

# CU-ETP <sup>(1)</sup>

Réf. ASTM n°UNS : C11000  
Réf. Normes Européennes : CW004A

### Indicative Chemical Composition

Cu :	> 99,90 %
O :	< 0.04 %

### TYPICAL APPLICATIONS

Electrical :	All products : cables, contacts,..., electric and electronic
Mécanical :	Heat exchangers, radiators, stamped parts
Chemical :	Kitchen ware, food products usage
Architectural :	Siding, panelling...

### MECHANICAL CHARACTERISTICS (European standard : EN 1652) \_\_\_\_\_

Temper H :		H 040	H 065	H 090	H 110
Hardness	HV	40-65	65-95	90-110	≥ 110

Temper R :		R 220	R 240	R 290	R 360
Tensile Strength	TS (MPa)	220-260	240-300	290-360	≥ 360
Yield Strength <sup>(2)</sup>	YS 0,2 (MPa)	≤ 140	≥ 180	≥ 250	≥ 320
Elongation <sup>(3)</sup>	E50 (%)	≥ 33	≥ 8	≥ 4	≥ 2

### BENDING RADIUS FOLLOWING THE THICKNESS RELATED TO TEMPER ABOVE \_\_\_\_\_

Radius of Bending <sup>(4)</sup>	90°	Good Way	0 × t	0 × t	0 × t	(5)
	90°	Bad Way	0 × t	0 × t	0,5 × t	(5)

### MECHANICAL CHARACTERISTICS FOLLOWING OLD STANDARD \_\_\_\_\_

TEMPER OF OLD FRENCH STANDARD		0	H 11	H 12	H 13	H 14	H 14,2
Hardness	HV	45-65	60-85	75-105	90-110	105-125	≥ 110
Tensile Strength	TS (MPa)	200-260	230-280	260-320	290-350	310-400	≥ 325
Yield Strength	YS 0,2 (MPa)	≤ 120	≥ 125	≥ 250	≥ 275	≥ 300	≥ 300
Elongation	E50 (%)	25	20	10	4	1	—
Rayon de Pliage <sup>(4)</sup>	90°	Good Way	0 × t	0 × t	0 × t	0,5 × t	(5)
	90°	Bad Way	0 × t	0 × t	0 × t	0,5 × t	1 × t (5)

### PHYSICAL CHARACTERISTICS (at 20°C) <sup>(6)</sup> \_\_\_\_\_

Density (Kg/dm <sup>3</sup> )	Electrical Conductivity (% IA CS)	Electrical Resistivity (μΩ,cm)	Thermal Conductivity (W/m,K)	Modulus of Elasticity (kN/nm <sup>2</sup> )	Thermal Expansion (10-6/K)	Melting Temperature (°C)	Modulus of Shearing (kN/mm <sup>2</sup> )
8,9	> 100	< 1,72	390	120	17	1083	45

(1) old French standard designation : Cu-a1

(2) Indicatives values

(3) For Thickness < 2,5 mm

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

(5) Bending possible to be defined with Griset

(6) 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.