

Metal powders for serial production of Additive Manufacturing components

AM 410 Sieve Code 5

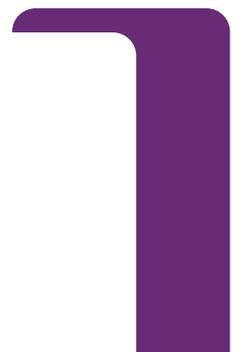
Höganäs stainless steel 410 Sieve Code 5 is a gas atomised, spherical powder for Additive Manufacturing applications. It is typically fit for the Directed Energy Deposition (DED⁽¹⁾, laser cladding) process.

A lower-chromium ferritic grade widely used in applications as a general purpose steel to build up larger machine components such as for instance in petrochemical industry. The mechanical strength is greater than carbon steels and provides an advantage in Additive Manufacturing where thinner materials and reduced weight are prerequisites. AM 410 is not hardening during building of component and will always remain magnetic. In containing no nickel it is very attractive from the price stability point of view.

For more information, please contact your local sales representative or send an e-mail to additivemanufacturing@hoganäs.com

Features:

- Good flowability powder with good building properties
- General purpose construction material
- Better response to machining and cutting than other common materials used in Additive Manufacturing



The gas atomisation process employed for Additive Manufacturing powders, produces powders which must pass stringent controls at each manufacturing step. Certified production units ensure chemical and physical properties according to specifications.

Raw materials are carefully selected and sourced from certified suppliers. The individual raw materials are melted together in our induction furnaces. Prior to atomisation the chemical composition of the melt is analysed and a correction is made if necessary. Spherical powders without satellites is the characteristic morphology of Höganäs gas atomisation. This will ensure excellent flow and spreadability of the powder. After atomisation, the powders are sieved according to agreed requirements and the powder properties are carefully controlled on each lot.



Powders are packed in 5 kg air tight plastic bottles. The packing technique ensures a dry and contamination free powder as well as a uniform grain size distribution.

Typical alloy composition AM 410 Sieve Code 5
Fe (balance) ²⁾
Cr 12.5%
Ni 0.5 %
C max 0.03%
Si 0.5%

Typical powder properties
53-150 µm balance ³⁾
> 150 µm max 3% ³⁾
< 45 µm max 0.2%
Hall flow rate 16 s/50g ⁴⁾
Apparent density 4.2 g/cm ³ ⁵⁾

- 1) ASTM F2792
- 2) DIN 51008-2; DIN 51009, ISO 9556, ISO 4935, EN 10276-2, ISO 15351
- 3) MPIF05, ASTM B 214, ISO 4497
- 4) MPIF03, ASTM B 213, ISO 4490
- 5) MPIF04, ASTM B 212, ISO 3923/1