

DuPont Performance Polymers Zytel® RS LC1610 BK387 Nylon 1010 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon

Material Notes:

Plasticized Toughened Renewably Sourced Polyamide 1010 Developed for Extrusion Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-RS-LC1610-BK387-Nylon-1010-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.05 g/cc	0.0379 lb/in³	DAM; ISO 1183
Water Absorption	1.5 %	1.5 %	DAM; Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Moisture Absorption	0.750 %	0.750 %	DAM; Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Viscosity	210000 cP	210000 cP	DAM; @ 1000 sec-1; ISO 11443
	@Temperature 250 °C	@Temperature 482 °F	
	104300 cP	104300 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 240 °C	@Shear Rate 5000 1/s, Temperature 464 °F	
	116800 cP	116800 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 230 °C	@Shear Rate 5000 1/s, Temperature 446 °F	
	145200 cP	145200 cP	ISO 11403-1 -2
	@Shear Rate 5000 1/s, Temperature 220 °C	@Shear Rate 5000 1/s, Temperature 428 °F	
	402600 cP	402600 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 240 °C	@Shear Rate 500 1/s, Temperature 464 °F	
	453400 cP	453400 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 230 °C	@Shear Rate 500 1/s, Temperature 446 °F	
	513700 cP	513700 cP	ISO 11403-1 -2
	@Shear Rate 500 1/s, Temperature 220 °C	@Shear Rate 500 1/s, Temperature 428 °F	
Linear Mold Shrinkage, Flow	0.016 cm/cm	0.016 in/in	DAM; ISO 294-4 2577

Physical Properties	Metric	English	Comments
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Stress	0.760 MPa	110 psi	DAM; ISO 11403-1 -2
	@Strain 0.250 %, Temperature 90.0 °C	@Strain 0.250 %, Temperature 194 °F	
	1.25 MPa	181 psi	DAM; ISO 11403-1 -2
	@Strain 0.700 %, Temperature 150 °C	@Strain 0.700 %, Temperature 302 °F	
	1.43 MPa	207 psi	50%RH; ISO 11403-1 -2
	@Strain 0.190 %, Temperature 23.0 °C	@Strain 0.190 %, Temperature 73.4 °F	
	1.53 MPa	222 psi	50%RH; ISO 11403-1 -2
	@Strain 0.500 %, Temperature 90.0 °C	@Strain 0.500 %, Temperature 194 °F	
	3.23 MPa	468 psi	50%RH; ISO 11403-1 -2
	@Strain 2.56 %, Temperature 150 °C	@Strain 2.56 %, Temperature 302 °F	
	6.01 MPa	872 psi	50%RH; ISO 11403-1 -2
	@Strain 0.250 %, Temperature -20.0 °C	@Strain 0.250 %, Temperature -4.00 °F	
	6.44 MPa	934 psi	50%RH; ISO 11403-1 -2
	@Strain 0.500 %, Temperature 0.000 °C	@Strain 0.500 %, Temperature 32.0 °F	
	7.09 MPa	1030 psi	50%RH; ISO 11403-1 -2
	@Strain 1.78 %, Temperature 40.0 °C	@Strain 1.78 %, Temperature 104 °F	
	7.29 MPa	1060 psi	DAM; ISO 11403-1 -2
	@Strain 1.30 %, Temperature 40.0 °C	@Strain 1.30 %, Temperature 104 °F	
	8.00 MPa	1160 psi	DAM; ISO 11403-1 -2
	@Strain 0.280 %, Temperature -40.0 °C	@Strain 0.280 %, Temperature -40.0 °F	
	8.70 MPa	1260 psi	50%RH; ISO 11403-1 -2
	@Strain 21.27 %, Temperature 150 °C	@Strain 21.27 %, Temperature 302 °F	
	9.31 MPa	1350 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 17.89 %, Temperature 150 °C	@Strain 17.89 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	9.50 MPa	1380 psi	
	@Strain 42.34 %, Temperature 150 °C	@Strain 42.34 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	13.53 MPa	1962 psi	
	@Strain 0.660 %, Temperature -20.0 °C	@Strain 0.660 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	15.42 MPa	2236 psi	
	@Strain 17.42 %, Temperature 90.0 °C	@Strain 17.42 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	16.23 MPa	2354 psi	
	@Strain 17.13 %, Temperature 90.0 °C	@Strain 17.13 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	18.68 MPa	2709 psi	
	@Strain 0.700 %, Temperature -40.0 °C	@Strain 0.700 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	22.79 MPa	3305 psi	
	@Strain 18.65 %, Temperature 40.0 °C	@Strain 18.65 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	24.64 MPa	3574 psi	
	@Strain 3.76 %, Temperature 23.0 °C	@Strain 3.76 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	26.27 MPa	3810 psi	
	@Strain 17.4 %, Temperature 40.0 °C	@Strain 17.4 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	28.55 MPa	4141 psi	
	@Strain 36.74 %, Temperature 40.0 °C	@Strain 36.74 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	30.77 MPa	4463 psi	
	@Strain 19.45 %, Temperature 23.0 °C	@Strain 19.45 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	34.12 MPa	4949 psi	
	@Strain 2.29 %, Temperature 0.000 °C	@Strain 2.29 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	37.22 MPa	5398 psi	
	@Strain 26.34 %, Temperature 23.0 °C	@Strain 26.34 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2

