

# MATERIAL DATA SHEET

NY - DuPont Zytel 70G33HS1L NC010  
 Glass-Fiber 33%

Color: Off White 

	Conditions	Test Method	Value
<b>Physical Properties</b>			
<b>Density/Specific Gravity</b> Density is the mass per unit volume of a material. Specific gravity is a measure of the ratio of mass of a given volume of material at 23°C to the same volume of deionized water.	-	ISO 1138	1390 kg/m <sup>3</sup>
<b>Water Absorption</b> Polymers have a tendency to soak up water and this propensity may lead to an alteration of the properties of the plastic.	24 hr Immersion	ISO 62	1.20%
<b>Shore D Hardness</b> Measures the depth of penetration of a specific indenter. Shore Hardness measures are dimensionless. It goes between 0 and 100. The higher number represents the harder material.	-	-	-
<b>Mechanical Properties</b>			
<b>Tensile Modulus</b> The ratio of stress to elastic strain in tension. A high tensile modulus means that the material is rigid - more stress is required to produce a given amount of strain.	23°C	ISO 527	10500 MPa
<b>Tensile Strength @ Break</b> The force per unit area (MPa or psi) required to break a material in such a manner.	23°C	ISO 527	200 MPa
<b>Tensile Strain @ Break (Elongation)</b> The elongation of plastic is the percentage increase in length that occurs before it breaks under tension. Rigid plastics, especially fiber reinforced ones, often exhibit values under 5%. The combination of high tensile strength and high elongation leads to materials of high toughness.	23°C	ISO 527	3.50%
<b>Flexural Modulus</b> An intensive property that is computed as the ratio of stress to strain in flexural deformation, or the tendency for a material to resist bending.	23°C	ISO 178	9300 MPa
<b>Flexural Strength</b> The flexural strength of a material is defined as its ability to resist deformation under load.	23°C	ISO 178	290 MPa
<b>Charpy Notched Impact Strength</b> Used to determine the toughness. A standardized high strain-rate impact test which determines the amount of energy absorbed by a material during fracture. The notch is machined forcing a break at a specific location.	23°C (-30°C) (-40°C)	ISO 179/1eA ISO 179/1eA ISO 179/1eA	13 kJ m <sup>2</sup> 10 kJ m <sup>2</sup> 10 kJ m <sup>2</sup>



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<p><b>Charpy Unnotched Impact Strength</b> Used to determine the toughness. A standardized high strain-rate impact test which determines the amount of energy absorbed by a material during fracture.</p>	<p>23°C (-30°C)</p>	<p>ISO 179/1eU ISO 179/1eU</p>	<p>85 kJ m<sup>2</sup> 70 kJ m<sup>2</sup></p>
<p><b>Izod Notched Impact Strength</b> The toughness of a plastic is measured by its resistance to impacts. It is the ability of a material to resist both fracture and deformation. The notch is machined forcing a break at a specific location.</p>	<p>-</p>	<p>-</p>	<p>-</p>
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<b>Thermal Data</b>			
<p><b>Melting Point</b> The temperature at which the plastic melts from solid to liquid form.</p>	<p>-</p>	<p>ISO 11357-1/-3</p>	<p>262°C</p>
<p><b>Coefficient of Thermal Expansion</b> The ability of a plastic to expand under the effect of temperature elevation. It tells you how much the developed part will remain dimensionally stable under temperature variations.</p>	<p>Parallel -40 -23°C Parallel 23 -55°C Parallel 55-160°C Normal -40 -23°C Normal 23 -55°C Normal 55 -160°C</p>	<p>ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2 ISO 11359-1/-2</p>	<p>0.24 E-4/°C 0.18 E-4/°C 0.13 E-4/°C 0.65 E-4/°C 0.83 E-4/°C 1.37 E-4/°C</p>