

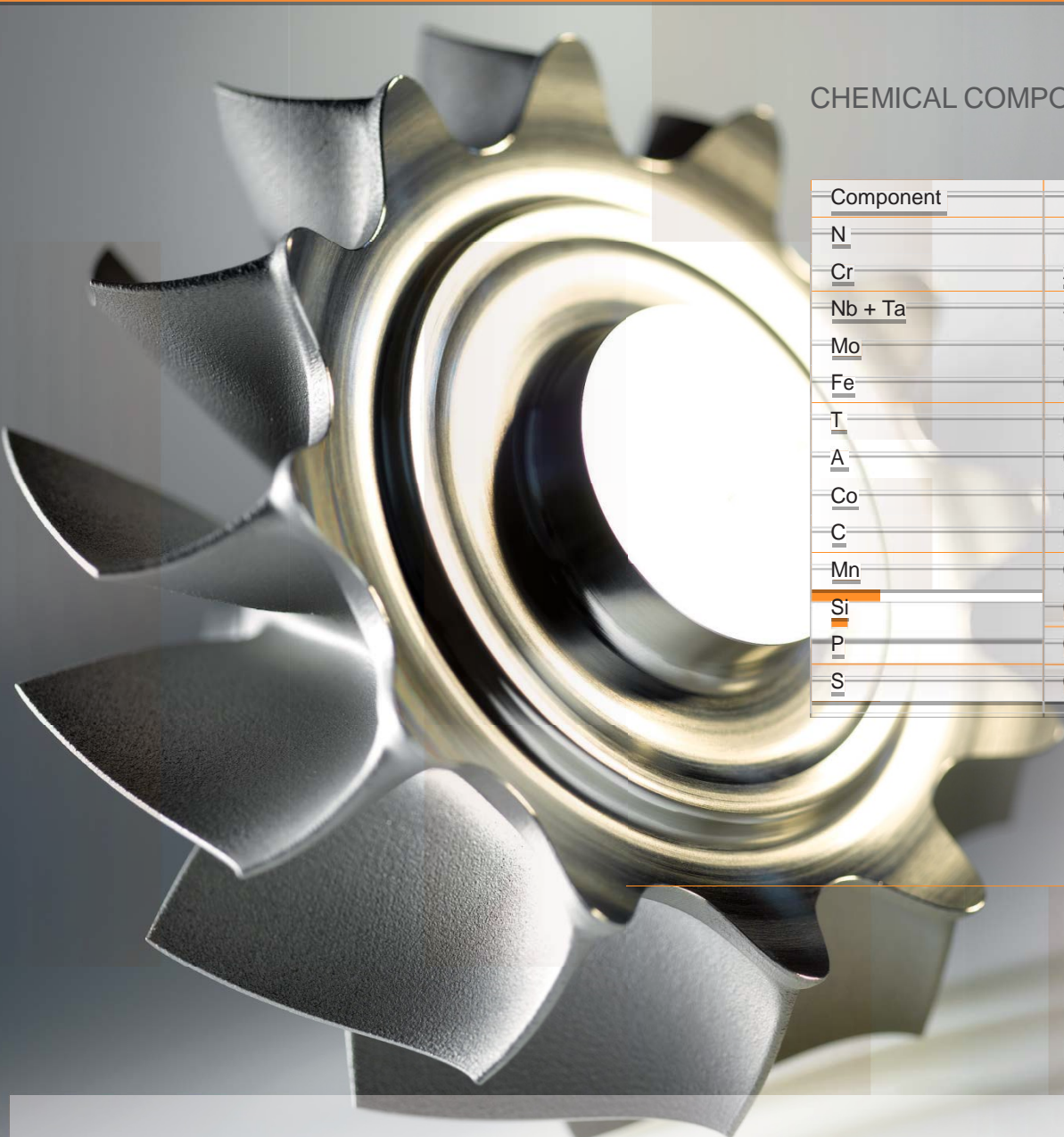


CL 101NB Nickel-based alloy

Nickel-based alloy powder (Inconel 625),
chemical composition according to ASTM B446-03 UNS N06625

CL 101NB is a nickel-based alloy for the production of
components for high-temperature applications.

