

Nickel Alloy Waspaloy



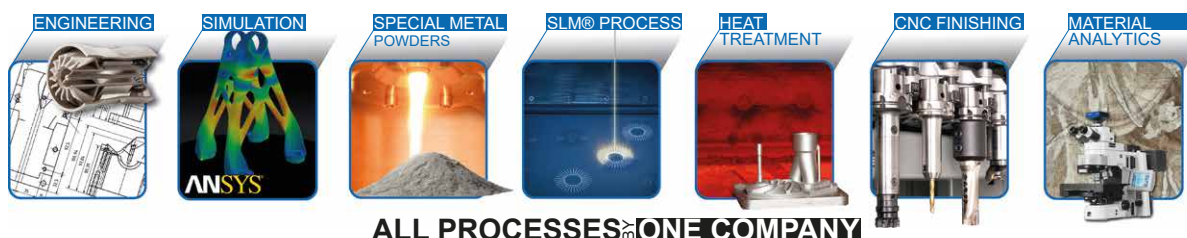
Metal Alloys for Additive Manufacturing

ALTERNATIVE NAMES:

Alloy 685
2.4654
UNS N07001

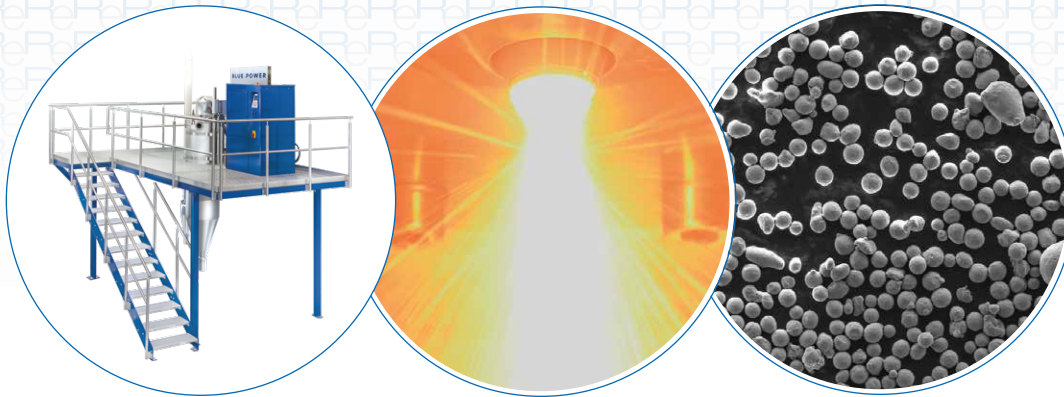
Eigenschaften	Unit	Heat-treated ¹⁾
Tensile Strength R_m	MPa	1350 ±50
Yield Strength $R_{p0,2}$	MPa	1150 ±50
Elongation at Break A_5	%	30 ±3
Hardness	HRC	36 ±3

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.



ALL PROCESSES BY ONE COMPANY





Material characteristics

Waspaloy is a hardenable nickel-base superalloy with very good strength properties at temperatures of up to approx. 980 °C. Due to its good oxidation resistance, the material is frequently used in gas turbines. Additive manufacturing enables a wide range of applications across multiple industries through functional integration at high temperatures.

CHEMICAL COMPOSITION

Element	Mass Fraction [%]
Ni	Balance
Cr	18.0 - 21.0
Mo	3.5 - 5.0
Co	12.0 - 15.0
Al	1.2 - 1.6
Ti	2.75 - 3.25
B	≤ 0.01
C	0.02 - 0.1
Zr	0,02 - 0,12
Fe	≤ 2.0
Mn	≤ 0.10
Si	≤ 0.15
P	≤ 0.015
S	≤ 0.015
Cu	≤ 0.10

MICROSECTION



2000µm

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.

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