

DuPont™ Zytel® 3D1000FL NC010

High Performance Material for 3D Printing

Developmental Data

Product Information

Zytel® 3D1000FL NC010 is a polyamide material in filament form for fused filament fabrication.

Material Specific Properties	Value	Unit	Test Standard
Density	1.09	g/cm ³	ISO 1183
Melting Temperature, 10°C/min	198	°C	ISO 11357-1/-3

Typical Properties of Printed Parts	Value	Unit	Test Standard
Tensile Stress at Yield	55	MPa	ISO 527 (Type 5A)
Tensile Strain at Yield	5	%	ISO 527 (Type 5A)
Tensile Stress at Break	40	MPa	ISO 527 (Type 5A)
Tensile Strain at Break	15	%	ISO 527 (Type 5A)
Tensile Modulus	1600	MPa	ISO 527 (Type 5A)
Izod Impact - Notched	3	kJ/m ²	ISO 180/1A
Izod Impact - Unnotched	30	kJ/m ²	ISO 180/1U
Deflection Temperature Under Load, 0.45MPa	105	°C	ISO 75

The above data are for the developmental sample and are subject to change.

DuPont Zytel® 3D1000FL is capable of being printed on a variety of printers in a variety of configurations. Different printers, slicing and/or printing configurations, test conditions, ambient environments, etc. may give different results.

Reported above are typical results obtained from test parts prepared from filament dried under vacuum at 80 - 90°C for 12 - 24 h. The printer settings were as follows: Nozzle Temperature: 265-275°C; Bed Temperature: 85°C; Printing Speed: 30 mm/sec; Cooling Fan: Off; Infill: 100% Diagonal Line; Flow: 100%; Retraction Speed: 10 mm/sec; Retraction Distance: 1 mm; Printing orientation: All test specimens were printed using Flat orientation except DTUL, which was Edge orientation.

Test specimens were stored under nitrogen and then vacuum-sealed in aluminum-lined bags prior to testing. The tests were then run at 23°C and 50% relative humidity on the dry-as-printed (DAP) test parts.

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