70.0 °C	158 °F	DAM; Optimum; Injection Molding
	50.0 - 90.0 °C	122 - 194 °F	DAM; Injection Molding
Drying Temperature	80.0 °C	176 °F	DAM; Extrusion
	80.0 °C	176 °F	DAM; Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	DAM; Dehumidified Dryer; Injection Molding
			DAM; Dehumidified Dryer; Extrusion

Processing Properties	4.00 - 6.00 hour Metric	4.00 - 6.00 hour English	Comments
Moisture Content	<= 0.060 %	<= 0.060 %	DAM; Extrusion
	<= 0.060 %	<= 0.060 %	DAM; Injection Molding

Descriptive Properties	Value	Comments
Additive	Carbon Black	
	Heat Stabilizer	
	Impact Modifier, Rubber	
Appearance	Natural Color	
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	
Features	Elongation, Good	
	Flexibility, Good	
	Heat Aging Resistance, Good	
	Heat Stabilized	
	Impact Modified	
	Impact Resistance, Good	
	Lubricated	
	Toughness, Good	
Forms	Pellets	
Generic	Nylon 6	
Material Status	Current	
Part Marking Code	>PA6-HI<	ISO 11469
Processing Method	Extrusion	
Product Category	Extrusion Resins	
	Toughened Resins	
Region Available - Global	Yes	
Resin Identification	PA6-HI	ISO 1043
RoHS Compliance	Contact Manufacturer	
Uses	Cable Jacketing	

Descriptive Properties	Value Units	Comments
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## Contact Songhan Plastic Technology Co.,Ltd.

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