DuPont Performance Polymers Zytel® 158L NC010 Nylon 612 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 612

Material Notes:

Zytel® 158L NC010 is an intermediate viscosity, 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-158L-NC010-Nylon-612-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.06 g/cc	1.06 g/cc	DAM; ASTM D792
Density	1.06 g/cc	0.0383 lb/in³	DAM; ISO 1183
Water Absorption	0.25 % @Temperature 23.0 °C	0.25 % @Temperature 73.4 °F	Immersion 24h; DAM; ASTM D570
	1.3 % @Temperature 23.0 °C	1.3 % @Temperature 73.4 °F	Equilibrium 50%RH; DAM; ISO 62, Similar to
	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	Saturation; DAM; ASTM D570
Linear Mold Shrinkage	0.011 cm/cm @Thickness 3.20 mm	0.011 in/in @Thickness 0.126 in	Flow; DAM
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	108	108	50%RH; ASTM D785
	114	114	DAM; ASTM D785
Tensile Strength	30.0 MPa @Temperature 121 °C	4350 psi @Temperature 250 °F	50%RH; ASTM D638
	37.0 MPa @Temperature 77.0 °C	5370 psi @Temperature 171 °F	50%RH; ASTM D638

Mechanical Properties	Metric	English	Comments
	41.0 MPa @Temperature 77.0 °C	5950 psi @Temperature 171 °F	ASTM D638
	52.0 MPa @Temperature 23.0 °C	7540 psi @Temperature 73.4 °F	50%RH; ASTM D638
	61.0 MPa @Temperature 23.0 °C	8850 psi @Temperature 73.4 °F	DAM; ASTM D638
	93.0 MPa @Temperature -40.0 °C	13500 psi @Temperature -40.0 °F	DAM; ASTM D638
	93.0 MPa @Temperature -40.0 °C	13500 psi @Temperature -40.0 °F	50%RH; ASTM D638
Tensile Strength, Yield	17.0 MPa @Temperature 121 °C	2470 psi @Temperature 250 °F	50%RH; ASTM D638
	30.0 MPa @Temperature 77.0 °C	4350 psi @Temperature 171 °F	DAM; ASTM D638
	35.0 MPa @Temperature 77.0 °C	5080 psi @Temperature 171 °F	50%RH; ASTM D638
	51.0 MPa @Temperature 23.0 °C	7400 psi @Temperature 73.4 °F	50%RH; ASTM D638
	52.0 MPa @Temperature 23.0 °C	7540 psi @Temperature 73.4 °F	50%RH; ISO 527
	61.0 MPa @Temperature 23.0 °C	8850 psi @Temperature 73.4 °F	DAM; ASTM D638
	62.0 MPa @Temperature 23.0 °C	8990 psi @Temperature 73.4 °F	DAM; ISO 527
	93.0 MPa @Temperature -40.0 °C	13500 psi @Temperature -40.0 °F	50%RH; ASTM D638
	94.0 MPa @Temperature -40.0 °C	13600 psi @Temperature -40.0 °F	DAM; ASTM D638
Elongation at Break	15 % @Temperature -40.0 °C	15 % @Temperature -40.0 °F	DAM; ASTM D638
	30 %	30 %	

