

MIM-Material Specification and Applications

Composition

Material: Nickel-Iron, nickel alloyed steel, soft magnetic

Standards: 80%NiFe, FN80, Fe80Ni

Typical composition::	<i>Element</i>	<i>Content (%)</i>
	C	≤ 0.10
	Ni	78.0 – 82.0
	Mo	≤ 0.50
	Fe	Balance
	Other	-

Properties

	As sintered	HIP
Density	≥ 7.70 g/cm ³	≥ 8.60 g/cm ³
Hardness	≥ 100 HV1	≥ 120 HV1
Yield strength R _{p0.2}	≥ 120 MPa	≥ 140 MPa
Tensile strength R _m	≥ 400 MPa	≥ 420 MPa
Elongation A	≥ 20 %	≥ 20 %
Surface quality R _a	≤ 1.6 μm	≤ 1.6 μm
Max. Induction B _m	0.7 – 0.8 T	
Residual induction B _r	0.8 – 1.0 T	
Coercive force H _c	0.05 – 0.09 Oe	
Max. Permeability μ _{max}	55000 – 60000G/Oe	
Specific electric resistivity	0.55 Ωmm ² /m	

Application / remarks

80%NiFe has the highest permeability. The maximum induction is below that of 50% Ni-Fe, while the coercive field is markedly below that of 50%NiFe. The material is used for applications in LF and HF transmission, magnet heads etc.

The data given are based on our experience to date. However, no liability can be assumed.