

## **SECTION 1 - IDENTIFICATION**

## COMPANY ADDRESS:

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

PRODUCT NAME: High Carbon Iron Filamet™

## **SECTION 2 - TYPICAL MATERIAL PROPERTIES**

Physical Properties		Unit	Value	
Density		g/cc	3.56	
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/m²	No information available	
SECTION 5 - FILAMENT SPECIFICATIONS				
Nominal Diameter	Diameter Tolerance	Ovality		
1.75mm	± 0.05mm	≥ 95%		
2.85mm	± 0.05mm	≥ 95%		
Net Filament Weight		Metal Content		
1000/500 grams			75.0 - 80.0%	
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		



1471 US HWY 51 Stoughton WI 53589 USA info@thevirtualfoundry.com +1 (608) 509-7146

Print Cooling	Recommended for small details/intricate parts		
Advised Printing Speed	60-80mm/sec		
Nozzle Size/Type	0.8mm 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