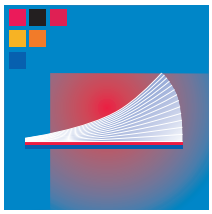
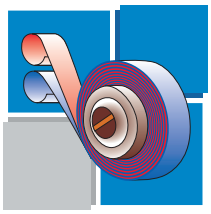
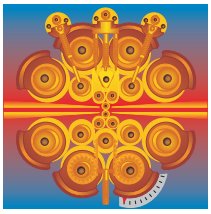
AUERHAMMER
METALLWERK GMBH



Thermostatic Bimetals

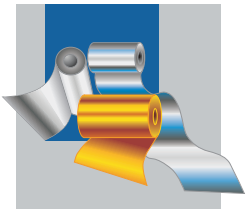


Clad Materials



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:

Copper-Nickel-Alloys

1. Alloy

AMW-Trade name	Alloy	Standard	Material-No. DIN/UNS
CuNi8	CuNi8		
CuNi10	CuNi10	DIN 17471	2.0811/C70700
CuNi20	CuNi20	BS 2870	CN104/C71000
CuNi30	CuNi30		C71580
Vernicon	CuNi44Mn1	DIN 17664	2.0842/N04401/C72150
CuNi10Fe1Mn	CuNi10Fe1Mn	EN 1652/ASTM B122	CW352H/C70600
CuNi30Mn1Fe	CuNi30Mn1Fe	EN 1652/ASTM B122	CW354H/C71500
CuNi30Mn1FeTi	CuNi30Mn1FeTi		2.0822
CuNi30Fe2Mn2	CuNi30Fe2Mn2	DIN 17664	2.0883/C71640

2. Average chemical composition

(mass - %)

AMW-Trade name	Ni (+Co)	Cu	Fe	Mn	C	Ti
CuNi8	≤ 8.0	bal.	≤ 0.1	≤ 0.3		
CuNi10	≤ 11.0	bal.	≤ 0.1	≤ 0.3		
CuNi20	19.0 to 20.0	bal.	≤ 0.2	≤ 0.5		
CuNi30	29.0 to 32.0	bal.	≤ 0.5	≤ 0.3	≤ 0.1	
Vernicon	43.0 to 45.0	bal.	≤ 0.5	0.5 to 2.0	≤ 0.1	
CuNi10Fe1Mn	9.0 to 11.0	bal.	1.0 to 1.8	0.5 to 1.0	≤ 0.1	
CuNi30Mn1Fe	30.0 to 32.0	bal.	0.4 to 1.0	0.4 to 1.0	≤ 0.1	
CuNi30Mn1FeTi	30.0 to 32.0	bal.	0.4 to 1.0	0.4 to 1.0	≤ 0.1	≤ 0.1
CuNi30Fe2Mn2	29.0 to 32.0	bal.	1.5 to 2.5	1.5 to 2.5	≤ 0.1	

3. Physical properties

AMW-Trade name	Density		Electrical resistivity		Therm. expansion coefficient		Thermal conductivity	
			at 68 °F	at 20 °C	68 to 212 °F	20 °C to 100 °C	at 68 °F	at 20 °C
	lb/in.³	g/cm³	Ω•cmil/ft	µΩ•m	10^{-6}/°F	10^{-6}/K	Btu•in./h•ft²•°F	W/m•K
CuNi8	0.322	8.9	75	0.125	8.9	16	520	75
CuNi10	0.322	8.9	90	0.15	8.9	16	410	59
CuNi20	0.322	8.9	159	0.265	8.3	15	340	49
CuNi30	0.322	8.9	223	0.37	8.3	15	270	39
Vernicon	0.322	8.9	295	0.49	7.5	13.5	150	22
CuNi10Fe1Mn	0.322	8.9	102	0.17	9.4	17	330	48
CuNi30Mn1Fe	0.322	8.9	223	0.37	8.9	16	170	25
CuNi30Mn1FeTi	0.322	8.9	241	0.40			170	25
CuNi30Fe2Mn2	0.322	8.9						

