

METAL SOLUTIONS

EOS StainlessSteel 254

Material Data Sheet

EOS STAINLESSSTEEL 254

EOS StainlessSteel 254 is an austenitic stainless steel for extreme conditions. The high chromium, molybdenum and nitrogen alloying give excellent corrosion resistance in many difficult environments. The general pitting resistance equivalent PREN for 254 is 43 ($\text{PREN} = \% \text{Cr} + 3.3 \times \% \text{Mo} + 16 \times \% \text{N}$).

MAIN CHARACTERISTICS

- Excellent resistance to uniform, pitting and crevice corrosion
- High resistance to stress corrosion cracking
- Higher strength than conventional austenitic stainless steels

TYPICAL APPLICATIONS

- Chlorinated seawater handling equipment
- Pulp and paper manufacturing devices
- Chemical handling equipment

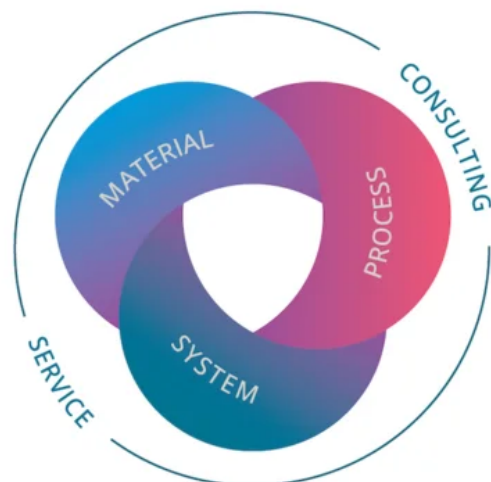
The EOS Quality Triangle

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

EOS StainlessSteel 254 powder material is in accordance with DIN EN 10088-3, EN 1.4547

Powder Chemical Composition (wt.-%)

Element	Min.	Max.
Cr	19.5	20.5
Ni	17.5	18.5
Mo	6	7
Cu	0.5	1
N	0.18	0.25

Powder Particle Size

GENERIC PARTICLE SIZE DISTRIBUTION	20 - 65 µm
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HEAT TREATMENT

Description

Heat treatment procedure

Steps

Optional solution annealing: At 1180 °C for 2 h after parts have fully heated through, water quenching Typical dimensional change after heat treatment: 0.06 %

HEADQUARTERS

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Status as of 03.09.2024. Subject to technical modifications. EOS is certified according to ISO 9001.

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