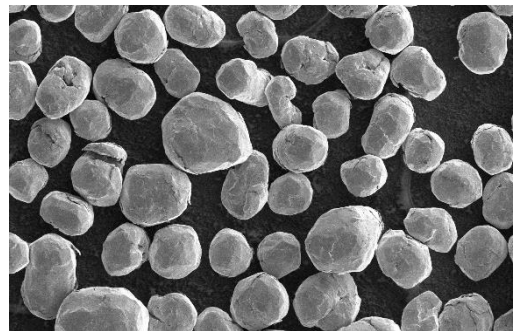


AISI 316L MIM 5-20 µm

ISO X2CrNiMo17-12-2 / EN 1.4404 / AISI 316L

1. Introduction

AISI 316L MIM 5–20 µm is a high-quality austenitic stainless steel powder engineered for metal injection molding (MIM) applications. Its fine, spherical morphology and tightly controlled particle-size distribution ensure excellent flowability, homogeneous binder mixing, and uniform mold filling. The alloy delivers outstanding corrosion resistance, good mechanical strength, and reliable sintering behavior, enabling the production of dense, dimensionally accurate components with smooth surface finish. AISI 316L MIM parts provide long-term durability, chemical stability, and consistent performance in demanding industrial and precision-engineering applications.



1.1 Basic facts

Chemistry	AISI 316L / EN 1.4404
Form	Powder
Shape / Morphology	Spherical / Spheroidal
Size	5-20 µm
Apparent density	min. 4.4g/cm ³
Purpose	Precision metal injection molded components requiring high densification, excellent corrosion resistance, and reliable mechanical performance in chemically or mechanically demanding environments
Process	MIM

1.2 Typical Applications

- Precision metal injection molded parts with complex geometries and tight tolerance
- Corrosion-resistant components for chemical, medical, and food-processing industries
- Small mechanical parts such as connectors, fasteners, brackets, and housings
- Pump and valve micro-components operating in humid or chemically aggressive environments

2 Material Information

2.1 Chemical composition

Element	Analysis wt. %
C	≤ 0.03
Cr	16.5 – 18.5
Ni	10.0 – 13.0
Mo	2.0 – 2.5
Mn	≤ 2.0
Si	≤ 1.0
P	≤ 0.045
S	≤ 0.015
Fe	Bal.

Value	Value µm
d ₉₅ *	Max. 20
Upper cut-off	27 ± 1

2.2 Particle size analysis (typical values)

* Sieve analysis

2.4 Additional Material Characteristics

Property	Value	Unit
Tap Density *	Min. 4.4	g/cm ³
Flowability**	Not flowable	s/50g
Shape	Spherical / Spheroidal	-

* according to ASTM B527; ** according to ASTM B213

2.3 Recommended processes

- MIM – Metal Injection Modling

4 Commercial Information

4.1 Ordering Information and Availability

Product	Package Size	Package Type	Availability	Distribution
	2kg	Plastic Jar UNX	Stock	Europe

AISI 316L MIM 10-25 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.