

SECTION 1 - IDENTIFICATION

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

PRODUCT NAME: Bronze Filamet™

SECTION 2 - TYPICAL MATERIAL PROPERTIES

Physical Properties	Unit	Value
Density	g/cc	4.29 - 4.50
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%
2.85mm	± 0.05mm	≥ 95%
Net Filament Weight	Metal Content	
1000/500 grams	88.0 - 90.0%	

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
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: 885°C (1625°F) Instructions: <https://thevirtualfoundry.com/debind-sinter/>

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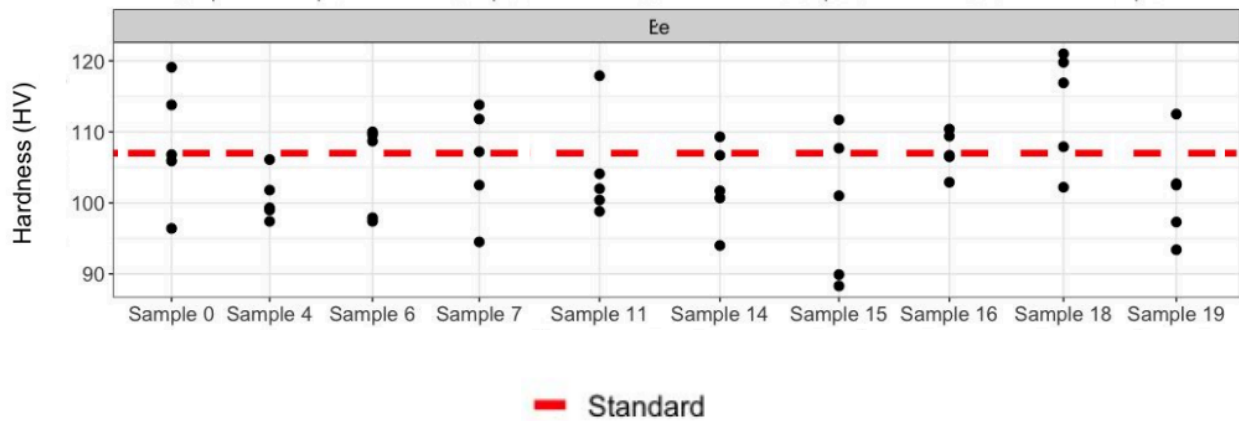
REVISED DATE: May 2024

Engineering Standards and Procedures

Sample Preparation: ASTM E3 –II
 Vickers Hardness Testing: ASTM E92 – 17
 Rockwell Hardness Testing: ASTM E18 – 20
 Hardness Conversions: ASTM E140 – 12b

Data and Analysis

Distribution of Hardness Values Over Each Sample



Data and Analysis

95% Confidence Levels of Hardness Values

