

METAL PLATING

PRODUCT SPECIFICATIONS

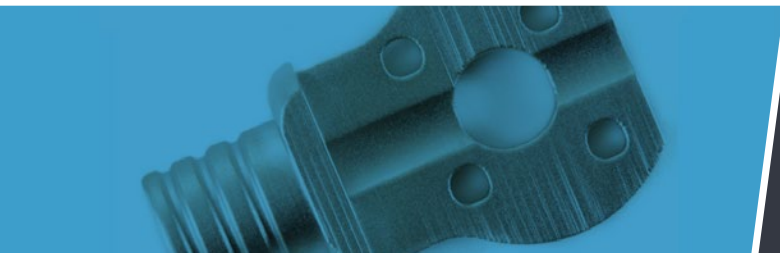


DESCRIPTION:

Metal plating is a process/material combination that produces ceramic-filled composite stereolithography parts that are coated with a structural nickel plating for strength. The core material is a ceramic-filled composite stereolithography material that is of extreme strength, stiffness, and temperature resistance. After the components are built, they are electroform plated with a prescribed thickness of structural nickel. To ensure dimensionality of the parts is maintained, software is used to adjust the stereolithography components prior to their fabrication to account for the targeted plating thickness. Metal-plated components can withstand high temperatures, abrasion, and highly corrosive environments.

APPLICATIONS:

Metal plating is a process/material combination that enables prototyping of parts that would normally be die-cast or machined from aluminum, magnesium, or zinc. Examples of applications include high-speed wind tunnel models, kinematic mechanical assemblies, and factory assembly fixtures.



KEY PRODUCT BENEFITS

- Good temperature resistance
- Corrosion resistant
- Lightweight alternative to metal parts

PROPERTIES:

ASTM	Property Description	SLArmor 10% metal volume	SLArmor 20% metal volume	SLArmor 30% metal volume
D638M	Tensile Strength-Mpa (ksi)	100 (14.5)	145 (21)	200 (29)
	Elongation at Break (%)	0.9	1.04	1
	Mod. of Elasticity-Mpa (ksi)	21,000 (3,046)	31,000 (4,496)	42,000 (6,100)
D790M	Flexural Strength-Mpa (ksi)	300 (43.5)	420 (61)	600 (87)
	Flexural Modulus-Mpa (ksi)	28,000 (4,060)	44,000 (6,380)	54,000 (7,830)
D648-98c	Density (g/cm ³)	2.33	3.06	3.79