

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		
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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	*
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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
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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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GENERAL PROPERTIES	VALUE	
Base Material	Polyamide	
Color	Dark gray	
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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