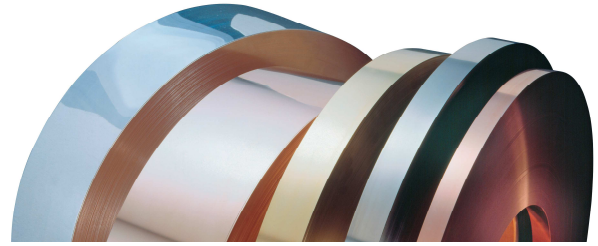


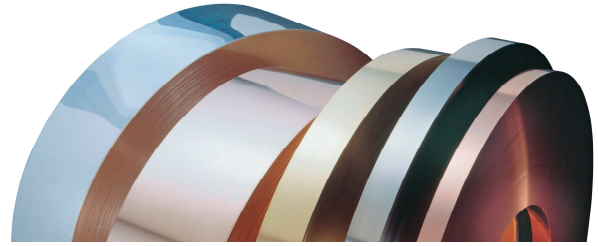
## Nickel Silver NB12



Material Designation			Nominal Composition (mass content in %)		About The Alloy			
DIN-EN Symbol	CuNi12Zn24		Cu	Balance		<p>NB12 is a nickel silver alloy containing 12 % nickel and 24 % zinc. The alloy has good cold-forming properties and is particularly suitable for deep-drawing.</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>NB12 is insensitive to stress corrosion cracking. NB12 is used for contacts, deep-drawing parts and for optical goods.</p> <p>The alloy is registered with the U.S. EPA as Antimicrobial.</p>		
DIN-EN	CW403J		Ni	12				
UNS	C75700		Zn	24				
JIS	-		Fe	< 0.2				
<b>Physical Properties</b>			Mn	< 0.5				
			Pb	< 0.01				
			Other	< 0.2				
			<b>Electrical conductivity soft</b>				4	MS/m
			<b>Thermal conductivity</b>				33	W/(m·K)
<b>Thermal expansion coefficient **</b>			17	10 <sup>-6</sup> /K				
<b>Density</b>			8.7	g/cm <sup>3</sup>				
<b>Modulus of elasticity</b>			125	GPa = kN/mm <sup>2</sup>				
* Reference values at room temperature ** Between 20 and 300 °C			<b>Typical Applications</b>					
			<ul style="list-style-type: none"> <li>• Coins</li> <li>• Caps for quartz crystals</li> <li>• Electromagnetic shieldings</li> <li>• Deep drawing parts</li> <li>• Tableware</li> <li>• Security keys</li> <li>• Cutlery</li> <li>• Contact springs</li> <li>• Connector</li> <li>• Leaf springs for relays</li> <li>• Electric contacts</li> </ul>					

Mechanical Properties *)						
Temper condition		O R 350 H 80	H02 R 430 H 110	H03 R 490 H 140	H04 R 550 H 170	H06 R 620 H 190
Tensile strength in N/mm <sup>2</sup>		350 - 450	430 - 510	490 - 580	550 - 640	620 - 710
0.2 % yield Strength in N/mm <sup>2</sup>		200	230	400	480	580
Elongation A <sub>LS0</sub> %		> 35	> 8	> 7	> 3	-
Vickers hardness HV		80 - 110	110 - 150	150 - 180	170 - 200	190 - 220
Electrical conductivity in % IACS		7	7	6	6	6
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	1 x s
	parallel	0 x s	0 x s	0 x s	0 x s	2 x s
0.25 < s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	0 x s	-
	parallel	0 x s	0 x s	0 x s	1 x s	-
*) Reference values						

**Nickel Silver**  
**NB12**



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	Asia
<p><b>SUNDWIGER</b> Messingwerk</p> <p>Sundwiger Messingwerk GmbH</p> <p>Hönnetalstraße 110 58675 Hemer Deutschland Tel. +49 2372 661-100 Fax +49 2372 661-48100 E-Mail: sales-sundwig@sundwiger-mw.com www.sundwiger-mw.com</p>	<p><b>SUNDWIGER</b> Messingwerk</p> <p>Diehl Metall (Shenzhen) Co. Ltd.</p> <p>5F, Block 25, Shatoujiao Free Trade Zone 518081 Shenzhen P.R. of China Tel. +86 755 2235 7466 Fax +86 755 25260974 E-Mail: sales@sundwiger-mw.com.cn www.sundwiger-mw.com</p>

The information given in this material data sheet, which in any case provides no guarantee of particular characteristics, has been compiled to the best of our knowledge but is given without any obligation on our part. Our liability is determined solely by the individual contract terms, in particular by our general conditions of sale.

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.