

Technical Data Sheet

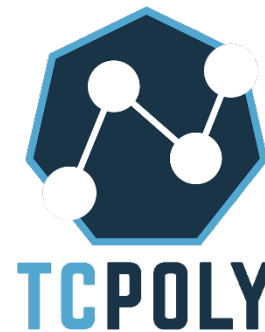
Ice9™ NYLON

Thermally conductive, electrically non-insulating plastic

Filament product code: TC-PA-175-1000

Pellet product code: TC-PA-000-1000

Properties based on 3D printed samples



GENERAL PROPERTIES		VALUE			
Base Material		Polyamide			
Color		Dark gray			
Density		1400 kg/m ³			
THERMAL PROPERTIES		METRIC		ENGLISH	ASTM
Thermal conductivity, in-plane		4	W/m-K	28 BTU·in/hr·ft ² ·°F	E1461
Thermal conductivity, through-plane		1	W/m-K	7 BTU·in/hr·ft ² ·°F	E1461
Specific heat		1200	J/kg-K	0.29 BTU/lb·°F	E1269
Coefficient of thermal expansion		40	ppm/ °C	22 ppm/°F	E831
Heat deflection temperature, 0.45 MPa		160	°C	320 °F	D648
Max. continuous temperature		200	°C	392 °F	*
MECHANICAL PROPERTIES		METRIC		ENGLISH	ASTM
Shore Hardness		70	D		D2240
Flexural modulus		4	GPa	580 ksi	D638
Tensile strength, Break		45	MPa	6.5 ksi	D638
Elongation at break		1	%	1 %	D638
Impact strength, Izod notched		80	J/m	1.5 lb-ft/in	D256
ELECTRICAL PROPERTIES		METRIC			ASTM
Volume resistivity		>10 ⁷	Ω-cm		D257

* Highest temperature recommended for operation of more than 1 hour and is based internal testing and not any recognized standard.

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Recommended FDM Print Settings

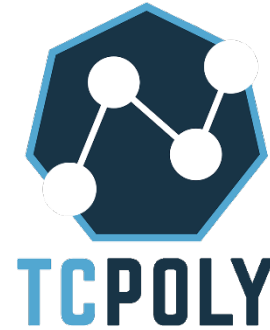
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Base Material		Polyamide	
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Filament diameter		1.75 ± 0.1 mm	
TEMPERATURE SETTINGS		VALUE	UNITS
Extruder temperature		265-310	°C
Bed temperature		70-100	°C
Chamber temperature		60-70	°C
Cooling fan		Bridging only, 60	%
SLICING SETTINGS		VALUE	UNITS
Print speed		60-150	mm/s
Layer height		0.2-0.7	mm
Retraction distance		4	mm
Extra restart distance		0.5	mm
Infill for best thermal performance		95-100	%
ADDITIONAL GUIDELINES			
Nozzle diameter		0.4-1.0 mm	
Extruder type		Direct drive or Bowden	
Print bed preparation		Glue stick on PEI or glass	
Storage instructions		Sealed bag	
Drying instructions		4 hour @ 70°C	

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