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Celanese Zytel® 105F

Categories:Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon 66 (PA66)
Material Notes:Unreinforced, UV Stabilized, Polyamide 66
Former DuPont product acquired by Celanese in 2022.

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in³	DAM; ISO 1183
Water Absorption	0.95 % @Time 86400 sec	0.95 % @Time 24.0 hour	Immersion; DAM; Sim. to ISO 62
	8.5 % @Thickness 2.00 mm	8.5 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
Moisture Absorption	2.70 % @Thickness 2.00 mm	2.70 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
Viscosity Number	150 cm³/g	1.50 dl/g	Sulfuric acid 96%; ISO 307, 1157, 1628
Linear Mold Shrinkage, Flow	0.013 cm/cm	0.013 in/in	DAM; ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	DAM; ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	60.0 MPa	8700 psi	50% RH; ISO 527-1/-2
	85.0 MPa	12300 psi	DAM; ISO 527-1/-2
Elongation at Break	24 %	24 %	Nominal; DAM; ISO 527-1/-2
	>= 50 %	>= 50 %	Nominal; 50% RH; ISO 527-1/-2
Elongation at Yield	4.3 %	4.3 %	DAM; ISO 527-1/-2
	25 %	25 %	50% RH; ISO 527-1/-2
Tensile Modulus	1.50 GPa	218 ksi	50% RH; ISO 527-1/-2
	3.20 GPa	464 ksi	DAM; ISO 527-1/-2
Poissons Ratio	0.37	0.37	DAM
	0.43	0.43	50% RH
Izod Impact, Notched (ISO)	3.00 kJ/m² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 180/1A
	4.00 kJ/m² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 180/1A

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	5.00 kJ/m² @Temperature 23.0 °C	2.38 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
	12.0 kJ/m² @Temperature 23.0 °C	5.71 ft-lb/in² @Temperature 73.4 °F	50% RH; ISO 180/1A
Charpy Impact Unnotched	4.50 J/cm² @Temperature 23.0 °C	21.4 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eU
	5.50 J/cm² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 179/1eU
	5.50 J/cm² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	50% RH; ISO 179/1eU
Charpy Impact, Notched	0.300 J/cm² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	50% RH; ISO 179/1eA
	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eA
	0.600 J/cm² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eA
	1.50 J/cm² @Temperature 23.0 °C	7.14 ft-lb/in² @Temperature 73.4 °F	50% RH; ISO 179/1eA
Tensile Creep Modulus, 1 hour	1340 MPa	194000 psi	1h; 50% RH; ISO 899-1
Tensile Creep Modulus, 1000 hours	600 MPa	87000 psi	1000h; 50% RH; ISO 899-1

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	DAM; IEC 60112