

CuSn5P

Réf. ASTM n°UNS : C51000

Réf. Normes Européennes : CW451K

Indicative Chemical Composition

Cu :	solde
Sn :	5%

TYPICAL APPLICATIONS

Electrical :	Contact springs, connectors, clips, bulb bases, ...
Mechanical:	Springs, bellows and diaphragms, clutch discs, ...

MECHANICAL CHARACTERISTICS (European Standard : EN 1652) _____

Temper H :		H 075	H 120	H 160	H 180	H 200	H 220
Hardness	HV	75-105	120-160	160-190	180-210	200-230	≥ 220

Temper R :		R 310	R 400	R 490	R 550	R 630	R 690
Tensile Strength	TS (MPa)	310-390	400-500	490-580	550-640	630-720	≥ 690
Yield Strength (1)	YS 0,2 (MPa)	≤ 250	≥ 240	≥ 430	≥ 510	≥ 600	≥ 670
Elongation (2)	E50 (%)	≥ 45	≥ 14	≥ 8	≥ 4	≥ 2	—

BENDING RADIUS FOLLOWING THE THICKNESS RELATED TO TEMPER ABOVE _____

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

MECHANICAL CHARACTERISTICS FOLLOWING OLD STANDARDS _____

TEMPER OF OLD NF STANDARD		0	H 11	H 121	H 131	H 141	H 15
Hardness	HV	80-105	110-140	145-175	165-195	190-220	≥ 220
Tensile Strength	TS (MPa)	330-420	375-475	430-530	500-600	620-720	≥ 730
Yield Strength	YS 0,2 (MPa)	≤ 290	≥ 250	≥ 370	≥ 480	≥ 600	≥ 710
Elongation	E50 (%)	40	30	15	5	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)
8,85	17	9,8	78	121	17	930-1060	46

(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.