

Magfield 77

Magfield 77 is a nickel-iron soft-magnetic alloy with Ni content about 77%, additionally alloyed by 4% of Mo and 5.5% of Cu.

Magfield 77 is characterized by high permeability and good formability.

Applications: cores of pulse transformers, magnetic amplifiers, relays, LF transducers, high metering accuracy (HMA) cores, laminations, shielding, etc.

1. Chemical composition

Nominal composition, %	C	P	S	Mn	Si	Mo	Cu	Fe	Ni
min	-	-	-	-	-	3.90	4.80	12.00	Bal.
max	0.03	0.02	0.02	0.60	0.30	4.50	6.00	16.00	

2. Mechanical properties

Condition	Yield Strength, $R_{p0.2}$ (MPa)	Tensile Strength, R_m (MPa)	Hardness, HV	Elongation, A (%)
soft, annealed	320	630	160	≥ 40

3. Magnetic properties

Saturation B_s , T	0.75	Initial permeability $\mu_{0.80}$, mH/m	≥ 31.80
Coercivity H_c , A/m	≤ 1.40	Maximum permeability μ_{max} , mH/m	≥ 225.00

4. Physical properties

Density, g/cm ³	8.60	Coefficient of thermal expansion, 10 ⁻⁶ /K	100°C	10.30
Electrical resistivity at 20°C, Ω mm ² /m	0.55		200°C	10.90
Thermal conductivity at 20°C, W/mK	17.00		300°C	11.40
Melting point, °C	1450		400°C	11.90
Curie point, °C	350		500°C	12.50

5. Delivery form, dimensions, condition.

Form*	Thickness, mm	Width, mm	Length, mm	Finish
Strip/Coil	0.10-2.50	10.00 - 400.00	-	soft annealed / hard
Sheet	0.50-3.50	5.00 - 400.00	500.00 - 3500.00	soft annealed / hard

*Other dimensions and specifications upon request.

Note: All information enclosed in this datasheet is based on our best knowledge and is given as indicative. Other special requirements are subject to prior discussion and approval of Vojay. Please contact us for any additional information or request.