4. Mechanical properties

AMW-Trade name	Temper	Yield strength Rp 0.2		Tensile strength Rm		Elongation	Hardness Rockwell B	Hardness Brinell
		ksi	MPa	ksi	MPa	%	HRB	HB
CuNi8	annealed	min. 13	min. 90	min. 36	min. 250	min. 35	max. 41	max. 80
CuNi10	annealed	min. 14	min. 100	min. 42	min. 290	min. 35	max. 48	max. 85
CuNi20	annealed	min. 14	min. 100	min. 42	min. 290	min. 35	max. 48	max. 85
CuNi30	annealed	min. 14	min. 100	min. 42	min. 290	min. 35	max. 48	max. 85
Vernicon	annealed	min. 21	min. 150	min. 60	min. 420	min. 30	max. 67	max. 115
CuNi10Fe1Mn	annealed	min. 14	min. 100	min. 43	min. 300	min. 25	max. 67	max. 115
CuNi30Mn1Fe	annealed	min. 17	min. 120	min. 50	min. 350	min. 30	max. 67	max. 115
CuNi30Mn1FeTi	annealed	min. 19	min. 130	min. 53	min. 370	min. 35	max. 67	max. 115
CuNi30Fe2Mn2	annealed	min. 19	min. 130	min. 55	min. 380	min. 35	max. 67	max. 115

5. Dimensions and tolerances

Thickness tolerances

Thickness		Tolerance	
in.	mm	in.	mm
0.004 to 0.008	0.10 to 0.20	± 0.0008	± 0.020
> 0.008 to 0.016	> 0.20 to 0.40	± 0.0012	± 0.030
> 0.016 to 0.020	> 0.40 to 0.50	± 0.0016	± 0.040
> 0.020 to 0.031	> 0.50 to 0.80	± 0.0020	± 0.050
> 0.031 to 0.047	> 0.80 to 1.20	± 0.0024	± 0.060
> 0.047 to 0.071	> 1.20 to 1.80	± 0.0031	± 0.080
> 0.071 to 0.098	> 1.80 to 2.50	± 0.0035	± 0.090
> 0.098 to 0.118	> 2.50 to 3.00	± 0.0039	± 0.100

Other thickness and tolerances on request.

Width tolerances

Width		Thickness		Thickness		Thickness		Thickness	
in.	mm	in. 0.004 to 0.039	mm 0.10 to 1.00	in. > 0.039 to 0.079	mm > 1.00 to 2.00	in. > 0.079 to 0.098	mm > 2.00 to 2.50	in. > 0.098 to 0.118	mm > 2.50 to 3.00
0.39 to 1.97	10 to 50	+ 0.008	+ 0.2	+ 0.012	+ 0.3	+ 0.020	+ 0.5	+ 0.040	+ 1.0
> 1.97 to 3.94	> 50 to 100	+ 0.012	+ 0.3	+ 0.016	+ 0.4	+ 0.024	+ 0.6	+ 0.044	+ 1.1
> 3.94 to 7.87	> 100 to 200	+ 0.016	+ 0.4	+ 0.020	+ 0.5	+ 0.028	+ 0.7	+ 0.048	+ 1.2
> 7.87 to 12.60	> 200 to 320	+ 0.024	+ 0.6	+ 0.040	+ 1.0	+ 0.048	+ 1.2	+ 0.060	+ 1.5

Other width and tolerances on request.

LENGTH TOLERANCES (CUT LENGTH)

THICKNESS		LENGTH	
in.	mm	in. 20 to 118	mm 500 to 3000
0.016 to 0.079	0.40 to 2.00	+ 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 0.118	0.10 to 3.00	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 costumer specifications.

Guarantees of specific characteristics or applications require special written agreement.

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