equispheres

Material Data Sheet

Performance Powder - F357

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General Powder Information

Powder Overview

Equispheres Performance Powder - F357

Chemical Composition

Element	Equispheres Specifications	
	Lower	Upper
Si	6.7	7.5
Mg	0.45	0.55
Fe	0.03	0.10
Ti	0.03	0.10
Mn		0.05
Cu		0.05
Zn		0.05

Notes:
- All numbers in wt%;
- Balance of aluminum;
- Other elements <0.01 wt%;

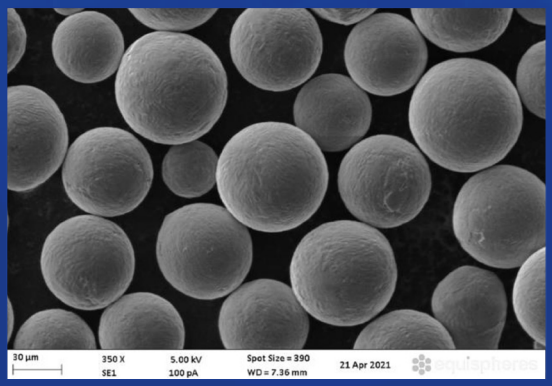
Typical Size Range

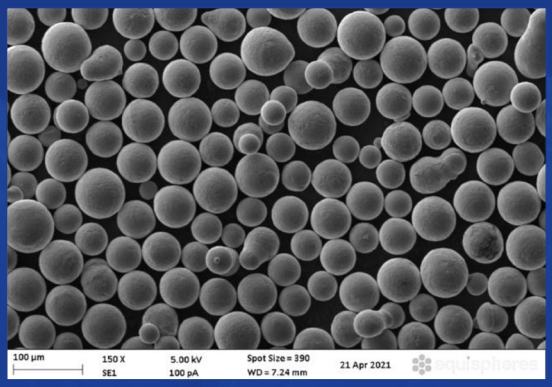
D10 > 40, D90 < 80

Flow Rate

Measurement	Equispheres Specifications
Flowrate, Hall*	≤45 s/50g
Flowrate, Carney**	≤11 s/50g

* per ASTM B213-20 Method 1
* per ASTM B964-16 Method 1





Equispheres F357 Powder - Build Parameters

Build Data for 400W Machines

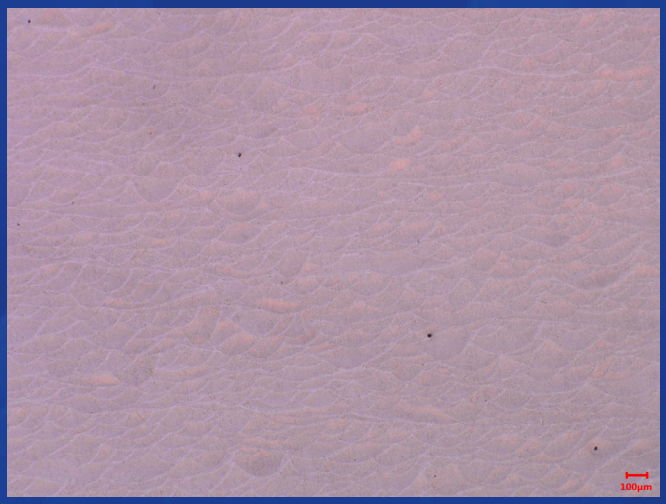
400W – 60µm Layers

Features

High reliability with wide tolerance for machine/ environmental process variations. Best choice for improved productivity on older generation machines while achieving excellent density and mechanical properties.

