MAGNETIC SHIELD CORP.

MuMETAL® FULLY ANNEALED FOIL

DESCRIPTION

MuMETAL® is a non-oriented 80% nickel-iron-molybdenum alloy which offers a saturation induction of about 0.74T (7400 G), low coercive forces, and extremely high initial permeability as well as maximum permeability with minimum hysteresis losses.

SPECIFICATIONS

MuMETAL® alloy meets ASTM-A-753 Alloy 4, DIN IEC 404, DIN 17745, DIN 17405, and military specification MIL-N-14411Composition 1.

TYPICAL CHEMICAL COMPOSITION (WEIGHT %)				
Ni	Mo	Fe	Mn	Si
80	5.0	15.0	0.3 – 0.5	0.1 – 0.4

DC MAGNETIC PROPERTIES[1]	
Coercivity (Hc)	< .020 Oe (<1.59 A/m)
Initial Permeability (μ at B = 40G)	50,000
μ 4 (H= 0.4 A/m)	150,000
Maximum Permeability (μmax)	350,000

AC (60Hz) MAGNETIC PROPERTIES[1]	
Coercivity (Hc)	< .020 Oe (<1.59 A/m)
Initial Permeability (μ at B = 40G)	100,000
μ 4 (H =0.4 A/m)	250,000
Maximum Permeability (μmax)	350,000

PHYSICAL PROPERTIES*	
Saturation Induction (Bs)	7,400 G [0.74 T]
Density	.314 lb/in³ [8.7 g/cm³]
Curie temperature	700°F [370°C]
Electrical Resistivity	60 μΩcm
Coefficient of thermal expansion 68-212°F [20-100°C]	13.5 x 10^{-6}/°K

MECHANICAL PROPERTIES*	
Hardness (Hv 300 gr)	140-160
Tensile strength (ksi)	75-95
Yield strength (ksi)	30-40
Elongation in 2” (%)	20-35

[1] measured on toroid core sample 0.1mm [.004”] thick after perfection annealing.

*Note: All product data given in this data sheet are typical values based on the experience of the melt source. They are not part of material specification and do not guarantee particular characteristics.

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