Schlenk Metal Foils GmbH & Co. KG • Barnsdorfer Hauptstr. 5 • 91154 Roth-Barnsdorf Germany
www.schlenk.com • foils@schlenk.de

German Silver

Designation	EN / CuNi18Zn20	EN / CW409	UNS / C76400

This copper-nickel-zinc alloy is characterized by its good mechanical strength and good spring properties. Due to the low conductivity of the material it can also be used as a resistance alloy. The high nickel content leads to a silver colored appearance of the material and renders it fairly stable towards heat induced discoloration.

COMPOSITION OF MATERIAL

• Cu: 60 - 63 % • Ni: 17 - 19 % • Zn: balance

PHYSICAL PROPERTIES

· Density	8,73 g/cm³
· Melting point	above 900 °C
· Electrical conductivity	3 m/Ω mm² (at 20 °C R380)
· Electrical resistivity	0,33 Ω mm²/m (at 20 °C R380)
· Temperature coefficient of electrical resistance	$0{,}3 \cdot 10^{-3}$/K (at 0 to 300 °C R380)
· Thermal conductivity	27 W/K m (at 20 °C)
· Thermal capacity	0,393 J/g K (at 20 °C)
· Coefficient of thermal expansion (linear)	$17 \cdot 10^{-6}$/K (at 20 to 300 °C)
· Modulus of elasticity (tensile)	135 GPa (at 20 °C R380)

MANUFACTURING PROGRAM	THICKNESS	WIDTH
Rolls, spools, sheets	0,01 - 0,15 mm	1 - 570 mm

not all combinations of thickness and width are available
or different dimensions please contact our technical service

TEMPER ACCORDING TO DIN EN 1652			TYPICAL VALUES (information only)
	Tensile strength Rm in MPa	Yield strength $Rp_{0,2}$ in MPa	Elongation in % L_0 = 100 mm
R380	≥ 450	≤ 200	> 10
R450	450 - 520	≥ 250	< 35
R500	500 - 590	≥ 410	< 18
R590	≥ 590	≥ 510	< 3

The values in the table are valid only for foils with thickness > 0,1 mm.

For further information please visit our website: https://www.schlenk.com
You will find further information at: https://copperalliance.eu