

m4p CoF75

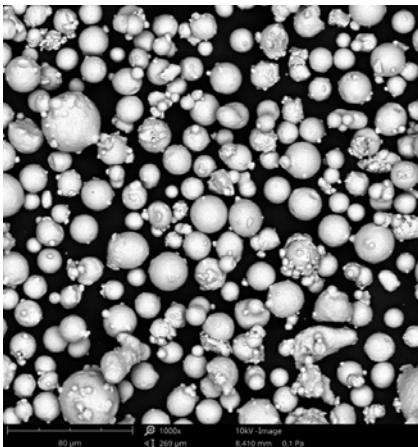
Co-base for laser-based powder bed fusion

Description, properties and applications

m4p™ CoF75 is a spherical metal powder developed for the needs of additive manufacturing and meets the requirements of the ASTM F75 standard in terms of chemical composition. In particular, the contents of specific alloy elements were adjusted within the required limits to achieve a balance of strength and ductility as well as corrosion and wear resistance. The versatile use of the material results from the alloy's property profile, which remains intact even at high operating temperatures. As a result, CoF75 is also used in the aerospace industry, for example as turbine components or functional prototypes.

The material, which is also classified as biocompatible, is suitable for applications in medical and dental technology, where it is used, for example, in the manufacturing of knee and hip joint prostheses and dental implants.

Powder characteristics



Chemical analysis [wt%]

Element	Min	Max
Cr	27,0	30,0
Mo	5,0	7,0
Mn		1,0
Si		1,0
Ni		0,1
C		0,1
Fe		0,75
N		0,25
Co	Balance	

Further more limited are: Al, B, O, P, S, Ti, W

Material characteristics

(>99,9% rel. density, volume rate 13,2cm³/h; layer thickness 40µm; EOS M290)

Mechanical properties

	Tensile strength Rm [N/mm ²]	Yield strength Rp0.2 [N/mm ²]	Elongation at break A ₅ [%]
as-built - Z	1050 – 1350	700 – 1000	10 – 20
heat treated - Z (stress-relieving)	1000 – 1200	500 – 700	>15

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