Typical Part Properties

Relative Density (as built): >99.75%



System Settings

Inert Gas	**Argon**
Recoater Style	Carbon Brush (typical) HSS Blade
Build Temperature	35°C

Build Characteristics

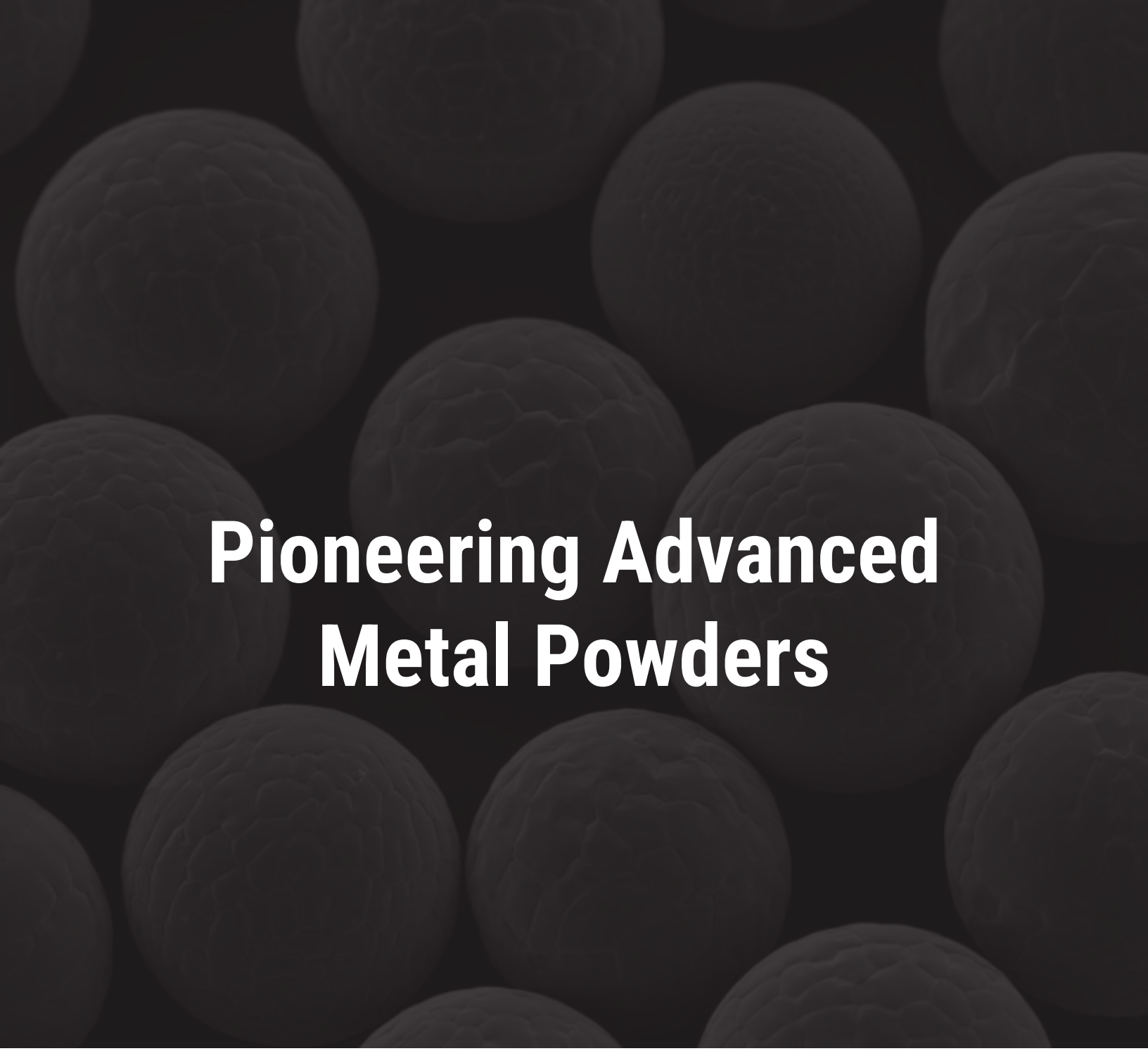
Layer Thickness	60 um
Typical bulk volume Rate*	36cm³/hr

* Calculated (layer thickness x scan velocity x hatch distance) per laser

Typical Tensile Properties

	YTS [ksi] / (MPa)	UTS [ksi] / (MPa)	Elong [%]
Mean (stress relieved)*	34.5 / (238)	55.9 / (386)	9.1
Mean (solution heat treat)*	39.7/ (274)	46.7 / (322)	14.2

Testing performed to ASTM E8 standard. Machined samples.
* Obtained from vertical (Z-axis) oriented samples



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