

## 1. Alloys

Alloy	Material   UNS No.	Standard
NiCu30Fe	2.4360 / N04400	DIN 17743 / ASTM B127
NiCu30Al	2.4375 / N05500	DIN 17743
NiCu45	N04404	ASTM F96

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

Alloy		Ni (+Co)	Al	C	Cu	Fe	Mn	Si	Ti
NiCu30Fe	min.	63			28	1.0			
	max.		0.5	0.15	34	2.5	2.0	0.5	0.3
NiCu30Al	min.	63	2.2		27	0.5			0.3
	max.		3.5	0.2	34	2.0	1.5	0.5	1.0
NiCu45	min.	54.5							
	max.	55.5	0.05	0.1	balance	0.3	0.1	0.1	

## 3. Physical properties

Alloy	Density	Average linear thermal expansion coefficient 20 °C - 100 °C	Curie temperature	Thermal conductivity at 20 °C
	g/cm <sup>3</sup>	10 <sup>-6</sup> /K	°C	W/m • K
NiCu30Fe	8.8	14	50	26
NiCu30Al	8.5	13.7	135	19
NiCu45	8.9	13		21



#### 4. Mechanical properties (Reference values)

Alloy	Condition	0.2 % Yield strength	Tensile strength	Elongation	Vickers hardness
NiCu30Fe		MPa	MPa	%	HV
	soft annealed	250	550	40	120
	hard		860	5	210
NiCu30Al	soft annealed	340	720	35	170
	hard	750 - 1100	850 - 1250	1 - 8	250 - 350
NiCu45	soft annealed	160	450	45	120

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

Thickness	Width 10 - 100	Width > 100 - 200	Width > 200 - 320
0.10 - 0.20	+/- 0.010	+/- 0.015	+/- 0.015
> 0.20 - 0.30	+/- 0.015	+/- 0.015	+/- 0.020
> 0.30 - 0.50	+/- 0.020	+/- 0.020	+/- 0.025
> 0.50 - 1.00	+/- 0.025	+/- 0.025	+/- 0.030
> 1.00 - 1.50	+/- 0.030	+/- 0.040	+/- 0.040
> 1.50 - 2.00	+/- 0.040	+/- 0.040	+/- 0.050
> 2.00 - 2.50	+/- 0.050	+/- 0.050	+/- 0.060

  

Width	Thickness 0.10 - 1.00	Thickness > 1.00 - 1.80	Thickness > 1.80 - 2.50
10 - 100	+ 0.2	+ 0.3	+ 0.5
> 100 - 200	+ 0.3	+ 0.5	+ 0.7
> 200 - 320	+ 0.6	+ 1.0	+ 1.2

#### Length (in mm)

Width	Length 500 - 3000
0.40 - 2.00	+ 10

#### 7. Delivery forms (in mm)

Form	Thickness	Width	Length	Coil-ID	Coil-OD
Coil	0.10 - 2.50	10 - 320		300 / 400 / 500	max. 1050
Strip / Sheet	0.40 - 2.00	50 - 320	500 - 3000		

**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.