



## Cu Zn 10

## TOMBAC

### CHEMICAL COMPOSITION :

Zinc	balance
Copper	89-91 %

### ALLOY DENOMINATIONS :

MATERIAL N° EN :	CW501 L
WN/MATERIAL N° DIN :	2.0230
ROBERT LAMINAGE :	210
EN :	CU ZN10
DIN :	CU ZN10
AFNOR :	CU ZN10
UNS* :	C 22000

\*Unified Numbering System (USA)

### PHYSICAL PROPERTIES :

Density 20° C	8.8	Kg/dm <sup>3</sup>
Melting point	915-965	°C
Modulus of elasticity, longitudinal	124	GPa
Thermal Conductivity	184	W/M . K
Electrical Conductivity	≥ 21.46	M/Ω mm <sup>2</sup>
Electrical resistivity	≤ 0.0466	Ω mm <sup>2</sup> /M
Coefficient of linear expansion from 20 up to 300°C	18.2 x 10 <sup>-6</sup>	K <sup>-1</sup>
IACS (International Annealed Copper Standard)	≥ 37	%

### WORKABILITY :

Coldworking	Good
Hotworking	Medium
Machining	Poor
Soldering, brazing	Very good
Tin soldering	Very good
Polishing	Very good
Annealing temperature	350-600°C
Stress relieving heat treatment temperature	150-200°C

### MAIN APPLICATIONS :

Various electrical components,  
Appliances, diodes  
Deep drawing, stamping

### AVAILABLE SIZES :

Widths	from 2 up to 350mm
Thickness	from 0.01 up to 2.5mm

### CONDITIONING :

- In coils
- Cut to length, from 0.5 up to 3 m

### TOLERANCES :

Depending on product

### QUALITY OF EDGES :

Slit edges



**MECHANICAL PROPERTIES :**

**Cu Zn 10**

**EN NORM**

TEMPER	PHYSICAL STATE	THICKNESS		Rm (MPa)		Rp 0.2 (Mpa)	ELONGATION		Vickers HARDNESS		GRAIN SIZE
				min	max		0.10 up to 2.5 mm A50 % min	above 2.5 mm A100 % min	min	max	
Annealed	R240 H050	0.2	5	240	290	(max 140)	36	45	-	-	-
				-	-	-	-	-	50	80	-
1/2 Hard	R280 H080	0.2	5	280	360	(min 200)	13	20	-	-	-
				-	-	-	-	-	80	110	-
Hard	R350 H110	0.2	5	350	-	(min 290)	4	8	-	-	-
				-	-	-	-	-	110	-	-

(For reference only)

**DIN NORM 17670 E-CU 57**

TEMPER	THICKNESS	Rm (MPa)		Rp 0.2 (Mpa)	ELONGATION		Vickers HARDNESS	
		min	max		0.10 up to 2.5 mm A50 % min	above 2.5 mm A100 % min	min	max
F24	≥ 0.2	240	290	max 140	45	40	-	-
H50	≤ 5	-	-	-	-	-	50	80
F29	≥ 0.2	290	350	min 200	20	17	-	-
H80	≤ 5	-	-	-	-	-	80	110
F35	≥ 0.2	min	350	min 290	8	5	-	-
H110	≤ 5	-	-	-	-	-	110	-

**AFNOR NORM NF A51 101**

TEMPER	Vickers HARDNESS		Rm (MPa)	
	min	max	min	max
H11	68	102	270	340
H12	90	120	320	390
H13	102	126	350	420
H14	118	135	390	450
H15	130	150	440	490
H16	140	160	470	530
H17	150	170	490	550