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SECTION 1 - IDENTIFICATION

COMPANY ADDRESS:
The Virtual Foundry, Inc
1471 US HWY 51
Stoughton, WI 53589
USA

PRODUCT NAME: **Pure Iron Filamet™**

SECTION 2 - TYPICAL MATERIAL PROPERTIES

Physical Properties	Unit	Value
Density	g/cc	2.81
Humidity Absorption	%	No information available
Tensile Strength	MPa	No information available
Tensile Elongation	%	No information available
Flexural Strength	MPa	No information available
Flexural Modulus	GPa	No information available
Izod Impact Strength	kJ/m^2	No information available

SECTION 5 - FILAMENT SPECIFICATIONS

Nominal Diameter	Diameter Tolerance	Ovality
1.75mm	± 0.05mm	≥ 95%

Net Filament Weight	Metal Content
1000/500 grams	80.0 - 82.0%

SECTION 6 - GUIDELINES FOR PRINTING

Advised Printing Temperature	190-230°C (374 – 446°F)
Advised Build Plate Temperature	40-65°C (104 – 149°F) (Optional) 65°C (149°F) is recommended for glass/G10 build plates
Build Plate Surface Type	Powder coated spring steel, glass, G10, blue painter's tape
Build Plate Preparation	Powder Coated Spring Steel: No preparation required Glass/G10: Clean with IPA, print at 65°C (149°F) PEI/PC/Fiberglass/Acrylic/Other: Blue painter's tape
Print Cooling	Recommended for small details/intricate parts

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Advised Printing Speed	60-80mm/sec
Nozzle Size/Type	0.6mm Hardened Steel

SECTION 10 - ADDITIONAL INFORMATION

This filament is abrasive and will wear standard brass nozzles fast. The Virtual Foundry, Inc recommends a hardened steel nozzle. Gem tipped, stainless steel, titanium and tungsten nozzles have been tested and found to wear quickly.

Sintering Temperature: 1300°C (2372°F)	Untested

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REVISED DATE:	April 2024