

1. Alloys

Alloy	Material UNS No.	Standard
FeNi36	1.3910 / 1.3911	DIN 17745 / DIN 17405 / DIN EN 60404-8-6
FeNi48	1.3922 / 1.3926 / 1.3927 / K94840	DIN 17745 / DIN 17405 / DIN EN 60404-8-6 / ASTM A753
FeNi77CuMo	2.4530 / 2.4595 / 2.4596	DIN 17745 / DIN 17405 / DIN EN 60404-8-6
FeNi80Mo	2.4545 / 2.4595 / 2.4596 / N14080	DIN 17745 / DIN 17405 / DIN EN 60404-8-6 / ASTM A 753 / MIL-N-14411C

2. Chemical composition (Reference values in % w/w)

Alloy	Ni	Mn	Mo	S	Cr	Cu	C	Si	P	Fe
FeNi36	36	≤ 0.5	≤ 0.2	≤ 0.010	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.2	≤ 0.01	balance
FeNi48	48	≤ 0.5	≤ 0.2	≤ 0.010	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.2	≤ 0.01	balance
FeNi77CuMo	77	≤ 0.6	4.1	≤ 0.010	≤ 0.3	4.4	≤ 0.02	≤ 0.2	≤ 0.01	balance
FeNi80Mo	80	≤ 0.7	4.9	≤ 0.010	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.3	≤ 0.01	balance

3. Physical properties

Alloy	Density	B _s	T _c	H _c ¹	μ _{0.4} ¹	μ _{max} ¹	E-Modulus
	g/cm ³	T	°C	A/m	DC-/AC	DC-/AC	GPa
FeNi36	8.15	1.2	240	10	6,000 / 5,000	25,000 / 20,000	135
FeNi48	8.25	1.5	470	4	10,000 / 8,000	150,000 / 70,000	150
FeNi77CuMo	8.76	0.75	410	0.5	200,000 / 80,000	300,000 / 100,000	195
FeNi80Mo	8.75	0.75	410	0.5	250,000 / 100,000	300,000 / 150,000	195

¹ measured on ring cores, thickness 0.2 mm

B_s = Saturation Flux Density | T_c = Curie Temperature | H_c = Coercive Field Strength

μ_{0.4} = Initial Permeability | μ_{max} = Maximum Permeability

DC = Direct Current | AC = Alternating Current f = 50 Hz



4. Mechanical properties (Reference values)

Alloy	Condition	0.2 % Yield strength	Tensile strength	Vickers hardness
		MPa	MPa	HV
FeNi36	soft annealed	280	440	140
	hard	600	700	220
FeNi48	soft annealed	270	520	140
	hard	750	850	240
FeNi77CuMo	soft annealed	320	630	160
	hard	1000	1050	320
FeNi80Mo	soft annealed	300	630	160
	hard	1100	1150	340

5. Dimensions and tolerances: Thickness & Width (in mm)

Thickness	Width 10 - 50	Width > 50 - 200	Width > 200 - 320
0.10 - 0.20	+/- 0.010	+/- 0.015	+/- 0.020
> 0.20 - 0.50	+/- 0.020	+/- 0.020	+/- 0.030
> 0.50 - 1.00	+/- 0.030	+/- 0.030	+/- 0.040
> 1.00 - 2.00	+/- 0.040	+/- 0.040	+/- 0.050
> 2.00 - 2.50	+/- 0.050	+/- 0.050	+/- 0.060

Width	Thickness 0.10 - 0.20	Thickness > 0.20 - 0.50	Thickness > 0.50 - 1.00	Thickness > 1.00 - 2.50
10 - 50	+/- 0.1	+/- 0.2	+/- 0.2	+/- 0.3
> 50 - 200	+/- 0.2	+/- 0.3	+/- 0.3	+/- 0.4
> 200 - 320	+/- 0.3	+/- 0.4	+/- 0.5	+/- 0.6

Length (in mm)

Thickness	Length 500 - 3000
0.40 - 2.00	+ 10

6. Delivery forms (in mm)

Form	Thickness	Width	Length	Coil-ID	Coil-OD
Coil	0.10 - 2.50	10 - 320		300 / 400 / 500	max. 1,050
Strip / Sheet	0.40 - 2.00	50 - 320	500 - 3,000		

Important Note: All data in this Material Data Sheet are only for information purposes. Other dimensions and features to customer specification on request. Guarantees relating to specific characteristics or purposes require always a special written agreement.