1471 US HWY 51
Stoughton WI 53589 USA
info@rapid3dshield.com
+1 (608) 509-7146

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
Metal Content	%	88.0 - 94.0

SECTION 3 - FILAMENT SPECIFICATIONS

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

SECTION 4 - GUIDELINES FOR PRINTING

Advised Printing Temperature	190 - 230°C (374 – 446°F) For high speed printers: 235 - 250°C (455 - 482°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@rapid3dshield.com
+1 (608) 509-7146

Print Cooling	Recommended for small details/intricate parts
Advised Printing Speed	60 - 80mm/sec For high speed printers: 120 - 130mm/sec
Advised Flow Rate	120 - 135%
Nozzle Size/Type	0.6mm Hardened Steel

SECTION 5 - 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 | Product not intended to be sintered - Used in green state

DISCLAIMER: The information provided in this TDS is correct to the best of Rapid 3DShield, LLC's knowledge. Rapid 3DShield, LLC makes no warranty, express or implied, regarding the accuracy of the data or the results obtained from the use of this product. Nothing herein may be construed as recommending any practice or any product in violation of any law or regulations. The information given is provided as a guidance for good use, handling and processing and is not to be considered as a quality specification. The user is solely responsible for determining the suitability of any material or product for a specific purpose and for adopting any appropriate safety precautions. The information only relates to the specific product and the material properties.

REVISED DATE: March 2025