

INCONEL 718

Product Specifications

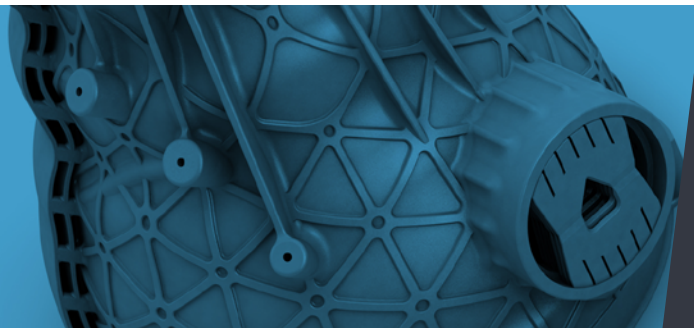


PRODUCT DESCRIPTION

Protolabs' Inconel material is used in our DMLS process. Inconel is a high strength, corrosion resistant nickel chromium superalloy used at temperatures of -423°F to 1300°F. Its high-temperature strength is derived from its ability to create a thick, stable passivating oxide layer at high temperatures, protecting the material from further attack. Inconel also has good tensile, fatigue, creep, and rupture strength. It is available in both high and normal resolution and can be used for parts as large as 31.5" x 15.7" x 19.7" (800mm x 400mm x 500mm) in size.

APPLICATIONS

Inconel is an excellent choice for jet engine components, gas turbines, and related equipment exposed to extreme environments, such as cryogenic conditions.



KEY PRODUCT BENEFITS

- High-strength superalloy
- Excellent high-temperature and corrosion-resistance
- Good tensile, fatigue, creep, and rupture strength

PROPERTIES

Condition	Ultimate Tensile Strength (ksi)	0.2% Yield (ksi)	Elongation %	Hardness (HRC)
As Built	141	89	35	31
Stress Relief (AMS 5662)	150	98	38	-
Stress Relief (AMS 5664)	127	73	53	-
Stress Relief + Solution and Age (AMS 5662)	208	175	18	46
Stress Relief + Solution and Age (AMS 5664)	208	171	21	45
Stress Relief + HIP + Solution and Age (AMS 5664)	206	171	27	45