

## 1. Alloys

Alloy	Material   UNS No.	Standard
BR-Ni99.6	2.4060	DIN 17740 / DIN 17750
LC-Ni99.6	2.4061	DIN 17740 / DIN 17750
Ni99.2	2.4066 / N02200	DIN 17740 / DIN 17750 / ASTM B162
LC-Ni99	2.4068 / N02201	DIN 17740 / DIN 17750 / ASTM B162
Ni233	N02233	ASTM F3
Ni300	N03300	ASTM F290

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

Alloy		Ni (+Co)	C	Cu	Fe	Mg	Mn	S	Si	Ti
BR-Ni99.6	min.	99.6								
	max.		0.08	0.15	0.25	0.15	0.35	0.005	0.15	0.10
LC-Ni99.6	min.	99.6								
	max.		0.02	0.15	0.25	0.15	0.35	0.005	0.15	0.10
R-Ni99.2	min.	99.2								
	max.		0.10	0.25	0.40	0.15	0.35	0.005	0.25	0.10
LC-Ni99	min.	99.0								
	max.		0.02	0.25	0.40	0.15	0.35	0.005	0.25	0.10
Ni233	min.	99.0				0.01				
	max.		0.10	0.10	0.10	0.10	0.30	0.008	0.10	0.005
Ni300	min.	97.0				0.20				0.20
	max.		0.40	0.25	0.60	0.50	0.50	0.01	0.35	0.60

## 3. Physical properties

Alloy	Density	Specific electrical resistivity at 20 °C	Average linear thermal expansion coefficient 20 °C - 100 °C	Curie temperature
	g/cm <sup>3</sup>	Ω • mm <sup>2</sup> /m	10 <sup>-6</sup> /K	°C
BR-Ni99.6	8.9	0.09	13	360
LC-Ni99.6				
R-Ni99.2				
LC-Ni99				
Ni233				
Ni300	8.75	0.16	13	-



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

Alloy	Condition	Tensile strength	Elongation	Vickers hardness
		MPa	%	HV
BR-Ni99.6	annealed	min. 370	min. 40	max. 130
	quarter hard	min. 490	min. 15	ca. 150
	hard	min. 590	min. 2	ca. 200
LC-Ni99.6	annealed	min. 340	min. 40	max. 130
	quarter hard	min. 430	min. 15	ca. 150
R-Ni99.2	annealed	min. 370	min. 40	max. 130
	quarter hard	min. 490	min. 15	ca. 150
	hard	min. 590	min. 2	ca. 200
LC-Ni99	annealed	min. 340	min. 40	max. 130
	quarter hard	min. 430	min. 15	ca. 150
	hard	min. 540	min. 5	ca. 180
Nickel 233	annealed	min. 370	min. 40	max. 130
	quarter hard	min. 490	min. 15	ca. 150
	hard	min. 590	min. 2	ca. 200
Nickel 300	annealed	min. 600	min. 15	max. 180
	hard	min. 900	min. 2	ca. 320

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

Thickness	Width 10 -100	Width > 100 - 200	Width > 200 - 320
0.10 - 0.15	+/- 0.008	+/- 0.010	+/- 0.010
> 0.15 - 0.20	+/- 0.010	+/- 0.015	+/- 0.015
> 0.20 - 0.35	+/- 0.015	+/- 0.015	+/- 0.020
> 0.35 - 0.50	+/- 0.020	+/- 0.020	+/- 0.025
> 0.50 - 1.00	+/- 0.025	+/- 0.025	+/- 0.030
> 1.00 - 1.50	+/- 0.030	+/- 0.030	+/- 0.040
> 1.50 - 2.20	+/- 0.040	+/- 0.040	+/- 0.050
> 2.20 - 3.00	+/- 0.050	+/- 0.050	+/- 0.060

Width	Thickness 0.10 - 1.00	Thickness > 1.00 - 1.80	Thickness > 1.80 - 2.50	Thickness > 2.50 - 3.00
10 - 100	+ 0.2	+ 0.3	+ 0.5	+ 1.0
> 100 - 200	+ 0.3	+ 0.5	+ 0.7	+ 1.2
> 200 - 320	+ 0.6	+ 1.0	+ 1.2	+ 1.5

#### Length (in mm)

Thickness	Length 500 - 3000
0.4 - 2.00	+ 10

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

Form	Thickness	Width	Length	Coil-ID	Coil-OD
Coil	0.10 - 3.00	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.