

m4p FeCo49V2

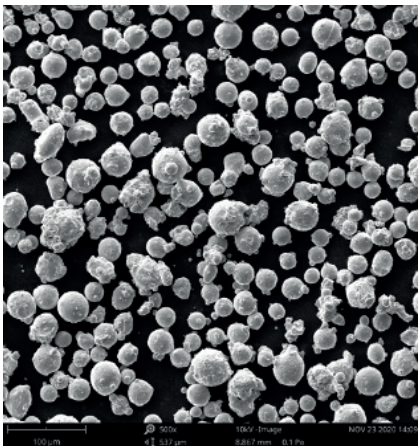
Fe-base for laser-based powder bed fusion

Description, properties and applications

m4p™ FeCo49V2 is a high-performance soft magnetic alloy known primarily for its excellent magnetic properties, which include a **high saturation magnetization** and **low coercivity**, making it particularly suitable for various **electromagnetic applications** where efficiency and response speed are critical. This alloy exhibits notable mechanical properties, such as robust tensile strength and adequate elongation, which allow it to maintain integrity under mechanical stress, thereby enhancing its versatility in dynamic applications. To achieve its optimal properties, particularly in the realm of magnetism and mechanical resilience, m4p™ FeCo49V2 often undergoes specific post-processing steps. These can include annealing, which serves to optimize its microstructure for better magnetic performance and mechanical properties, as well as surface treatments to enhance its corrosion resistance.

Concerning applications, a broad spectrum of industries is covered. In the **automotive, trucks and buses** sector, this alloy is used in **electric motor components** and **sensors** that require precise magnetic performance to enhance vehicle efficiency and reliability. Within the realm of **civil aviation**, including **turbines and helicopters**, m4p™ FeCo49V2 is integral in the manufacture of precision magnetic actuators and rotor components that demand high magnetic saturation and resistance to mechanical stresses. Lastly, in the **industrial** sector, exemplary applications are high-performance **motors** and **electromagnetic actuators**, used in **automated production lines** and **precision machining tools**, where durability and consistent magnetic characteristics are essential for optimal operation.

Powder characteristics



Chemical analysis [wt%]

Element	Min	Max
Fe	Base	-
Co	48	49,5
V	1,85	2,1

further specified elements: Si, Mn, C

SEM-Image of m4p™ FeCo49V2 powder; typical morphology

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