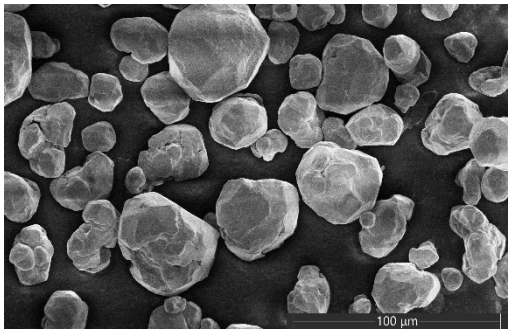
Iron 99.7% AM 20-63 µm

1. Introduction



Iron 99.7% AM 20-63 µm is a high-purity iron powder characterized by excellent magnetic properties, good thermal conductivity, and consistent mechanical behavior. The powder exhibits a highly spherical morphology and a narrow particle-size distribution, ensuring superior flowability and uniform layer deposition in additive manufacturing processes. Designed specifically for laser powder bed fusion (LPBF) and binder jetting, Iron 99.7% is ideal for producing functional prototypes, soft magnetic components, and structural parts where high purity, density, and predictable performance are required.

1.1 Basic facts

Chemistry	**Fe 99.70%**
Form	Powder
Shape / Morphology	Spherical / Spheroidal
Size	20-63 µm
Apparent density	min. 3.9 g/cm^3
Purpose	Additive manufacturing of soft-magnetic components, functional prototypes, and structural parts with predictable mechanical and magnetic performance
Process	LPBF, BJ, Cold Spray

1.2 Typical Applications

- Soft magnetic components and cores
- Functional prototypes and structural parts
- Magnetic shielding and sensor housings
- Molds, dies, and tooling inserts requiring high strength and thermal stability

2 Material Information

2.1 Chemical composition

Element	Value	wt.%
Fe	min.	99.70
0	max.	0.25
C	max.	0.01
N	max.	0,001
S	max.	0,011

2.2 Additional Material Characteristics

Property	Value	Unit
Apparent Density	Min. 3.9	g/cm^3
Shape	Spherical / Spheroidal	-

2.3 Recommended processes

- LPBF – Laser Powder Bed Fusion
- BJ – Binder Jetting
- CS - Cold Spray

4 Commercial Information

4.1 Ordering Information and Availability

Product	Package Size	Package Type	Availability	Distribution
Iron 99.7% AM 20-63 µm	10kg	Wide-neck drum UNX	Stock	Europe
	20kg	Wide-neck drum UNX	Stock	Europe

4.2 Storage and Handling Guidelines:

- Always store the product in its original container in a dry environment.
- Gently rotate the container before use to ensure even distribution. Avoid aggressive handling to prevent damage to fragile, mechanically clad components.
- Once opened, powder containers should be kept in a drying oven to prevent moisture absorption.
- If a desiccant is present, be sure to remove it prior to using the product.

4.3 Safety Recommendations

Refer to the Safety Data Sheet (SDS). SDS document can be accessed on the Ultra Metal Powders website at www.umpowders.com under Resources → Safety Data Sheets.