OSPREY® H13
FOR ADDITIVE MANUFACTURING

DATASHEET

GENERAL DESCRIPTION

Osprey® H13 is a hot work tool steel suitable for operation at high temperature in die casting application. This alloy powder is manufactured by inert gas atomization, using optimized process parameters and equipment designed for Additive Manufacturing, with the option to melt under vacuum for enhanced melt cleanness and low non-metallic inclusion counts. Alloy powders designed specifically for Additive Manufacturing process, including Laser & Electron Beam Powder Bed Fusion, Binder Jet, Direct Energy Deposit and Laser Cladding.

CHEMICAL COMPOSITION

Chemical composition (nominal), wt%

C	Mn	P	S	Si	Ni	Cr	Mo	Ti	Co	Others
0.35	0.3	<0.01	<0.01	1.0	-	5.0	1.5	-	-	1.0 V. Bal. Fe

Alloy modifications available by request.
New developments include Co-free maraging steels.

POWDER SIZE DISTRIBUTION

Available in a range of customized powder sizes suitable for different applications and AM platforms.

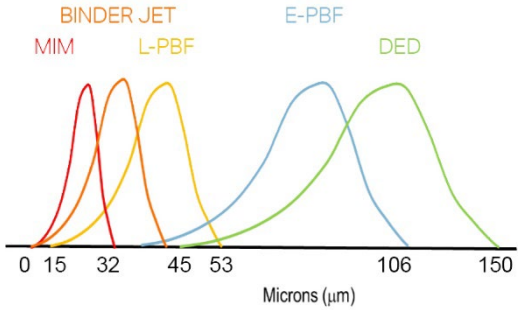
Metal Injection Moulding
<32 µm, <22 µm, <16 µm, <10 µm, <5 µm

Binder Jet
<45 µm, <38 µm, <22 µm, <16 µm

Laser Powder Bed Fusion (L-PBF)
e.g. 53 to 15 µm, and 45 to 20 µm

Electron Beam Powder Bed Fusion (E-PBF)
106 to 45 µm

Direct Energy Deposition (DED)
150 to 53 µm and 90 to 45 µm



Other powder size range distributions are available by request.

MECHANICAL PROPERTIES

Typical mechanical properties of Osprey® H13 powder designed for L-PBF in as-built and heat-treated condition, evaluated at room temperature.

Metric units

Condition	Direction	Proof strength	Tensile strength	Elongation	Hardness
			R_m		
		MPa	MPa	%	HRC
Stress relieved	Horizontal	1750	2000	3.6	54