

Low Alloy Steel AISI 4140



Metal Alloys

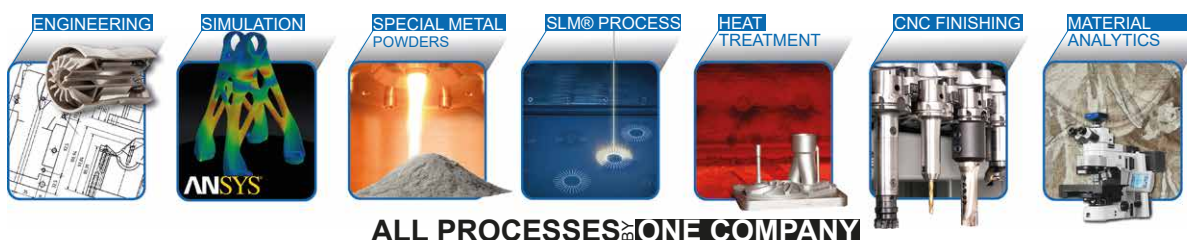
for Additive Manufacturing

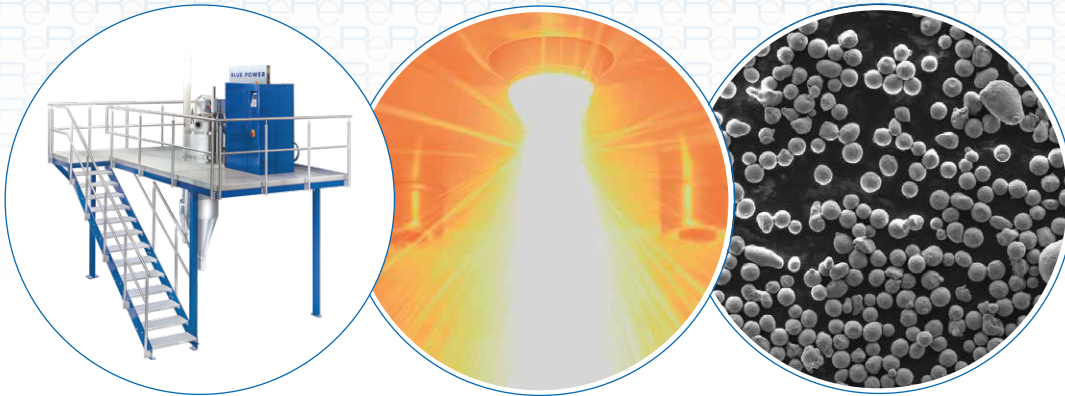
ALTERNATIVE NAMES:

1.7225
42CrMo4
F.1252

Properties	Unit	As built ¹⁾	Heat-treated ²⁾
Tensile Strength R_m	MPa	1280 ±20	1075 ±10
Yield Strength $R_{p0,2}$	MPa	1130 ±20	1000 ±10
Elongation at Break A_5	%	4 ±2	14 ±1
Contraction at Break Z	%	-	56 ±2
Hardness	HRC	42 ±2	36 ±1

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.





Material characteristics

CHEMICAL COMPOSITION

Element	Mass Fraction [%]
C	0.38 - 0.45
Si	≤ 0.40
Mo	0.15 - 0.30
Mn	0.60 - 0.90
P	≤ 0.025
S	≤ 0.35
Cr	0.90 - 1.20
Fe	Balance

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.