BINDER JETTING MATERIAL DATASHEET

Markforged

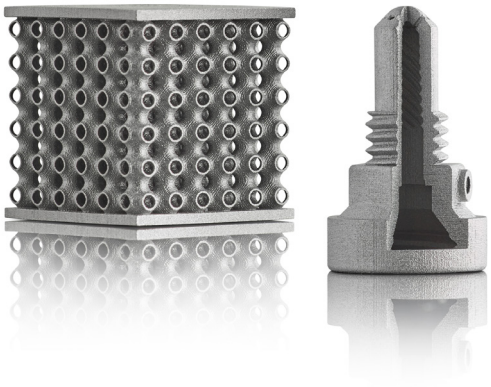
M247

NICKEL SUPERALLOY

M247 is a high-performance nickel-based superalloy with exceptional thermomechanical properties.

The material is closely related to IN625 and IN718 and displays remarkable inherent oxidation resistance, as well as outstanding strength and creep resistance at high temperatures.

It is particularly well-suited for use in demanding applications such as aerospace and gas turbine engines, combustion/exhaust systems, turbopump impellers, and other similar high-temperature environments.



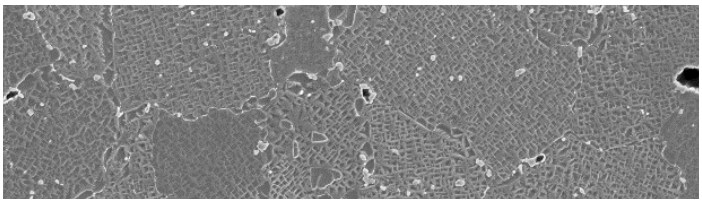
Composition	Weight%	Composition	Weight%
Aluminum	5.4	Molybdenum	0.66
Boron	0.012	Nickel	Balance
Carbon	0.13	Tantalum	3.0
Cobalt	9.9	Titanium	1.0
Chromium	8.3	Tungsten	9.8
Hafnium	1.3	Zirconium	0.05

*Related compositions: MAR-M 247™, René 108, CM247LC

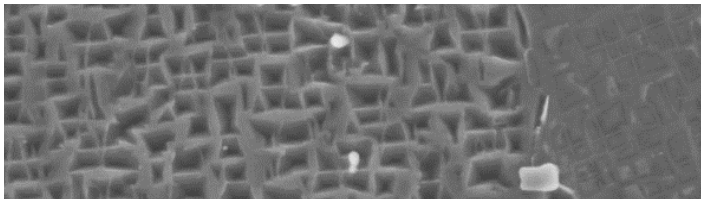
Physical Properties	As Sintered
Ultimate tensile strength [MPa]	1250
Yield strength [MPa]	750
Elongation [%]	20
Hardness [HRC]	35
Relative density [%]	98

Features & Benefits

- Very high tensile and creep rupture strength
- Excellent corrosion resistance
- Full density through Hot Isostatic Pressing, HIP
- Heat treatment improves microstructure



As sintered



As sintered

