

DuPont Performance Polymers Zytel® RS 32CG20HSL BK409 Nylon 610 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 610

Material Notes:

20% Carbon/Glass Reinforced Renewably Sourced Polyamide 610 Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-RS-32CG20HSL-BK409-Nylon-610-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in ³	DAM; ISO 1183
Moisture Absorption	1.10 % @Thickness 2.00 mm	1.10 % @Thickness 0.0787 in	DAM; Sim. to ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	110 MPa	16000 psi	50%RH; ISO 527-1/-2
	150 MPa	21800 psi	DAM; ISO 527-1/-2
Tensile Stress	6.46 MPa @Strain 0.190 %, Temperature 150 °C	937 psi @Strain 0.190 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	6.82 MPa @Strain 0.250 %, Temperature 150 °C	989 psi @Strain 0.250 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	9.93 MPa @Strain 0.190 %, Temperature 90.0 °C	1440 psi @Strain 0.190 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	12.41 MPa @Strain 0.200 %, Temperature 40.0 °C	1800 psi @Strain 0.200 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	15.26 MPa @Strain 0.360 %, Temperature 90.0 °C	2213 psi @Strain 0.360 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	18.97 MPa @Strain 0.220 %, Temperature 23.0 °C	2751 psi @Strain 0.220 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	19.98 MPa @Strain 0.240 %,	2898 psi @Strain 0.240 %,	DAM; ISO 11403-1 -2

Mechanical Properties	Temperature 40.0 °C Metric	Temperature 104 °F English	Comments
	24.41 MPa @Strain 1.58 %, Temperature 150 °C	3540 psi @Strain 1.58 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	24.51 MPa @Strain 0.230 %, Temperature 0.000 °C	3555 psi @Strain 0.230 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	28.23 MPa @Strain 1.52 %, Temperature 150 °C	4094 psi @Strain 1.52 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	32.88 MPa @Strain 0.280 %, Temperature 23.0 °C	4769 psi @Strain 0.280 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	33.05 MPa @Strain 3.10 %, Temperature 150 °C	4794 psi @Strain 3.10 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	33.07 MPa @Strain 1.04 %, Temperature 90.0 °C	4796 psi @Strain 1.04 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	34.07 MPa @Strain 0.300 %, Temperature 0.000 °C	4941 psi @Strain 0.300 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	37.08 MPa @Strain 0.330 %, Temperature -40.0 °C	5378 psi @Strain 0.330 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	38.7 MPa @Strain 4.67 %, Temperature 150 °C	5610 psi @Strain 4.67 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	39.37 MPa @Strain 3.30 %, Temperature 150 °C	5710 psi @Strain 3.30 %, Temperature 302 °F	DAM; ISO 11403-1 -2
	43.06 MPa @Strain 0.900 %, Temperature 40.0 °C	6245 psi @Strain 0.900 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	45.28 MPa @Strain 1.70 %, Temperature 90.0 °C	6567 psi @Strain 1.70 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	46.27 MPa	6711 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 5.21 %, Temperature 150 °C	@Strain 5.21 %, Temperature 302 °F	50%RH; ISO 11403-1 -2
	48.46 MPa @Strain 2.25 %, Temperature 90.0 °C	7029 psi @Strain 2.25 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	57.93 MPa @Strain 0.830 %, Temperature 23.0 °C	8402 psi @Strain 0.830 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	58.12 MPa @Strain 3.66 %, Temperature 90.0 °C	8430 psi @Strain 3.66 %, Temperature 194 °F	50%RH; ISO 11403-1 -2
	60.1 MPa @Strain 0.600 %, Temperature 0.000 °C	8720 psi @Strain 0.600 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	60.39 MPa @Strain 0.920 %, Temperature 40.0 °C	8759 psi @Strain 0.920 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	60.53 MPa @Strain 3.23 %, Temperature 90.0 °C	8779 psi @Strain 3.23 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	66.11 MPa @Strain 1.88 %, Temperature 40.0 °C	9588 psi @Strain 1.88 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	70.36 MPa @Strain 4.98 %, Temperature 90.0 °C	10200 psi @Strain 4.98 %, Temperature 194 °F	DAM; ISO 11403-1 -2
	73.41 MPa @Strain 0.720 %, Temperature 23.0 °C	10650 psi @Strain 0.720 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	77.81 MPa @Strain 0.750 %, Temperature 0.000 °C	11290 psi @Strain 0.750 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	81.14 MPa @Strain 3.15 %, Temperature 40.0 °C	11770 psi @Strain 3.15 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	84.22 MPa @Strain 0.760 %, Temperature -40.0 °C	12220 psi @Strain 0.760 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2

