

German Silver

Designation	EN / CuNi18Zn20	EN / CW409	UNS / C76400
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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/cm ³
• Melting point	above 900 °C
• Electrical conductivity	3 m/Ω mm ² (at 20 °C R380)
• Electrical resistivity	0,33 Ω mm ² /m (at 20 °C R380)
• Temperature coefficient of electrical resistance	0,3·10 ⁻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)	17·10 ⁻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 R _m in MPa	Yield strength R _{p0,2} 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>

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