

# Technical Data Sheet



## Product name: MetalFil™ - Ancient Bronze

Version: v3

MetalFil - Ancient Bronze is a metal-filled PLA-based filament with approximately 80% of gravimetric bronze filling. This incredible high filling with bronze powders enables every FDM 3D printer user to 3D print bronze objects which are almost indistinguishable from genuine bronze casted objects.

MetalFil - Ancient Bronze is easy to print and can be printed on full metal, PEEK, and PTFE hotends and can perfectly be printed with  $\geq 0.4\text{mm}$  nozzles with retraction settings enabled on both direct drive extruders, as well as on Bowden style extruders, which is a truly unique feature for a metal-filled filament. MetalFil printed objects can very easily be post-processed allowing one to create amazing bronze objects with various patina effects.

Properties	Typical value	Test Method	Test condition
<b>Physical</b>			
Specific gravity	3.5 g/cc	ISO 1183	-
Melt flow rate	-	-	-
Water absorption	-	-	-
Moisture absorption	-	-	-
<b>Mechanical</b>			
Impact strength	11.3 KJ/m <sup>2</sup>	ISO 179	Charpy Notched @23° C (73° F)
Tensile strength	19.0 Mpa	ISO 527	@Yield 50mm/min (2 inch/min)
Tensile modulus	3990 Mpa	ISO 527	1mm/min
Elongation at break	8%	ISO 527	@ Break 50mm/min (2 inch/min)
Flexural strength	-	-	-
Flexural modulus	-	-	-
Hardness	-	-	-
<b>Thermal</b>			
Print temperature	$\pm 190 - 220^{\circ}\text{C}$	-	-
Melting temperature	$\pm 210 \pm 10^{\circ}\text{C}$	ISO 294	-
Viscat softening temp.	$\pm 65^{\circ}\text{C}$	ISO 306	VST/A/50 (50° C/h, 10N)
<b>Optical</b>			
Haze	-	-	-
Transmittance	-	-	-
Gloss	-	-	-

Product details, certifications and compliance		Diameter	Tolerance	Roundness
HS Code	39169090	1.75mm	$\pm 0.05\text{mm}$	$\geq 95\%$
REACH compliant	Yes	2.85mm	$\pm 0.10\text{mm}$	$\geq 95\%$
RoHS certified	Yes			

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