



OSPREY[®] CoCrMo FOR ADDITIVE MANUFACTURING

DATASHEET

GENERAL DESCRIPTION

Osprey[®] CoCrMo is a cobalt chromium molybdenum alloy powder, manufactured by Inert Gas Atomization, for medical and orthodontic & dental applications, including partial removable denture support structures, requiring strength, good corrosion resistance and bio compatibility.

APPLICATIONS

- Surgical implants
- Dental crowns & bridges
- Removable partial dentures

STANDARDS

- UNS R31538
- AMS F75 (composition only)

CHEMICAL COMPOSITION

Chemical composition (nominal), wt%

Co	Cr	Mo	Ni	Fe	C	Mn	Si	N
Balance	28.5	6.0	<0.5	<0.75	<0.35	<1.0	<1.0	<0.25

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)

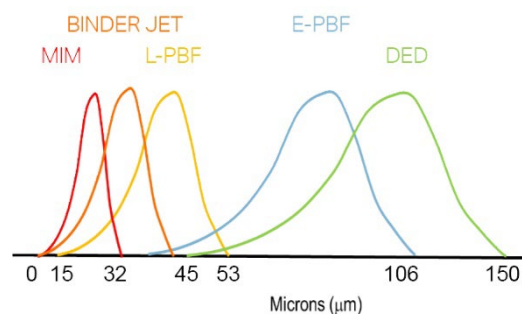
e.g. 15 to 53 µm, and 10 to 45 µm

Electron Beam Powder Bed Fusion (E-PBF)

45 to 106 µm

Direct Energy Deposition (DED)

53 to 105 µm and 45 to 90 µm



Other powder size range distributions are available by request.

MECHANICAL PROPERTIES

Typical mechanical properties for as-built and heat-treated condition for Laser- Powder Bed Fusion (L-PBF) Osprey® CoCrMo material evaluated in room temperature in a heat-treated (stress relieve) condition (~1150 C).

Metric units

Condition	Proof strength	Tensile strength	Elongation	Hardness	Density	Density
	R _{p0.2}	R _m	A			
	MPa	MPa	%	HRC	g/cc	%
Heat treated	650	1100	>20	40	8.2	99.4

Imperial units

Condition	Proof strength	Tensile strength	Elongation	Hardness	Density	Density
	R _{p0.2}	R _m	A			
	ksi	ksi	%	HRC	g/cc	%
Heat treated	94	160	>20	40	512	99.4

PHYSICAL PROPERTIES

Wrought material
Density: 8.3 g/cm³



METALPOWDER.SANDVIK

Disclaimer: Data and recommendations are provided for information and guidance only, and the performance or suitability of the material for specific applications are not warranted or guaranteed. Continuous development may necessitate changes in technical data without notice. This datasheet is only valid for Sandvik materials.