



SECTION 1 - IDENTIFICATION

COMPANY ADDRESS:

Rapid 3DShield, LLC
 1471 US HWY 51
 Stoughton, WI 53589
 USA

PRODUCT NAME: Rapid 3DS Shield Tungsten Filament

SECTION 2 - TYPICAL MATERIAL PROPERTIES

Physical Properties	Unit	Value
Density	g/cc	7.80
Tensile Strength	MPa	23.3
Tensile Elongation	%	7.57
Flexural Strength	MPa	45.5
Flexural Modulus	GPa	3500
Izod Impact Strength	kJ/m ²	95.2

SECTION 5 - FILAMENT SPECIFICATIONS

Nominal Diameter	Diameter Tolerance	Ovality
1.75mm	± 0.05mm	≥ 95%
2.85mm	± 0.05mm	≥ 95%
Net Filament Weight	Metal Content	
5000/1000/500 grams	88.0 - 94.0%	

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. Rapid 3DShield, LLC recommends a hardened steel nozzle. Gem tipped, stainless steel, titanium and tungsten nozzles have been tested and found to wear quickly.

Sintering Temperature: 2200°C (3992°F) Untested

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REVISED DATE: October 2024