Mechanical Properties	Metric	English	Comments
	85.26 MPa	12270 psi	
	@Strain 1.61 %, Temperature 23.0 °C	@Strain 1.61 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	87.57 MPa	12700 psi	
	@Strain 1.87 %, Temperature 40.0 °C	@Strain 1.87 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	88.98 MPa	12910 psi	
	@Strain 0.720 %, Temperature -40.0 °C	@Strain 0.720 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	94.99 MPa	13780 psi	
	@Strain 1.08 %, Temperature 0.000 °C	@Strain 1.08 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	102.6 MPa	14880 psi	
	@Strain 3.19 %, Temperature 40.0 °C	@Strain 3.19 %, Temperature 104 °F	DAM; ISO 11403-1 -2
	103.08 MPa	14951 psi	
	@Strain 2.68 %, Temperature 23.0 °C	@Strain 2.68 %, Temperature 73.4 °F	50%RH; ISO 11403-1 -2
	106.47 MPa	15442 psi	
	@Strain 1.23 %, Temperature 23.0 °C	@Strain 1.23 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	113.94 MPa	16526 psi	
	@Strain 1.22 %, Temperature 0.000 °C	@Strain 1.22 %, Temperature 32.0 °F	DAM; ISO 11403-1 -2
	123.68 MPa	17938 psi	
	@Strain 1.75 %, Temperature 0.000 °C	@Strain 1.75 %, Temperature 32.0 °F	50%RH; ISO 11403-1 -2
	127.4 MPa	18480 psi	
	@Strain 1.24 %, Temperature -40.0 °C	@Strain 1.24 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	129.46 MPa	18777 psi	
	@Strain 2.04 %, Temperature 23.0 °C	@Strain 2.04 %, Temperature 73.4 °F	DAM; ISO 11403-1 -2
	131.91 MPa	19132 psi	
	@Strain 1.12 %, Temperature -40.0 °C	@Strain 1.12 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	143.2 MPa	20770 psi	

Mechanical Properties	@Strain 1.89 %, Metric Temperature 0.000 °C	@Strain 1.89 %, English Temperature 32.0 °F	DAM; ISO 11403-1 -2 Comments
	161.04 MPa	23357 psi	
	@Strain 1.76 %, Temperature -40.0 °C	@Strain 1.76 %, Temperature -40.0 °F	50%RH; ISO 11403-1 -2
	167.64 MPa	24314 psi	
	@Strain 1.62 %, Temperature -40.0 °C	@Strain 1.62 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
	189.16 MPa	27435 psi	
	@Strain 2.39 %, Temperature -40.0 °C	@Strain 2.39 %, Temperature -40.0 °F	DAM; ISO 11403-1 -2
Elongation at Break	5.0 %	5.0 %	DAM; ISO 527-1/-2
	5.0 %	5.0 %	50%RH; ISO 527-1/-2
Tensile Modulus	8.00 GPa	1160 ksi	50%RH; ISO 527-1/-2
	11.0 GPa	1600 ksi	DAM; ISO 527-1/-2
Flexural Modulus	9.90 GPa	1440 ksi	DAM; ISO 178
Secant Modulus	0.811 GPa	118 ksi	DAM; ISO 11403-1 -2
	@Strain 9.29 %, Temperature 100 °C	@Strain 9.29 %, Temperature 212 °F	
	0.868 GPa	126 ksi	
	@Strain 7.25 %, Temperature 100 °C	@Strain 7.25 %, Temperature 212 °F	50%RH; ISO 11403-1 -2
	1.10 GPa	160 ksi	
	@Strain 6.39 %, Temperature 100 °C	@Strain 6.39 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	1.19 GPa	172 ksi	
	@Strain 4.91 %, Temperature 100 °C	@Strain 4.91 %, Temperature 212 °F	50%RH; ISO 11403-1 -2
	1.43 GPa	207 ksi	
	@Strain 6.56 %, Temperature 40.0 °C	@Strain 6.56 %, Temperature 104 °F	50%RH; ISO 11403-1 -2
	1.55 GPa	225 ksi	
	@Strain 3.87 %, Temperature 100 °C	@Strain 3.87 %, Temperature 212 °F	DAM; ISO 11403-1 -2
	1.65 GPa	240 ksi	
	@Strain 6.71 %, Temperature 40.0 °C	@Strain 6.71 %, Temperature 104 °F	DAM; ISO 11403-1 -2

Mechanical Properties	Metric	English	Comments
	1.63 GPa	236 ksi	
	@Strain 2.96 %, Temperature 100 °C	@Strain 2.96 %, Temperature 212 °F	50%RH; ISO 11403-1 -2

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