28
Ni
58,69



CHEMICAL COMPOSITION

Component	Indicative value (%)
N	Balance
Cr	20,0 – 23,0
Nb + Ta	3,15 – 4,15
Mo	8,0 – 10,0
Fe	0,0 – 5,0
T	0,00 – 0,40
A	0,00 – 0,40
Co	0,0 – 1,0
C	0,0 – 0,1
Mn	0,00 – 0,50
Si	0,00 – 0,50
P	0,000 – 0,015
S	0,000 – 0,015

RANGE OF APPLICATION

Parts for high-temperature applications. Typical applications are turbine construction (aviation or stationary turbines) or exhaust tracts within motor sports applications.

TECHNICAL DATA AFTER RECOMMENDED HEAT TREATMENT

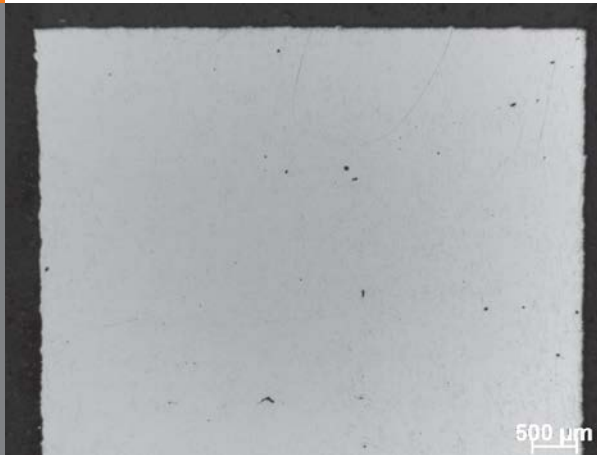
Yield point $R_{p0,2}$	640 – 670 N/mm ²
Tensile Strength R_m	920 – 990 N/mm ²
Elongation A	20 – 32 %
Young's modulus ¹	approx. 200.000 N/mm ²
Thermal conductivity λ ¹	approx. 10 W/mK
Coefficient of thermal expansion ¹	approx. $12,8 \cdot 10^{-6} K^{-1}$

¹ Specification according to the material manufacturer's data sheet.

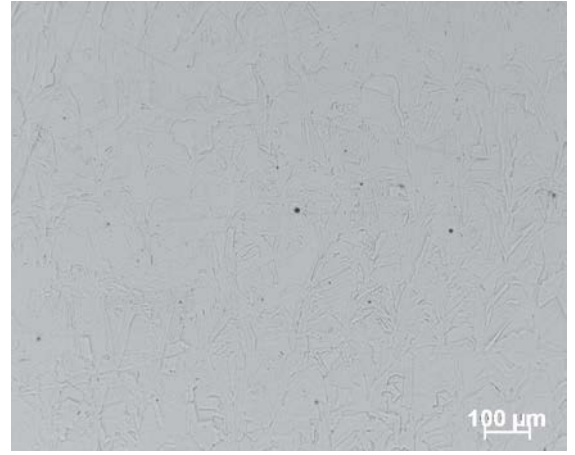
CL 101NB
Nickel-based
alloy

MICROSECTION

Testpiece
(x 20 magnification)



Testpiece
(x 100 magnification)



HEAT TREATMENT

Carry out heat treatment in argon atmosphere.
Heat to 875 °C. Maintain temperature for 30 minutes.

MICROSTRUCTURE

Components made from nickel-based alloy CL 101NB display a homogeneous, dense structure after they are manufactured by means of the metal laser melting process.

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INNOVATION GROUP

All of the specified figures are approximate figures. The figures which are provided reflect the current level of our knowledge and are dependent on process and machine parameters. The information provided on this material data sheet is therefore not binding and is not deemed to be certified.