Mechanical Properties	Metric	English	Comments
	@Temperature -40.0 °C	@Temperature -40.0 °F	50%RH; ASTM D638
	35 % @Temperature 23.0 °C	35 % @Temperature 73.4 °F	DAM; nominal; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; nominal; ISO 527
	>= 100 % @Temperature 23.0 °C	>= 100 % @Temperature 73.4 °F	50%RH; nominal; ISO 527
	150 % @Temperature 23.0 °C	150 % @Temperature 73.4 °F	DAM; ASTM D638
	250 % @Temperature 121 °C	250 % @Temperature 250 °F	50%RH; ASTM D638
	>= 300 % @Temperature 23.0 °C	>= 300 % @Temperature 73.4 °F	50%RH; ASTM D638
	>= 300 % @Temperature 77.0 °C	>= 300 % @Temperature 171 °F	50%RH; ASTM D638
	>= 300 % @Temperature 77.0 °C	>= 300 % @Temperature 171 °F	DAM; ASTM D638
Elongation at Yield	4.5 % @Temperature 23.0 °C	4.5 % @Temperature 73.4 °F	DAM; ISO 527
	7.0 % @Temperature 23.0 °C	7.0 % @Temperature 73.4 °F	DAM; ASTM D638
	8.0 % @Temperature -40.0 °C	8.0 % @Temperature -40.0 °F	DAM; ASTM D638
	14 % @Temperature -40.0 °C	14 % @Temperature -40.0 °F	50%RH; ASTM D638
	19 % @Temperature 23.0 °C	19 % @Temperature 73.4 °F	50%RH; ISO 527
	30 % @Temperature 77.0 °C	30 % @Temperature 171 °F	DAM; ASTM D638
	40 % @Temperature 23.0 °C	40 % @Temperature 73.4 °F	50%RH; ASTM D638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	1.50 GPa @Temperature 23.0 °C	218 ksi @Temperature 73.4 °F	50%RH; ISO 527
	2.40 GPa @Temperature 23.0 °C	348 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Modulus	0.300 GPa @Temperature 121 °C	43.5 ksi @Temperature 250 °F	50%RH; ASTM D790
	0.330 GPa @Temperature 121 °C	47.9 ksi @Temperature 250 °F	DAM; ASTM D790
	0.380 GPa @Temperature 77.0 °C	55.1 ksi @Temperature 171 °F	50%RH; ASTM D790
	0.415 GPa @Temperature 77.0 °C	60.2 ksi @Temperature 171 °F	DAM; ASTM D790
	1.24 GPa @Temperature 23.0 °C	180 ksi @Temperature 73.4 °F	50%RH; ASTM D790
	1.45 GPa @Temperature 23.0 °C	210 ksi @Temperature 73.4 °F	50%RH; ISO 178
	2.03 GPa @Temperature 23.0 °C	294 ksi @Temperature 73.4 °F	DAM; ASTM D790
	2.05 GPa @Temperature 23.0 °C	297 ksi @Temperature 73.4 °F	DAM; ISO 178
	2.34 GPa @Temperature -40.0 °C	339 ksi @Temperature -40.0 °F	DAM; ASTM D790
	2.76 GPa @Temperature -40.0 °C	400 ksi @Temperature -40.0 °F	50%RH; ASTM D790
Shear Strength	56.0 MPa @Temperature 23.0 °C	8120 psi @Temperature 73.4 °F	50%RH; ASTM D732
	59.0 MPa @Temperature 23.0 °C	8560 psi @Temperature 73.4 °F	DAM; ASTM D732
Izod Impact, Notched	0.320 J/cm @Temperature -40.0 °C	0.599 ft-lb/in @Temperature -40.0 °F	50%RH; ASTM D256

Mechanical Properties	Metric	English	Comments
	0.480 J/cm	0.899 ft-lb/in	DAM; ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.530 J/cm	0.993 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.750 J/cm	1.41 ft-lb/in	50%RH; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	4.00 kJ/m²	1.90 ft-lb/in²	50%RH; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.00 kJ/m²	1.90 ft-lb/in²	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	5.00 kJ/m²	2.38 ft-lb/in²	DAM; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 kJ/m²	2.86 ft-lb/in²	50%RH; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	DAM; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	50%RH; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	DAM; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.400 J/cm²	1.90 ft-lb/in²	50%RH; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.400 J/cm²	1.90 ft-lb/in²	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.500 J/cm²	2.38 ft-lb/in²	DAM; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm²	2.86 ft-lb/in²	50%RH; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Impact Strength	154 kJ/m²	73.3 ft-lb/in²	DAM; Short specimen; ASTM D1822
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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