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INDO-SPHERE Tool Steel S7

Tool Steel S7 is characterized by having very good mechanical properties and being easily heat-treatable using a simple thermal age-hardening process to obtain excellent hardness and strength. Its chemical composition corresponds to ASTM A681 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

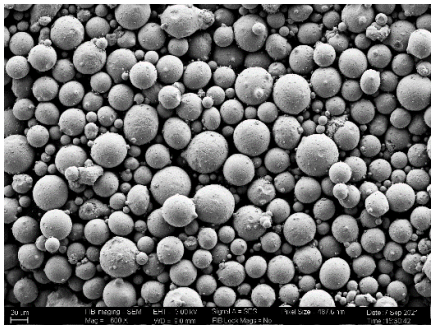
Chemical Composition (weight %)

Element	Range (%)
Carbon	0.45-0.55
Silicon	0.20-1.00
Manganese	0.20-0.90
Phosphorous	0.030 max
Sulphur	0.030 max
Nickel	0.30 max
Chromium	3.00-3.50
Molybdenum	1.30-1.80
Copper	0.30 max
Vanadium	0.00-0.35
Niobium	0.16-0.26
Iron	Balance

Physical Properties

Property	g/cc	Test Method
Tap Density	4.60 min	ASTM B527
True Density	7.70 min	ASTM B923

Morphology



Customization on chemical composition & particle size can be made.

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

MIM: Metal Injection Molding | BJ: Binder Jetting | LPBF: Laser Powder Bed Fusion

**Specification is only for illustrative purposes, and it varies with specific application requirements*