

m4p CH100-Fe

Fe-base for laser powder bed fusion

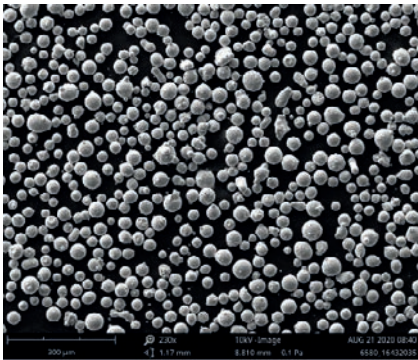
Description, properties and applications

m4p™ CH100-Fe is used for mechanically demanding applications in general mechanical engineering, automotive engineering and safety engineering. The special alloy was developed and optimized to meet the requirements of additive manufacturing, so that crack-free and low-porosity components can be manufactured reproducibly within a relatively wide range of parameters. Processing is carried out at temperatures of <200°C.

Characteristic are the **exceptionally good ductility values** with simultaneously **high strength and hardness properties**.

Notched bar impact energy of 100J is measured in the quenched and tempered state, which makes the use of m4p™ CH100-Fe for critical and safety-relevant components in gear construction or fastening technology.

Powder characteristics



Chemical analysis [wt%]

further alloy elements	C / Si / Mn / Cr / Mo
Fe	Base

Material characteristics

(>99,9% rel. density; volume rate 7cm³/h; layer thickness 40µm; EOS M290)

Mechanical properties

	Tensile strength Rm [N/mm ²]	Yield strength Re [N/mm ²]	Elongation at break A ₅ [%]
As-built - Z	1350 ±50	1160 ±40	15 ±2
Heat-treated - Z	1090 ±5	1010 ±10	15,5 ±2

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