

INDO-SPHERE Maraging steel-18-Ni300

18-Ni300 (Maraging Steel 300) has very good mechanical properties and is easily heat-treatable using a simple thermal age-hardening process to obtain excellent hardness and strength. Its chemical composition corresponds to ASTM A646-Maraging steel 300 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.

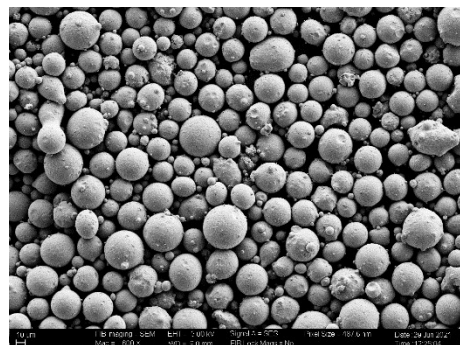
Particle Size Distribution

| 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 |
| | 15 – 45µm | 24.0 max | 36.0 max | 48.0 max |

Physical Properties

| Property | g/cc | Test Method |
|--------------|----------|-------------|
| Tap Density | 4.80 min | ASTM B527 |
| True Density | 8.00 min | ASTM B923 |

* Applicable only for LPBF



Chemical Composition (weight %)

| Element | Range (%) |
|-------------|-------------|
| Carbon | 0.03 max |
| Silicon | 0.10 max |
| Manganese | 0.10 max |
| Phosphorous | 0.010 max |
| Sulphur | 0.010 max |
| Nickel | 18.0 – 19.0 |
| Molybdenum | 4.70 – 5.20 |
| Cobalt | 8.50 – 9.50 |
| Titanium | 0.50 – 0.80 |
| Aluminium | 0.05 – 0.15 |
| Oxygen* | 0.04 max |
| Nitrogen* | 0.06 max |
| Iron | Balance |

Morphology

Customization on chemical composition & particle size can be made.

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