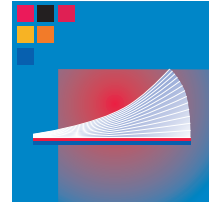
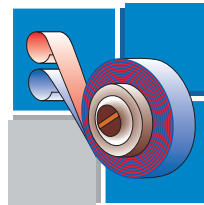




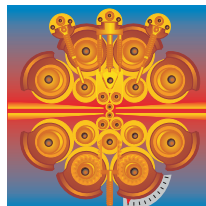
AUERHAMMER
METALLWERK GMBH



Thermostatic Bimetals



Clad Materials



Metal Strips

Soft-magnetic Iron-Nickel-Alloys

Sealing and Expansion Alloys

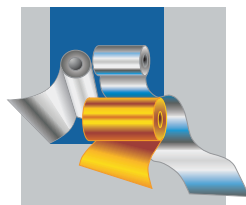
Nickel

Nickel-Chromium-Alloys

Nickel-Copper-Alloys

Copper-Nickel-Alloys

Nickel-Manganese-Alloys



Metallic Foils

Product group:

Sealing and Expansion Alloys

1. ALLOY

AMW-TRADE NAME	ALLOY	STANDARD	MATERIAL-NO. DIN/UNS
Dilaton 36	FeNi36	SEW 385/DIN 17745	1.3912
Dilaton 41	FeNi41	ASTM F30	K94100
Dilaton 42	FeNi42	SEW 385/DIN 17745	1.3917
Dilaton 46	FeNi46	SEW 385/DIN 17745/ASTM F30	1.3920/K94600
Dilaton 51	FeNi51	SEW 385/DIN 17745/ASTM F30	2.4478/N14052
Dilaton 51Cr1	FeNi51Cr1	SEW 385/DIN 17745	2.4480
Dilaton 29/18	FeNi28Co18Mn	SEW 385/DIN 17745/ASTM F15	1.3981/K94610
Dilaton 48Cr6Al	FeNi48Cr6Al		

2. AVERAGE CHEMICAL COMPOSITION

(mass - %)

AMW-TRADE NAME	Ni	Co	Mn	Al	Cu	Cr	Si	Fe
Dilaton 36	36	≤ 0.05	≤ 0.50	≤ 0.10	n.s.	n.s.	≤ 0.50	bal.
Dilaton 41	41	≤ 0.05	≤ 0.80	≤ 0.10	≤ 0.10	≤ 0.25	≤ 0.30	bal.
Dilaton 42	42	≤ 0.05	≤ 1.0	≤ 0.10	≤ 0.15	≤ 0.05	≤ 0.30	bal.
Dilaton 46	46	≤ 0.05	≤ 0.80	≤ 0.10	n.s.	≤ 0.25	≤ 0.30	bal.
Dilaton 51	50 - 52	n.s.	≤ 0.60	≤ 0.10	n.s.	≤ 0.25	≤ 0.30	bal.
Dilaton 51Cr1	51 - 53	≤ 0.05	≤ 1.0	≤ 0.10	n.s.	0.7 - 1.1	≤ 0.30	bal.
Dilaton 29/18	29	17.1	≤ 0.50	≤ 0.10	≤ 0.20	≤ 0.20	≤ 0.20	bal.
Dilaton 48Cr6Al	47	n.s.	≤ 0.30	≤ 0.40	≤ 0.03	5.3 - 6.3	≤ 0.40	bal.

(n.s.: not specified)

3. PHYSICAL PROPERTIES

AMW-TRADE NAME	DENSITY	MELTING TEMPERATURE	ELECTRICAL RESISTIVITY AT 20 °C	THERMAL CONDUCTIVITY AT 20 °C	MODULUS OF ELASTICITY
	g/cm ³	°C	μΩ•m	W/m•K	GPa
Dilaton 36	8.2	1430	0.78	13	137
Dilaton 41	8.2	1440	0.64	15	142
Dilaton 42	8.2	1440	0.62	15	142
Dilaton 46	8.2	1440	0.55	15	152
Dilaton 51	8.3	1450	0.43	17	160
Dilaton 51Cr1	8.2	1450	0.43	17	157
Dilaton 29/18	8.2	1450	0.45	17	157
Dilaton 48Cr6Al	8.3	1440	0.85		

4. THERMAL EXPANSION CHARACTERISTICS

AMW-TRADE NAME	AVERAGE LINEAR THERMAL EXPANSION COEFFICIENT 10 ⁻⁶ /K, base temperature 20 °C							INFLECTION-POINT/ CURIE-TEMPERATURE °C
	100 °C	150 °C	200 °C	300 °C	400 °C	500 °C	600 °C	
Dilaton 36	1.5	1.9	2.6	5.3	8.1	9.9	11.1	230
Dilaton 41	4.6	4.4	4.2	4.2	5.8	7.9	9.4	340
Dilaton 42	5.8	5.6	5.4	5.4	6.2			355
Dilaton 46	7.9	7.8	7.7	7.4	7.3	8.6	9.7	400
Dilaton 51	10.3	10.3	10.2	10.1	9.9	10.0	10.9	500
Dilaton 51Cr1	10.4	10.4	10.4	10.4	10.4	10.5	11.0	490
Dilaton 29/18	6.5	6.2	5.9	5.4	5.1	6.2	7.8	425
Dilaton 48Cr6Al					10.3			340

heat treatment 900°C,
medium hydrogen

annealing time 0.5 h,

cooling time to 100°C longer than 10 h,

5. MECHANICAL PROPERTIES

AMW-TRADE NAME	YIELD STRENGTH Rp 0.2	TENSILE STRENGTH Rm	ELONGATION	BRINELL-HARDNESS
	MPa	MPa	%	HB
Dilaton 36	280	500	35	130
Dilaton 41	270	500	35	130
Dilaton 42	300	510	30	130
Dilaton 46	270	500	35	140
Dilaton 51	280	550	30	135
Dilaton 51Cr1	280	560	30	135
Dilaton 29/18	350	540	35	155
Dilaton 48Cr6Al		540	30	130

Average values for condition „Annealed and recrystallized“

6. DIMENSIONS AND TOLERANCES

(mm)

THICKNESS TOLERANCES

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	± 0.050	± 0.050	± 0.070

Other thickness and tolerances on request.

WIDTH TOLERANCES

WIDTH	THICKNESS 0.10 - 0.20	THICKNESS > 0.20 - 0.50	THICKNESS > 0.50 - 1.00	THICKNESS > 1.00 - 2.00	THICKNESS > 2.00
10 - 50	± 0.1	± 0.2	± 0.2	± 0.3	± 0.4
> 50 - 200	± 0.2	± 0.3	± 0.3	± 0.4	± 0.5
> 200 - 320	± 0.3	± 0.4	± 0.5	± 0.6	± 0.8

Other width and tolerances on request.

LENGTH TOLERANCES (CUT LENGTH)

THICKNESS	LENGTH 500 - 3000
0.40 - 2.00	+ 10

Other tolerances on request.

7. PRODUCT FORM

(mm)

FORM	THICKNESS	WIDTH	LENGTH	COIL-ID	COIL-OD
Strip	0.10 - 3.00	10 - 320		300/400/500	max. 1050
Cut length	0.40 - 2.00	50 - 320	500 - 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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