

AdamIQ™ 17-4PH

UNS S17400 | AISI 630

DIN X5CrNiCuNb17-4 | W. Nr 1.4542



ArcelorMittal

Premium stainless-steel powder, AdamIQ™ 17-4PH offers high strength and durability with excellent corrosion resistance. Perfectly suited to be printed in any powder bed fusion machine (L-PBF, SLM). The final end-use properties and hardness can be fine-tuned in post-printing heat treatments.

Made from 100% recycled steel and renewable energy. Spherical, with high flowability and low level of impurities.

This great blend of properties makes it an excellent candidate for the widest possible range of applications, especially at elevated in-use-temperatures, up to 300°C (572°F), including rapid tooling functional components in nearly every market.

Additionally, 17-4 PH is widely used in environments where a level of corrosion resistance comparable to that of the austenitic grades is needed, but in applications that require higher strength and hardness than the austenitic grades can provide.

A version that meets aerospace standard is available.

Main applications

Surgical instruments
Valves & engine components
Acid and corrosion resistant technical parts
Specific Tools and Molds
General engineering

Markets

Aerospace
Automotive
Chemical
Consumer goods
Energy
Petrochemical
Transportation

Powder properties

Chemical composition in weight (%)¹

Iron	Balance
Chromium	15.00 - 17.50
Nickel	3.00 - 5.00
Copper	3.00 - 5.00
Niobium + Tantalum	0.15-0.45
Manganese	< 1.00
Silicon	< 1.00
Nitrogen	< 0.10
Oxygen	< 0.10
Phosphorus	< 0.04
Carbon	< 0.07

Physical test data

Nominal particle range	20-53 µm
Apparent density ²	4.1 gr/cm ³
Hall Flow ³	<20 s/50g

Also available in particle sizes:

- Less than 20 microns for Binder Jetting (BJT), Metal Injection Molding (MIM) or specific processes targeting very thin walls.
- 53-105 microns typically for Electron Beam Melting (EBM, E-PBF) and Laser Metal Deposition (LMD).
- Specific sizing can be considered under conditions.

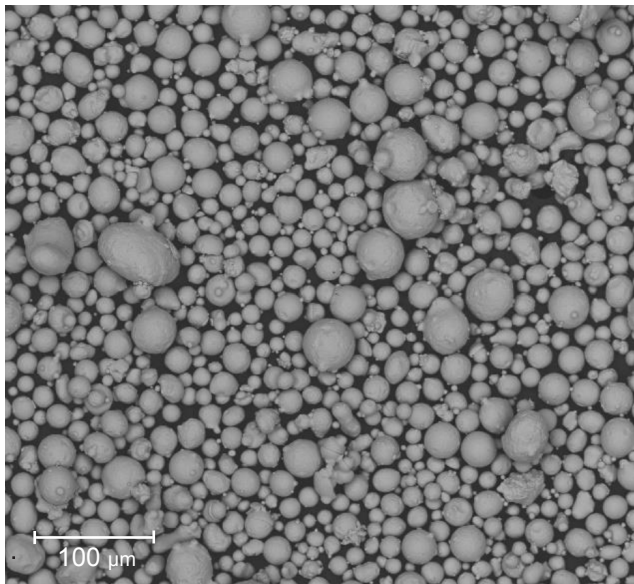
1. Composition fits ASTM A564 Type 630; AMS7012 can be studied on demand

2. Apparent density according to ASTM B212

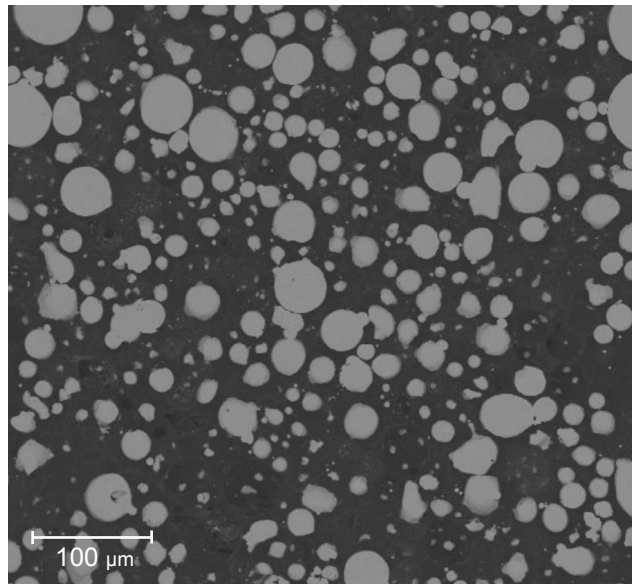
3. Hall Flow according to ASTM B213



Powder morphology



SEM image AdamIQ™ 17-4PH 20-53 µm



LOM image AdamIQ™ 17-4PH 20-53 µm

Packaging and handling recommendations

- Recycled and recyclable drum from CurTec (minimum 2.9 L / 10 kg). Sealed, includes desiccant bag.
- Big bag solutions available on demand.

Ensure that you store the product in its original container in a dry area. Before using, gently tumble to prevent any segregation. If you have opened containers, it is recommended to store them in a drying oven or a controlled environment with low humidity to prevent any moisture pick up.

Safety Recommendations

SDS (Safety Data Sheet) are available on the ArcelorMittal Powders website: powders.arcelormittal.com



All Information in this brochure is for the purpose of information only. Technical data and information are to the best of our knowledge at the time of printing. However, they may be subject to some slight variations due to our ongoing research programme on steels. Therefore, we suggest that information be verified at time of enquiry or order. Furthermore, in service, real conditions are specific for each application. The data presented here are only for the purpose of description and considered as guarantees when written formal approval has been delivered by our company. Further information may be obtained from the address mentioned. ArcelorMittal Powders reserves the right to change its product range at any time without notice. All the applications and foreseen uses requires a specific analysis of technical accuracy that has to be carry out by the user. It is therefore user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

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your productivity!**

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