

High-temperature polyamide
 unreinforced, natural color

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm ³	1.20
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	<0.3
Melt flow rates (MFR)	250°C / 2.16kg	ISO 1133	Pellet	g/10min	3.6
Melt volume rate (MVR)	250°C / 2.16kg	ISO 1133	Pellet	cm ³ /10min	3.5
Thermal properties					
Heat distortion temperature	HDT A – 1.8 MPa	ISO 75	Printed specimen	°C	80
Continuous service temperature	20,000 h	IEC 60216	MPTS ISO 3167 A	°C	100
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	120
Coefficient of thermal expansion		ISO 11359	10x8x4mm	10 ⁻⁵ /K	0.5
Thermal conductivity in plane	hot disk	ISO 22007	60x60x3mm	W/mK	0.3
Electrical properties					
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A	Ω	>10 ¹²
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	Ω	>10 ¹²
Mechanical properties at 23°C / 50% rh		*Printed using UltiMaker S5 Pro and Engineering settings			
Tensile strength	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	69.1 ± 2.9
Elongation at maximum force	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	2.7 ± 0.3
Modulus of elasticity	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	3.1 ± 0.1
Tensile strength	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	82.1 ± 0.9
Elongation at maximum force	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	3.7 ± 0.0
Modulus of elasticity	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	3.1 ± 0.1
Tensile strength	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	81.6 ± 0.9
Elongation at maximum force	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	3.7 ± 0.0
Modulus of elasticity	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	3.1 ± 0.0
Tensile strength	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	MPa	26.3 ± 2.7
Elongation at maximum force	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	%	1.1 ± 0.1
Modulus of elasticity	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	GPa	2.8 ± 0.1
Mechanical properties at 23°C / 50% rh		*Printed using UltiMaker S5 Pro and Fast settings			
Tensile strength	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	54.8 ± 1.7
Elongation at maximum force	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	2.6 ± 0.1
Modulus of elasticity	100% infill - 0° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	2.8 ± 0.1
Tensile strength	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	51.2 ± 1.9
Elongation at maximum force	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	2.8 ± 0.1
Modulus of elasticity	100% infill - 45/135° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	2.9 ± 0.2
Tensile strength	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	MPa	66.2 ± 2.6
Elongation at maximum force	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	%	3.2 ± 0.2
Modulus of elasticity	100% infill - 90° - XY	ISO 527-2	ISO 3167:2014 Typ A	GPa	2.8 ± 0.3
Tensile strength	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	MPa	22.2 ± 3.5
Elongation at maximum force	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	%	1.0 ± 0.2
Modulus of elasticity	100% infill - ZX	ISO 527-2	ISO 3167:2014 Typ A	GPa	2.8 ± 0.1

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General information

LUVOCOM 3F Filament PA^{HT}® 9825 NT is an unreinforced polyamide based formulation with the ability to be printable on non-heated chamber machines. It has excellent tensile and impact strength and allows continues use up to 100°C while retaining 50% of its mechanical properties. Its water uptake takes about 4 times longer to reach the saturation point compared to unmodified PA6, also its saturation point is 5 times lower than conventional PA6 materials.

Engineering and Fast settings print profiles can be found in UltiMaker Cura Marketplace for download and use.

Geometric accuracy was measured according VDI3405:Part 7 (length = 24 - 150 mm) and achieved 0.32 mm for the Engineering

Predrying

It is advisable to pre-dry the filament with a suitable dryer immediately before processing. The material may absorb moisture from the environment.

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	110	6 - 8
Vacuum dryer	100	4 - 6

Processing*

	°C	
Printing temperature	°C	265 - 290
Print bed temperature	°C	≥ 50
Layer thickness	mm	≥ 0.1
Nozzle diameter	mm	≥ 0.2
Printing speeds	mm/s	30 - 80

In order to improve adhesion and facilitate part removal Magigoo PA® or Vision Miner Nano Adhesive are recommended. The processing notes provided merely represent a recommendation for general use. Due to the large variety of machines, geometries and volumes of parts, it may be necessary to employ different settings according to the specific application.

For additional information please refer to our [printing guidelines document](#).



Delivery form & storage

Unless indicated otherwise, the material is delivered as ø 1.75mm and ø 2.85mm filaments in re-sealable aluminum bags. Preferably storage should be under dry, normal temperature and pressure conditions.



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