METALS FOR PRINTING

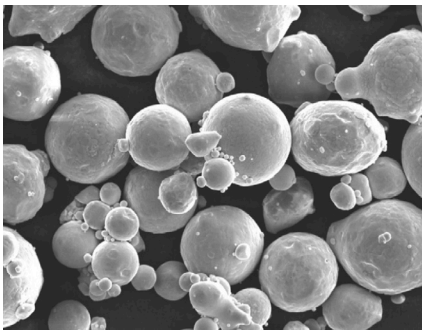
m4p CuNiSiCr

Metal powder for laser-based powder bed fusion

Description, properties and application

m4p™ CuNiSiCr is a copper-base high-performance material in powder shape. It is characterized by high electrical and thermal conductivity combined with high hardness and strength. The very high level of strength for copper base materials is possible by thermal follow-up treatment (solution annealing with subsequent tempering). The material is used in a wide variety of areas of machine or mold construction, where a combination of strength and conductivity is important, such as cooling inserts for molds and die casting machines. In addition, there are many applications in electrical engineering or engine construction. Construction parts or fixings for marine applications result from the high seawater resistance of the material.

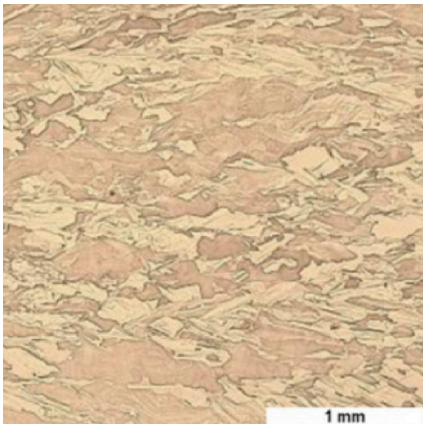
Powder characteristics



Chemical analysis [wt%]		
Element	Min	Max
Si	0,4	0,8
Cr	0,1	0,8
Ni	1,8	3,0
Cu	Base	

Particle size Laser PBF

Additive manufacturing and strength properties



* after heat treatment		
Tensile strenght	R_m >	580 N/mm²
Yield strength*	R_e >	500 N/mm²
Elongation at break*	A >	10%
Heat conductivity*		160 W/m K

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