MAGNETIC SHIELD CORP.

Co-NETIC® AA STRESS ANNEALED SHEET

DESCRIPTION

Co-NETIC® is a non-oriented 80% nickel-iron-molybdenum alloy which offers a saturation induction of about 0.8T (8000 G), low coercive forces, and extremely high initial permeability as well as maximum permeability with minimum hysteresis losses. Co-NETIC is suitable for shielding sensitive electronic equipment against low strength, low frequency magnetic fields.

SPECIFICATIONS

Co-NETIC® alloy meets ASTM-A-753 Alloy 4, UNS N14080, DIN IEC 404, DIN 17745 Material no. 2.4545, DIN 17405, and military specification MIL-N-14411Composition 1.

TYPICAL CHEMICAL COMPOSITION (WEIGHT %)					
Ni	Mo	Fe	Mn	Si	C
80	4.9	Balance	0.5	0.3	0.02

DC MAGNETIC PROPERTIES[1]	
Coercivity (Hc)	.005 Oe [.4 A/m]
Maximum Permeability (μmax)	≥400,000
Permeability at flux density, B, of 40G	≥100,000
Flux density at μmax	3,000 G (0.3T)

AC (50 Hz) MAGNETIC PROPERTIES[1]	
Coercivity (Hc)	.005 Oe [.4 A/m]
Maximum Permeability	≥100,000
Permeability, H=0.4 A/m	≥70,000
Flux density at μmax	3,000 G (0.3T)

PHYSICAL PROPERTIES*	
Saturation Induction (Bs)	8,000 G [0.8T]
Density	.316 lb/in³ [8.7 g/cm³]
Curie Temperature	830°F [410°C]
Saturation magnetostriction	$+1 \times 10^{-6}$
Electrical Resistivity	55 μΩcm [349 ohm circ mil/ft]
Mean coefficient of thermal expansion (20–100 °C)	12×10^{-6}/°K $[7 \times 10^{-6}$/°F]
Thermal Conductivity	0.32 W/cm K [134 (BTU in)/(ft hr °F)]
Specific Heat	460 J × Kg^{-1} × $°K^{-1}$
Melting Temperature	2642°F [1450°C]

MECHANICAL PROPERTIES*	
Hardness (HV)	130-170
Tensile strength (MPa)	630
Yield strength (MPa)	260
Elongation in 2” (%)	40

[1] measured using stamped rings of 0.35 mm [.014”] sheet thickness 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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