ESSENTIUM

Essentium HTN
TECHNICAL DATA SHEET

ESSENTIUM HTN

Essentium HTN (high-temperature nylon) is a polyamide based chemistry that has improved mechanical and thermal properties compared to standard nylons. Additionally, it is an easy-to-print, low-warp material that boasts high toughness and wear resistantance. This material is a drop-in replacement for Acetal (Delrin®) and has best in-class slow-moisture absorption.

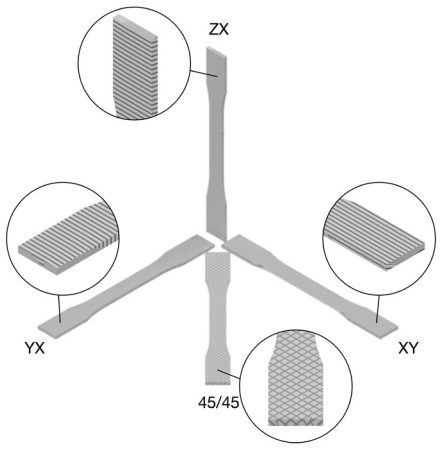
RECOMMENDED PRINT SETTINGS

Nozzle Temperature, °C	265 – 285	Fan Speed, %	0 – 20
Bed Temperature, °C	70 – 80	Bed Material	G-10/FR4 or Glass
Print Speed, mm/s	40 – 80	Retraction Distance, mm	Dimafix® and Magigoo®
First Layer Speed, mm/s	40	Infill Density, %	<75
Ex. Multiplier (Flow)	1		

MATERIAL PROPERTIES[1]

Property	Method	Value
Specific Gravity	ISO 1183	1.2
HDT, °C	ISO 75	90

1 Values taken from raw material TDS



MECHANICAL PROPERTIES

Metric	Test Method	Print Orientation			
		45-45	XY	YX	ZX
Tensile Strength, MPa	ISO 527	70	77	41	6.8
Tensile Modulus, GPa	ISO 527	2.8	3.2	2.3	3.3
Elongation at Break, %	ISO 527	8	9	3	4

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PRINT PARAMETERS[2]			
Nozzle Temperature, °C	335	Ex. Multiplier (Flow)	1
Bed Temperature, °C	80	Fan Speed, %	10
Print Speed, mm/s	150	Machine	HSE
Layer Height, mm	0.2	Nozzle Size, mm	0,4

2 Print parameters in reference to mechanical properties

KEY FEATURES:

- Better heat deflection temperature and printability than ABS and standard Nylons
- High toughness and high strength
- Improved chemical and solvent resistance
- Wear resistance

APPLICATIONS INCLUDE:

- Jigs and fixtures
- Electrically insulating
- Electrical housings
- Low-speed gears and moving parts

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