



### EOS NICKEL NICP

## **Commercially Pure Nickel**

Ideal for semiconductor and chemical applications requiring Nickel purity, corrosion resistance and ductility. This material provides a tensile strength of 400 MPa and 49% elongation, making it an ideal candidate for applications like gas injectors and corrosion resistant components within semiconductor capital equipment.

### MAIN CHARACTERISTICS

- ightarrow High purity
- ightarrow High ductility
- ightarrow Good corrosion resistance

Download Process Data Sheet (PDF) ightarrow

### **TYPICAL APPLICATIONS**

- ightarrow Semiconductor manufacturing parts
- ightarrow Chemical industry parts

# The EOS Quality Triangle

EOS uses an approach that is unique in the AM industry, taking each of the three central technical elements of the production process into account: the system, the material and the process. The data resulting from each combination is assigned a Technology Readiness Level (TRL) which makes the expected performance and production capability of the solution transparent.

EOS incorporates these TRLs into the following two categories:

- → Premium products (TRL 7-9): offer highly validated data, proven capability and reproducible part properties.
- → Core products (TRL 3 and 5): enable early customer access to newest technology still under development and are therefore less mature with less data.

All of the data stated in this material data sheet is produced according to EOS Quality Management System and international standards



# POWDER PROPERTIES

Powder and built part compositions meet the chemical composition requirements of ASTM B162 and SAE AMS5553.

## Powder Chemical Composition (wt.-%)

Element	Min.	Max.
Ni	99	-
c	-	0.02
Mn	-	0.35
Si	-	0.35
S	-	0.01
Fe	-	0.4
Cu	-	0.25

## Powder Particle Size

GENERIC PARTICLE SIZE DISTRIBUTION

15 - 63 µm



SEM micrograph of EOS Nickel NiCP powder

# HEAT TREATMENT

### Description

Heat treatment procedure

### Steps

### Step 1:

Stress relieve: Hold temperature 580 °C, hold time minimum 2 h when thoroughly heated. Air cooling or equivalent cooling rate.

HEADQUARTERS

EOS GmbH Electro Optical Systems Robert-Stirling-Ring 1 82152 Krailling / Munich Germany Tel.: +49 89 893 36-0 Email: info@eos.info URL: www.eos.info

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Status as of 06.05.2025. Subject to technical modifications. EOS is certified according to ISO 9001.

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