

CuSn3Zn9

Réf. ASTM n°UNS : C42500

Réf. Normes Européennes : CW454K

Indicative Chemical Composition

Cu :	solde
Sn :	3%
Zn :	9%

TYPICAL APPLICATIONS

Electrical :	Contact springs, connectors, clips,...
Mechanical:	Springs, bellows and diaphragms, clutch discs, pinions, bridge bearing plates, doctor blades,...

MECHANICAL CHARACTERISTICS (European Standard : EN 1652)

TemperH :		H 080	H 110	H 140	H 160	H 180	H 200
Hardness	HV	80-110	110-140	140-170	160-190	180-210	≥ 200

Temper R :		R 320	R 380	R 430	R 510	R 580	R 660
Tensile Strength	TS (MPa)	320-380	380-430	430-520	510-600	580-690	≥ 660
Yield Strength (1)	YS 0,2 (MPa)	≤ 230	≥ 200	≥ 330	≥ 430	≥ 520	≥ 610
Elongation (2)	E50 (%)	≥ 25	≥ 16	≥ 6	≥ 3	—	—

BENDING RADIUS FOLLOWING THE THICKNESS RELATED TO TEMPER ABOVE

Radius of Bending (3)	90° Good Way	0 × t	0 × t	0 × t	0 × t	1 × t	(4)
	90° Bad Way	0 × t	0 × t	0 × t	1 × t	2 × t	(4)

MECHANICAL CHARACTERISTICS FOLLOWING OLD STANDARDS

TEMPER OF OLD NF STANDARD		0	H 11	H 121	H 13	H 141	H 15
Hardness	HV	80-110	110-140	140-170	170-210	190-210	≥ 205
Tensile Strength	TS (MPa)	340-440	390-490	460-560	550-650	610-680	≥ 680
Yield Strength	YS 0,2 (MPa)	≤ 300	≥ 290	≥ 380	≥ 530	≥ 560	≥ 640
Elongation	E50 (%)	40	30	12	6	1	—
Radius of bending (3)	90° Good Way	0 × t	0 × t	0 × t	0,5 × t	1 × t	(4)
	90° Bad Way	0 × t	0 × t	0,5 × t	1 × t	(4)	(4)

PHYSICAL CHARACTERISTICS (at 20°C) (5)

Density (Kg/dm ³)	Electrical Conductivity (% IA CS)	Electrical Resistivity (μΩ,cm)	Thermal Conductivity (W/m,K)	Modulus of elasticity (kN/nm ²)	Thermal expansion (10-6/K)	Melting Temperature (°C)	Modulus of shearing (kN/mm ²)
8,8	24	7,2	120	120	18	925-1030	41

(1) Indicatives values

(2) For Thickness < 2,5 mm

(3) Bending radius is expressed as a function of thickness (t) of the strip

(4) Bending possible to be defined with Griset

(5) values for annealed temper

This document has been prepared for informational purposes and the values are indicative. Our responsibility can not be undertaken without a formal contract review. Our commercial and technical services remain at your service to study the proper matching of your needs in adequacy with physico-mechanical properties of our material.