Mechanical Properties	MetricMPa	Englishpsi	Comments
	@Strain 17.39 %, Temperature 0.000 °C	@Strain 17.39 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	52.51 MPa	7616 psi	
	@Strain 14.94 %, Temperature 0.000 °C	@Strain 14.94 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	58.21 MPa	8443 psi	
	@Strain 2.98 %, Temperature -20.0 °C	@Strain 2.98 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	63.58 MPa	9222 psi	
	@Strain 4.37 %, Temperature -20.0 °C	@Strain 4.37 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	67.5 MPa	9790 psi	
	@Strain 3.06 %, Temperature -40.0 °C	@Strain 3.06 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	68.27 MPa	9902 psi	
	@Strain 3.17 %, Temperature -40.0 °C	@Strain 3.17 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	69.51 MPa	10080 psi	
	@Strain 10.19 %, Temperature -20.0 °C	@Strain 10.19 %, Temperature -4.00 °F	DAM; ISO 11403-1 -2
	74.54 MPa	10810 psi	
	@Strain 6.66 %, Temperature -20.0 °C	@Strain 6.66 %, Temperature -4.00 °F	50%RH; ISO 11403-1 -2
	87.19 MPa	12650 psi	
	@Strain 6.11 %, Temperature -40.0 °C	@Strain 6.11 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	89.38 MPa	12960 psi	
	@Strain 7.42 %, Temperature -40.0 °C	@Strain 7.42 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
Tensile Strength, Yield	33.0 MPa	4790 psi	50%RH; ISO 527-1/-2
	35.0 MPa	5080 psi	DAM; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	DAM; Nominal; ISO 527-1/-2
	>= 50 %	>= 50 %	50%RH; Nominal; ISO 527-1/-2
Elongation at Yield	32 %	32 %	DAM; ISO 527-1/-2
	39 %	39 %	50%RH; ISO 527-1/-2

Mechanical Properties	Metric	English	Comments
Tensile Modulus	0.570 GPa	82.7 ksi	50%RH; ISO 527-1/-2
	0.790 GPa	115 ksi	DAM; ISO 527-1/-2
	0.189 GPa	27.4 ksi	50%RH; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.194 GPa	28.1 ksi	DAM; ISO 11403-1 -2
	@Temperature 120 °C	@Temperature 248 °F	
	0.374 GPa	54.2 ksi	50%RH; ISO 11403-1 -2
	@Temperature 40.0 °C	@Temperature 104 °F	
	0.458 GPa	66.4 ksi	DAM; ISO 11403-1 -2
	@Temperature 40.0 °C	@Temperature 104 °F	
	2.68 GPa	389 ksi	50%RH; ISO 11403-1 -2
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	2.782 GPa	403.5 ksi	DAM; ISO 11403-1 -2
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Flexural Strength	19.0 MPa	2760 psi	50%RH; ISO 178
	24.0 MPa	3480 psi	DAM; ISO 178
	19.0 MPa	2760 psi	50%RH; ISO 178
	@Strain 3.50 %	@Strain 3.50 %	
	24.0 MPa	3480 psi	DAM; ISO 178
	@Strain 3.50 %	@Strain 3.50 %	
Shear Strength	0.059185 MPa	8.5841 psi	ISO 11403-1 -2
	@Shear Rate 50.0 1/s, Temperature 240 °C	@Shear Rate 50.0 1/s, Temperature 464 °F	
	0.067205 MPa	9.7473 psi	ISO 11403-1 -2
	@Shear Rate 50.0 1/s, Temperature 230 °C	@Shear Rate 50.0 1/s, Temperature 446 °F	

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