

INDO-SPHERE 4140

4140 is low alloy steel known for its toughness, high fatigue, and torsional strength. Its chemical composition corresponds to UNS G41400 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

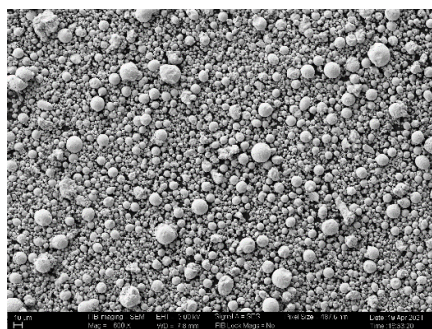
Physical Properties

Property	g/cc	Test Method
Tap Density	4.50 min	ASTM B527
True Density	7.60 min	ASTM B923

Chemical Composition (weight %)

Element	Range (%)
Carbon	0.38 – 0.43
Silicon	0.15 – 0.30
Manganese	0.75 – 1.00
Phosphorous	0.035 max
Sulphur	0.040 max
Chromium	0.8 – 1.10
Molybdenum	0.15 – 0.25
Others	0.30 max
Iron	Balance

Morphology



Customization on chemical composition & particle size can be made.

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