

## DuPont Performance Polymers Zytel® 157HSL BK010 Nylon 612 (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Nylon , Nylon 612

### Material Notes:

Zytel® 157HSL BK010 is a heat stabilized, weatherable, lubricated polyamide 612 resin that is suitable for molding and extrusion applications. Information provided by DuPont Performance Polymers

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Zytel-157HSL-BK010-Nylon-612-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-157HSL-BK010-Nylon-612-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.07 g/cc	1.07 g/cc	DAM; ASTM D792
Density	1.07 g/cc	0.0387 lb/in <sup>3</sup>	DAM; ISO 1183
Water Absorption	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	Immersion 24h; DAM; ASTM D570
Linear Mold Shrinkage, Flow	0.013 cm/cm @Thickness 2.00 mm	0.013 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
Hardness, Rockwell R	120	120	DAM; ASTM D785
Tensile Strength	55.0 MPa @Temperature 23.0 °C	7980 psi @Temperature 73.4 °F	50%RH; ASTM D638
	60.0 MPa @Temperature 23.0 °C	8700 psi @Temperature 73.4 °F	DAM; ASTM D638
Tensile Strength, Yield	53.0 MPa @Temperature 23.0 °C	7690 psi @Temperature 73.4 °F	50%RH; ISO 527
	65.0 MPa @Temperature 23.0 °C	9430 psi @Temperature 73.4 °F	DAM; ISO 527
Elongation at Break	22 % @Temperature 23.0 °C	22 % @Temperature 73.4 °F	DAM; nominal; ISO 527
	30 % @Temperature 23.0 °C	30 % @Temperature 73.4 °F	DAM; ASTM D638

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	50%RH; nominal; ISO 527
	75 %	75 %	50%RH; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	4.4 %	4.4 %	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	18 %	18 %	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	1.50 GPa	218 ksi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.50 GPa	363 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	44.0 MPa	6380 psi	50%RH; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	80.0 MPa	11600 psi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	1.50 GPa	218 ksi	50%RH; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.50 GPa	218 ksi	50%RH; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.18 GPa	316 ksi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.30 GPa	334 ksi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	0.430 J/cm	0.806 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.480 J/cm	0.899 ft-lb/in	50%RH; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	4.00 kJ/m <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	

Charpy Impact Unnotched Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	50%RH; ISO 179/1eU Comments
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm <sup>2</sup> @Temperature 23.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	DAM; ISO 179/1eA
	0.700 J/cm <sup>2</sup> @Temperature 23.0 °C	3.33 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	50%RH; ISO 179/1eA

Thermal Properties	Metric	English	Comments
Melting Point	218 °C	424 °F	10°C/min; DAM; ISO 11357-1/-3
	218 °C	424 °F	DAM; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	150 °C	302 °F	DAM; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	50.0 °C	122 °F	DAM; ASTM D648
	62.0 °C	144 °F	DAM; ISO 75-1/-2
UL RTI, Electrical	105 °C @Thickness 3.00 mm	221 °F @Thickness 0.118 in	DAM; UL 746B
	105 °C @Thickness 0.860 mm	221 °F @Thickness 0.0339 in	DAM; UL 746B
	105 °C @Thickness 1.50 mm	221 °F @Thickness 0.0591 in	DAM; UL 746B
UL RTI, Mechanical with Impact	65.0 °C @Thickness 0.860 mm	149 °F @Thickness 0.0339 in	DAM; UL 746B
	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
	65.0 °C @Thickness 3.00 mm	149 °F @Thickness 0.118 in	DAM; UL 746B
UL RTI, Mechanical without Impact	65.0 °C @Thickness 3.00 mm	149 °F @Thickness 0.118 in	DAM; UL 746B
	65.0 °C @Thickness 0.860 mm	149 °F @Thickness 0.0339 in	DAM; UL 746B

Thermal Properties	Metric	English	Comments
	@Thickness 1.50 mm	@Thickness 0.0591 in	DAM; UL 746B
Flammability, UL94	HB	HB	DAM; IEC 60695-11-10
	@Thickness 0.860 mm	@Thickness 0.0339 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	DAM; UL94
	@Thickness 0.860 mm	@Thickness 0.0339 in	
	HB	HB	DAM; UL94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	DAM; UL94
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	>= 600 V	>= 600 V	DAM; UL 746A
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Processing Properties	Metric	English	Comments
Melt Temperature	250 °C	482 °F	DAM; Optimum
	230 - 290 °C	446 - 554 °F	
Mold Temperature	70.0 °C	158 °F	DAM; optimum
	50.0 - 90.0 °C	122 - 194 °F	
Drying Temperature	80.0 °C	176 °F	DAM
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	DAM
Moisture Content	<= 0.050 %	<= 0.050 %	DAM

Descriptive Properties	Value	Comments
Additive	Carbon Black	DAM
	Heat Stabilizer	DAM

Descriptive Properties	Lubricant Value	DAM Comments
Appearance	Black Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Extrudable - Blown Film	Yes	DAM
Extrudable - Coating	Yes	DAM
Extrudable - Filament	Yes	DAM
Extrudable - Hose	Yes	DAM
Extrudable - Sheet	Yes	DAM
Extrudable - Tubing	Yes	DAM
Extrudable - Wire and Cable	Yes	DAM
Extrusion Blow Moldable	Yes	DAM
Features	Chemical Resistance, Good	DAM
	Heat Aging Resistance, Good	DAM
	Lubricated	DAM
	Lubricated	DAM
	Wear Resistance, Good	DAM
	Weather Resistance, Good	DAM
Forms	Pellets	DAM
Generic	Nylon 612	DAM
Heat Stabilized	Yes	DAM
Injection Blow Moldable	Yes	DAM
Material Status	Current	DAM
Part Marking Code	>PA612<	ISO 11469; DAM
Polymer Family	Polyamide	DAM
Polymer Type	PA612	DAM
Processing Method	Extrusion	DAM
	Injection Molding	DAM
Product Category	Extrusion Resins	DAM

Descriptive Properties	Value	Comments
	UV Resistant/Weatherable Resins	DAM
Region Available - Global	Yes	DAM
Resin Identification	PA612	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM
Ultrasonic Weldable	Yes	DAM
Uses	Automotive Applications	DAM

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