

INDO-SPHERE NiN-90

NiN-90 is a precipitation hardenable master alloy, having high stress-rupture strength and creep resistance at high temperatures. Its chemical composition corresponds to UNS N07090 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.

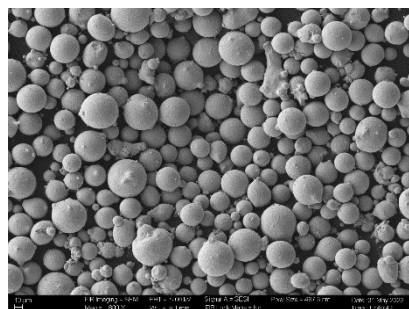
Particle Size Distribution

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	4.95 min	ASTM B527
True Density	8.30 min	ASTM B923

Morphology



Chemical Composition (weight %)

Element	Range (%)
Carbon	0.13 max
Silicon	1.00 max
Manganese	1.00 max
Phosphorous	0.05 max
Sulphur	0.05 max
Chromium	17.0 – 22.0
Molybdenum	0.00 – 0.50
Cobalt	15.00 – 21.00
Titanium	2.00 – 3.00
Aluminium	1.00 – 2.00
Iron	2.50 max
Oxygen*	0.04 max
Nitrogen*	0.04 max
Nickel	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.