



Metal powders for serial production of Additive Manufacturing components

AM H13 Sieve Code 5

Höganäs tool steel H13 is a gas atomised, spherical powder for Additive Manufacturing applications. It is typically fit for the Directed Energy Deposition (DED⁽¹⁾, laser cladding) process.

AM H13 is a chromium-molybdenum-vanadium alloyed hot work tool steel exhibiting very good resistance to thermal shock and thermal fatigue. AM H13 provides excellent high-temperature strength, which is required in hot pressing tools. Build part hardness is around 40 HRC.

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

Features:

- Powder with good flowability
- Customised particle size distributions to fit different DED equipment
- Stable chemical composition in order to guarantee stable hardness level after building



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 H13 Sieve Code 5
Fe (balance) ²⁾
Mo 1.5%
Cr 5.2%
V 1.0 %
C 0.35%
Mn 0.3%
Si 1.0%

Typical powder properties
53-150 µm balance ³⁾
> 150 µm max 3% ³⁾
< 45 µm max 0.2%
Hall flow rate 14 s/50g ⁴⁾
Apparent density 4.4 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