ROSSWAG
engineering

Nickel Alloy IN625

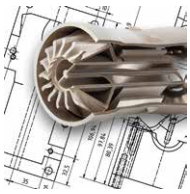
Metal Alloys
for Additive Manufacturing

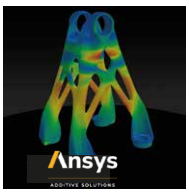
ALTERNATIVE NAMES:

2.4856
N06625
B446

Properties	Unit	As built [1]	Heat-treated [2]
Zugfestigkeit R_m	MPa	1020 ±30	1030 ±30
Dehngrenze $R_{p0.2}$	MPa	700 ±30	660 ±20
Bruchdehnung A_5	%	37 ±5	40 ±5
E-Modul E	GPa	180 ±10	195 ±10
Härte	HV	290 ±5	285 ±5

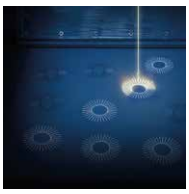
Rosswag Engineering offers a holistic and fully integrated process chain for Additive Manufacturing services. Our portfolio ranges from manufacturing of your prototypes, tools and small serial products to an individual consulting and engineering process for the choice of material, parameters and process chain.


ENGINEERING



SIMULATION


SPECIAL METAL POWDERS


LPBF PROCESS

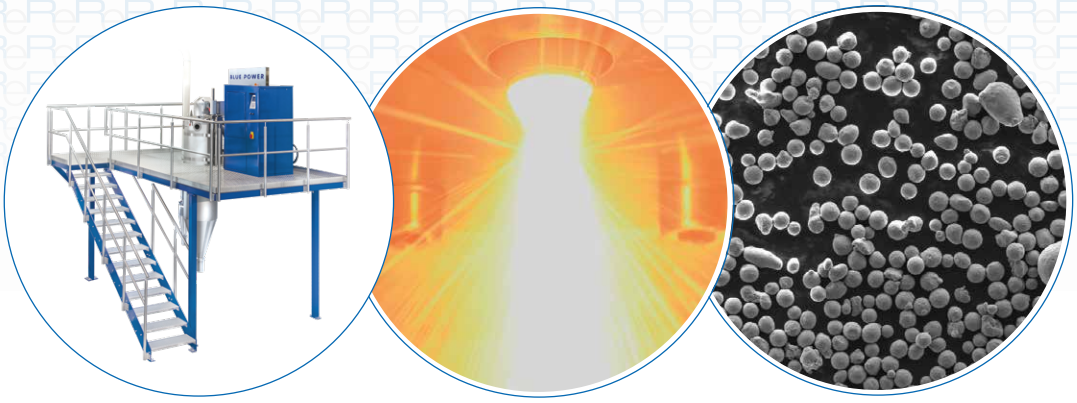

HEAT TREATMENT


CNC FINISHING


MATERIAL ANALYTICS

ALL PROCESSES BY ONE COMPANY

Rosswag GmbH · August-Roßwag-Str. 1 · D-76327 Pfinztal · Germany · Phone +49 7240/9410-131 · Fax +49 72409410-80
info@rosswag-engineering.de · www.rosswag-engineering.de



Material
characteristics

IN625 is a nickel-chromium-molybdenum-niobium alloy that exhibits excellent corrosion resistance to a variety of corrosive media. It combines high strength, excellent weldability and excellent creep rupture strength up to 700 °C. For example, Inconel 625 is used in aircraft engines and heat exchangers.

CHEMICAL COMPOSITION

Element	Mass Fraction [%]
Ni	Balance
Cr	20.0 - 23.0
Mo	8.0 - 10.0
Nb	3.15 - 4.15
Co	1.00
C	≤ 0.1
Si	≤ 0.50
Mn	≤ 0.50
Ti	0.40
Al	0.40
P	≤ 0.015
S	≤ 0.015
Fe	5.00

MICROSECTION

1) The specified material properties were determined at room temperature. They are multi-dimensionally dependent on many different machine and process parameters. Without further investigation, the material properties do not constitute a sufficient basis for component dimensioning.

2) Specific heat treatment processes lead to optimized mechanical-technological properties to meet the component requirements.

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