

Celanese Zytel® 73G35HSL

Categories: Polymer; Thermoplastic; Nylon (Polyamide PA); Nylon 6 (PA6); Nylon 6, 40% Glass Fiber Filled
 Material Notes: 35% Glass Reinforced, Heat Stabilized, Polyamide 6
 Former DuPont product acquired by Celanese in 2022.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	DAM; ISO 1183
Water Absorption	5.8 % @Thickness 2.00 mm	5.8 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
	1.0 % @Thickness 3.00 mm, Time 86400 sec	1.0 % @Thickness 0.118 in, Time 24.0 hour	Immersion; DAM; Sim. to ISO 62
Moisture Absorption	2.10 % @Thickness 2.00 mm	2.10 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
Viscosity Number	143 cm ³ /g	1.43 dl/g	DAM; ISO 307, 1157, 1628
Linear Mold Shrinkage, Flow	0.0010 cm/cm	0.0010 in/in	DAM; ISO 294-4, 2577
Linear Mold Shrinkage, Transverse	0.0060 cm/cm	0.0060 in/in	DAM; ISO 294-4, 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	120 MPa	17400 psi	50% RH; ISO 527-1/-2
	190 MPa	27600 psi	DAM; ISO 527-1/-2
Elongation at Break	3.2 %	3.2 %	DAM; ISO 527-1/-2
	6.0 %	6.0 %	50% RH; ISO 527-1/-2
Tensile Modulus	6.50 GPa	943 ksi	50% RH; ISO 527-1/-2
	11.0 GPa	1600 ksi	DAM; ISO 527-1/-2
Flexural Strength	150 MPa	21800 psi	50% RH; ISO 178
	280 MPa	40600 psi	DAM; ISO 178
Flexural Modulus	6.00 GPa	870 ksi	50% RH; ISO 178
	9.50 GPa	1380 ksi	DAM; ISO 178
Poissons Ratio	0.34	0.34	DAM
	0.35	0.35	50% RH
Izod Impact, Notched (ISO)	13.0 kJ/m ² @Temperature 23.0 °C	6.19 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 180/1A
	20.0 kJ/m ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	50% RH; ISO 180/1A

Charpy Impact Unnotched	8.50 J/cm ² @Temperature 23.0 °C	40.4 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 179/1eU
	9.00 J/cm ² @Temperature 23.0 °C	42.8 ft-lb/in ² @Temperature 73.4 °F	50% RH; ISO 179/1eU
	9.00 J/cm ² @Temperature -30.0 °C	42.8 ft-lb/in ² @Temperature -22.0 °F	50% RH; ISO 179/1eU
	9.00 J/cm ² @Temperature -30.0 °C	42.8 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	50% RH; ISO 179/1eA
	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eA
	1.10 J/cm ² @Temperature -40.0 °C	5.23 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 179/1eA
	1.20 J/cm ² @Temperature -40.0 °C	5.71 ft-lb/in ² @Temperature -40.0 °F	50% RH; ISO 179/1eA
	1.40 J/cm ² @Temperature 23.0 °C	6.66 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 179/1eA
	2.20 J/cm ² @Temperature 23.0 °C	10.5 ft-lb/in ² @Temperature 73.4 °F	50% RH; ISO 179/1eA
Puncture Energy	3.00 J @Temperature 23.0 °C	2.21 ft-lb @Temperature 73.4 °F	DAM; ISO 6603-2
	6.00 J @Temperature 23.0 °C	4.43 ft-lb @Temperature 73.4 °F	50% RH; ISO 6603-2
Tensile Creep Modulus, 1 hour	6000 MPa	870000 psi	1h; DS; 50% RH; ISO 899-1
Tensile Creep Modulus, 1000 hours	5000 MPa	725000 psi	1000h; DS; 50% RH; ISO 899-1