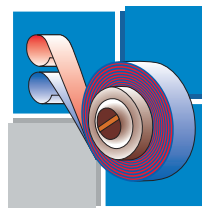
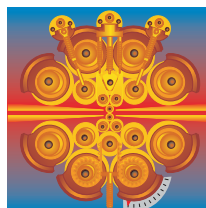


Thermostatic Bimetals



Clad Materials



Metal Strips

Soft-magnetic Iron-Nickel-Alloys

Sealing and Expansion Alloys

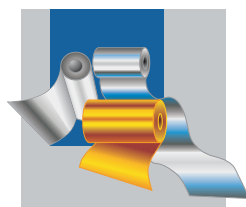
Nickel

Nickel-Chromium-Alloys

Nickel-Copper-Alloys

Copper-Nickel-Alloys

Nickel-Manganese-Alloys



Metallic Foils

Product group:

Soft-magnetic Iron-Nickel-Alloys

1. ALLOY

AMW-TRADE NAME	ALLOY	STANDARD	MATERIAL-NO. DIN/UNS
Normaperm	FeNi36	DIN 17745/DIN 17405/ DIN IEC 740-2	1.3910/1.3911
Nifemax	FeNi48	DIN 17745/DIN 17405/ DIN IEC 740-2/ASTM A 753	1.3922/1.3926/ 1.3927/K94840
Perm 77	FeNi77CuMo	DIN 17745/DIN 17405/ DIN IEC 740-2	2.4530
Super-Muniperm	FeNi80Mo	DIN 17745/DIN 17405/DIN IEC 740-2/ ASTM A 753/MIL-N-14411C	2.4545 N14080

2. AVERAGE CHEMICAL COMPOSITION

(mass - %)

AMW-TRADE NAME	Ni	Mn	Mo	S	Cr	Cu	C	Si	P	Fe
Normaperm	36	0.3	≤ 0.2	≤ 0.008	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.2	≤ 0.02	bal.
Nifemax	48	0.4	≤ 0.2	≤ 0.008	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.2	≤ 0.02	bal.
Perm 77	77	0.5	4.1	≤ 0.008	≤ 0.3	4.4	≤ 0.02	≤ 0.2	≤ 0.02	bal.
Super-Muniperm	80	0.5	4.9	≤ 0.008	≤ 0.3	≤ 0.3	≤ 0.02	≤ 0.15	≤ 0.02	bal.

3. PHYSICAL PROPERTIES

AMW-TRADE NAME	DENSITY		B _s		T _c		H _c		μ _{0,4} ¹	μ _{max} ¹
	lb/in. ³	g/cm ³	G	T	°F	°C	Oe	A/m		
Normaperm	0.295	8.2	12000	1.2	464	240	0.1257	10	6000/5000	25000/20000
Nifemax	0.298	8.3	15000	1.5	878	470	0.0503	4	13000/9000	150000/70000
Perm 77	0.317	8.8	7500	0.75	770	410	0.0063	0.5	250000/100000	300000/150000
Super-Muniperm	0.316	8.8	7500	0.75	770	410	0.0063	0.5	250000/100000	300000/150000

1 measured on wound cores strip thickness 0.0079 in./0.2 mm (reference value)

B_s - Saturation flux density

T_c - Curietemperature

H_c - Coercive force

μ_{0,4} - Initial permeability

μ_{max} - Maximum permeability

DC - Direkt Current

AC - Alternating Current (f=50Hz)

4. MECHANICAL PROPERTIES

AMW-TRADE NAME	TEMPER	YIELD STRENGTH Rp 0.2		TENSILE STRENGTH Rm		HARDNESS ROCKWELL B VICKERS		MODULUS OF ELASTICITY	
		ksi	MPa	ksi	MPa	HRB	HV	10 ³ ksi	GPa
Normaperm	annealed	41	280	64	440	75	140	19.6	135
	hard	109	750	116	800	97	230		
Nifemax	annealed	44	300	75	520	75	140	21.8	150
	hard	116	800	123	850	97	250		
Perm 77	annealed	46	320	91	630	85	160	28.3	195
	hard	145	1000	152	1050	100	320		
Super-Muniperm	annealed	46	320	94	650	85	160	28.3	195
	hard	152	1050	130	1100	100	330		

5. DIMENSIONS AND TOLERANCES

THICKNESS TOLERANCES

in.	THICKNESS mm	WIDTH		WIDTH		WIDTH	
		in. 0.39 to 1.97	mm 10 to 50	in. > 1.97 to 7.87	mm > 50 to 200	in. > 7.87 to 12.60	mm > 200 to 320
0.004 to 0.008	0.10 to 0.20	± 0.0004	± 0.010	± 0.0006	± 0.015	± 0.0008	± 0.020
> 0.008 to 0.020	> 0.20 to 0.50	± 0.0008	± 0.020	± 0.0008	± 0.020	± 0.0012	± 0.030
> 0.020 to 0.039	> 0.50 to 1.00	± 0.0012	± 0.030	± 0.0012	± 0.030	± 0.0016	± 0.040
> 0.039	> 1.00	± 0.0020	± 0.050	± 0.0020	± 0.050	± 0.0028	± 0.070

Other thickness and tolerances on request.

WIDTH TOLERANCES

in.	WIDTH mm	THICKNESS		THICKNESS		THICKNESS		THICKNESS	
		in. 0.004 to 0.008	mm 0.10 to 0.20	in. > 0.008 to 0.019	mm > 0.20 to 0.50	in. > 0.019 to 0.039	mm > 0.50 to 1.00	in. > 0.039 to 0.079	mm > 1.00 to 2.00
0.30 to 1.97	10 to 50	± 0.004	± 0.1	± 0.008	± 0.2	± 0.008	± 0.2	± 0.012	± 0.3
> 1.97 to 7.87	> 50 to 200	± 0.008	± 0.2	± 0.012	± 0.3	± 0.012	± 0.3	± 0.016	± 0.4
> 7.87 to 12.60	> 200 to 320	± 0.012	± 0.3	± 0.016	± 0.4	± 0.020	± 0.5	± 0.024	± 0.6

Other width and tolerances on request.

LENGTH TOLERANCES (CUT LENGTH)

THICKNESS		LENGTH	
in.	mm	in.	mm
0.016 to 0.079	0.40 to 2.00	20 to 118	500 to 3000
		+ 0.40	+ 10

Other tolerances on request.

6. PRODUCT FORM

FORM	THICKNESS		WIDTH		LENGTH		COIL - ID		COIL - OD	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
Strip	0.004 to 0.079	0.10 to 2.00	0.39 to 12.60	10 to 320			11.81/15.75/19.69	300/400/500	max. 41	max. 1050
Cut length	0.016 to 0.079	0.40 to 2.00	1.97 to 12.60	50 to 320	20 to 118	500 to 3000				

Other form on request.

All data contained in this document are for information purposes only.
Other properties can be engineered according to customer specifications.

Guarantees of specific characteristics or applications require special written agreement.



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