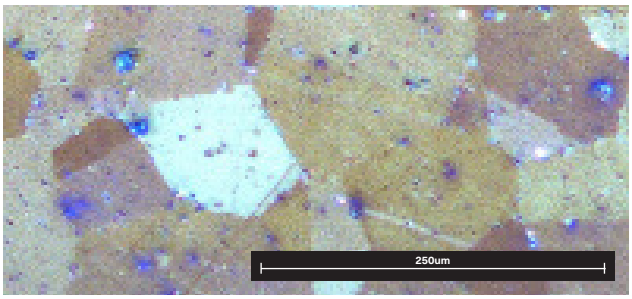
METAL MATERIAL DATASHEET

Inconel 625

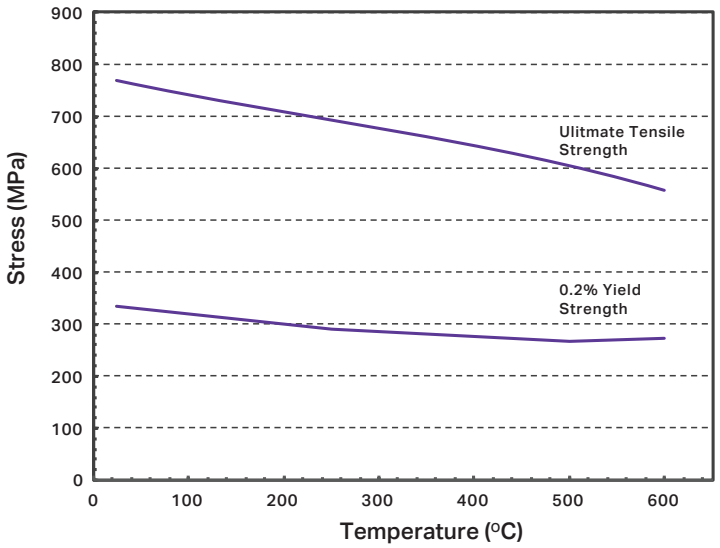
NICKEL SUPERALLOY

Other Designations: UNS N06625, ISO NW6625, DIN 17744

Inconel 625 is a nickel-chromium based superalloy that is highly resistant to corrosion and high temperatures. It's easy to print; allowing you to make functional prototypes and end-use parts for harsh environments. KingStar Inconel 625 meets chemical requirements of ASTM B443.



KingStar Inconel 625 As-Sintered
Inconel 625 printed on the Metal X, washed in the Wash-1, and sintered in the Sinter-1. As-Sintered microstructure captured at 100x is pictured to the right.



Physical Properties	Test	KingStar As-Sintered	Wrought AMS 5599[1]
Ultimate Tensile Strength [MPa]	ASTM E8	765	827
0.2% Yield Strength	ASTM E8	334	414
Elongation Break	ASTM E8	42	30
Hardness	ASTM E18	7	0-19
Relative Density[2]	ASTM B923	96.5	100

Composition	Weight%
Chromium	20-23
Molybdenum	8-10
Iron	5
Niobium	3.15-4.15
Cobalt	1 max
Manganese	0.5 max
Silicon	0.5 max
Aluminum	0.4 max
Titanium	0.4 max
Carbon	0.1 max
Phosphorus	0.015 max
Sulfur	0.015 max
Nickel	bal

1. Wrought AMS 5599 data represent minimum values, except for Hardness.
2. Relative density for Inconel 625 assumes a reference density of 8.44 g/cm2 .
3. ASTM E21 elevated temperature testing was conducted by 3rd party NADCAP lab. Samples were printed in XY and gauge length was machined to size.

These data represent typical values for KingStar Inconel 625 as-sintered. KingStar samples were printed as fully dense parts with 100% infill. Hardness and density
data were tested in house, and all other data were tested and confirmed by outside sources. These representative data were tested, measured, or calculated using stan-
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