

INDO-SPHERE ALLOY-718

Alloy-718 is a precipitation-hardening nickel-chromium alloy that is characterized by having superior tensile, fatigue, creep and rupture strength at high temperatures. Its chemical composition corresponds to UNS N07718 for use in additive manufacturing processes. Vacuum Induction Melting - Inert Gas Atomization process is used at INDO-MIM for manufacturing of powder. Our unique ASB technique improves powder sphericity, which enhances flowability in achieving consistent density and uniform build rates.

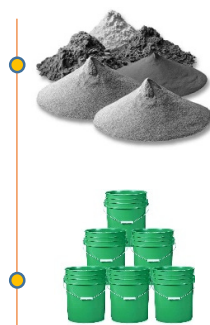
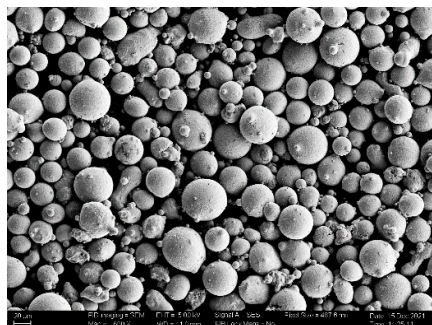
Particle Size Distribution

Light scattering (ASTM B822 / ISO 13320-1)				
Application	Size Range	D10%	D50%	D90%
MIM	<22µm	5.0 max	12.0 max	22.0 max
BJ	<25µm	5.5 max	13.5 max	25.0 max
LPBF	15 – 53µm	24.0 max	36.0 max	54.0 max

Physical Properties

Property	g/cc	Test Method
Tap Density	4.85 min	ASTM B527
True Density	8.10 min	ASTM B923

Morphology



Chemical Composition (weight %)

Element	Range (%)
Carbon	0.08 max
Silicon	0.35 max
Manganese	0.35 max
Phosphorous	0.015 max
Sulphur	0.015 max
Chromium	17.0 – 21.0
Nickel	50.0 – 55.0
Molybdenum	2.80 – 3.30
Cobalt	1.00 max
Niobium + Tantalum	4.75 – 5.50
Titanium	0.65 – 1.15
Aluminium	0.20 – 0.80
Copper	0.30 max
Boron	0.006 max
Oxygen*	0.04 max
Nitrogen*	0.04 max
Iron	Balance

* Applicable only for LPBF

Customization on chemical composition & particle size can be made.

Packing with 10 / 50 / 100 kg containers & custom packing is possible.