Edition from	18.10.2021	Alloy datasheet	No. 481

Alloy	ISO	EN	ASTM
PS2	CuZn16Si2Pb1	-	C69750

Others:

- -

Main characteristics

Nickel-free Copper-Zinc-Silicon alloy of yellow gold color with good cold-forming properties, good corrosion, and tarnish resistance and medium to high tensile strength and hardness. Thanks to its lead-content, this alloy has good machinability, too.

Chemical composition

Cu	Zn	Si	Pb
Remainder	15,8 – 17,0%	1,9 – 2,2 %	0,8 – 1,3 %

Impurities	Sn	Ni	Others
Max.	0,05 %	0,01 %	0,5%

Product portfolio

Hot extruded and cold drawn products

Section type	Round
Rod	Available
Wire	Available
Profile	On demand

Examples of use

Machined components for the optical and connectivity industry, for watches and jewelry and for all applications where the attractive combination of the material properties can be utilized.

Mechanical properties

Form	Dimension Ø	Temper	UTS N/mm²	YS N/mm²	A %	Hardness HBW
Rod Wire	1 – 80 1 – 6,35	R450	> 450	> 250	> 30	-
		H90	-	-	-	>90
		R500	>500	>350	>20	-
		H120	-	-	-	>120
		R550	>550	>420	>10	-

Other tempers on demand

Physical properties

Density	kg/dm³	8,7
Melting range	°C	850 – 940
Linear expansion coefficient (20-400°C)		0,000020
Specific heat	J/kg K	380
Thermal conductivity at 20°C	W/m · K	40
Electrical conductivity at 20°C	% IACS	9,5
Elasticity modulus	kN/mm²	105

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Workability	Cold working, maximum section reduction	%	good, 50
	Hot working, temperature range	°C	not recommended
	Machining, compared with CuZn39Pb3 (100 %)	%	good, 80
	Annealing temperatures	°C	550 - 600
	Stress relieving temperatures	°C	250 - 300
	Soft soldering		excellent
	Hard soldering		good
	Autogenous welding		not recommended
	Arc welding		not recommended
	Resistance welding		not recommended

Symbols

Ø = round rod diameter (mm)
UTS = ultimate tensile strength
YS = yield stress at 0,2 %
A = tensile elongation