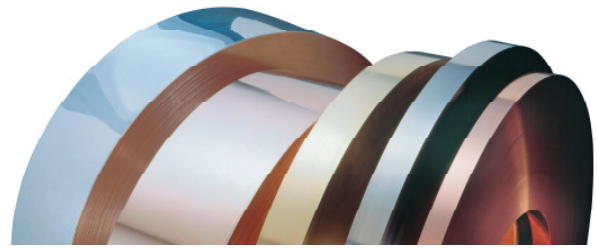


Nickel Silver NB15



Material Designation	
DIN-EN Symbol	CuNi18Zn10
DIN-EN	-
UNS	C73500
JIS	C7351
The Miller Company	C735

Physical Properties		
Electrical conductivity soft	3	MS/m
Thermal conductivity	36	W/(m·K)
Thermal expansion coefficient **	16	10 ⁻⁶ /K
Density	8.7	g/cm ³
Modulus of elasticity	125	GPa = kN/mm ²

* Reference values at room temperature

** Between 20 and 300 °C

Nominal Composition (mass content in %)	
Cu	Balance
Ni	18
Zn	10
Fe	< 0.2
Mn	< 0.5
Pb	< 0.01
Other	< 0.2

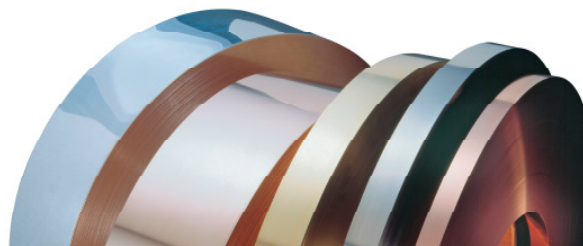
Typical Applications
<ul style="list-style-type: none"> • Coins • Caps for quartz crystals • Electromagnetic shieldings • Deep drawing parts • Tableware • Security keys • Cutlery • Contact springs • Connector • Leaf springs for relays • Electric contacts

About The Alloy
<p>NB15 is a nickel silver alloy containing 18 % nickel and 10 % zinc. The alloy has particularly good cold-forming properties and exhibits extraordinarily good deep-drawing properties.</p> <p>Like all copper alloys the copper-nickel-zinc alloys are not susceptible to embrittlement at lower temperature. The corrosion resistance of nickel silver is considerably better than that of binary copper-zinc alloys.</p> <p>NB15 is insensitive to stress corrosion cracking. NB15 is used for deep-drawing parts and for optical goods.</p> <p>The alloy is registered with the U.S. EPA as antimicrobial.</p>

Mechanical Properties *)						
Temper condition		O R 330 H 80	H01 R 400 H 110	H03 R 460 H 140	H06 R 520 H 160	H08 R 600 H 180
Tensile strength in N/mm ²		330 - 430	400 - 480	460 - 530	520 - 610	600 - 690
0.2 % yield Strength in N/mm ²		200	230	380	450	530
Elongation A _{L50} %		> 30	> 12	> 5	> 3	-
Vickers hardness HV		80 - 100	105 - 150	140 - 180	160 - 190	180 - 210
Electrical conductivity in % IACS		5	5	4	4	4
Minimum radius of the bending mandrel for 90° bend and strip thickness s						
0.10 ≤ s ≤ 0.25 mm	transverse	0 x s	0 x s	0 x s	0 x s	0 x s
	parallel	0 x s	0 x s	0 x s	0 x s	1 x s
0.25 < s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	0 x s	0 x s
	parallel	0 x s	0 x s	0 x s	0 x s	2 x s

*) Reference values

Nickel Silver NB15



Processing Instructions	
Cold forming properties	very good
Machinability	satisfactory
Electroplating properties	very good
Hot-dip tinning properties	satisfactory
Soldering	satisfactory
Resistance welding	very good
Gas shielded arc welding	good
Laser welding	good

Available Dimensions
Bright pre-rolled strips 1 to 2.5 mm
Precision strip thickness from 0.05 to 1.2 mm
Strip width from 3.0 to 600 mm, but at least 10 times of the strip thickness
Other widths available on request.

Available Versions
Coils with standard outer diameters of 1200 mm
Strips in reel form with coil weight of up to 1500 kg
Multipancake up to 2.5 t
Hot-dip tinned strips
Profiled strips
Electroplated strips (tin, nickel)

Your Local Contact Person		
Europe	USA	Asia

DIEHL
Metal Applications

DIEHL
Metal Applications

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We reserve the right to make alterations especially where necessitated by technical developments or changes in availability. Please ask for the latest edition of this material data sheet.