Data Sheet:

EN Cu-OF / CW008A
99,95% Pure Copper
Cold rolled

Alumeco ApS
13-01-2025

Internal alloy name:	**CW008A**
Metal:	**Copper**
Chemical Symbol:	**Cu-OF**
EN:	**EN CW008A**
UNS:	**C10200**
SIS:	**5011**
GB:	**TUP0.008 / C10800**
JIS:	**1020**
Also known as:	**-**
Alloy type:	**Electrical conducting**

Main usage:

- Automotive
- Electrical conductors
- Heat sinks

Main properties:

- High thermal and electrical conductivity
- Great welding and excellent soldering properties
- Good corrosion resistance

Important norms and literature:

General Standards
EN 1652: Copper and copper alloys - Plate, sheet, strip and circles for general purposes

Geometric Tolerance
EN 1652: Copper and copper alloys - Plate, sheet, strip and circles for general purposes

Chemical composition in %: EN 1652

Cu	Bi	Pb	Other elements	
			Each	Together
99,95	Max. 0,0005	Max. 0,005	-	0,03

Mechanical properties: EN 1652

Material Condition	Thickness range mm	Rm MPa (Min. – Max.)	$Rp_{0,2}$ MPa	A_{50mm} for thickness up to 2,5 mm %	A for thickness up to 2,5 mm %	Hardness HBW	Hardness HV
R220 (soft)	0,2 - 5	220 - 260	Max. 140	33	42	-	-
R240 (1/2 hard)	0,2 - 15	240 - 300	Min. 180	8	15	-	-

Information values only;

Physical properties:

Density (20 °C) g/cm³	Solidification range °C	Electrical conductivity %IACS	Thermal conductivity (20 °C) W/m K	Thermal expansion (20 - 300 °C) µm m^{-1} K^{-1}	Annealing temperature ºC	E – modulus (20 °C) N / mm²
8,94	1080	100	390	17	-	118.000

Properties and information's (3 Excellent; 2 Good; 1 Poor/not recommendable)*

Machinability (Zerspanbarkeitsindex): 20*
*(CuZn39Pb3 = 100)

Forming Methods:

Hot Formability:	2
Cold Formability:	3

Corrosion resistance:

Atmosphere:	2
Waters and alkaline:	2
Acids, Ammonia, Seawater:	1

Joining Methods:

Soldering:	3
Brazing:	3
TIG welding:	2-3
MIG welding:	2-3
Electron-beam welding:	2

Surface Treatment:

Polishing:	
Mechanical:	2
Electrolytic/chemical:	3
Galvanizing:	3
Hot Dipping:	3

***Information extracted from Luvata;**

Tolerances for Cold rolled Products of CW008A

Dimensions: EN 1652:1997*

Tolerances on thickness of cold rolled products (sheet, strip and circles)

Nominal thickness *t* (mm)	Tolerance on thickness for nominal widths w (mm)			
	w ≤ 350	350 < *w* ≤ 700	700 < *w* ≤ 1000	1000 < *w* ≤ 1250
0,1 < *t* ≤ 0,2	± 0,018	-	-	-
0,2 < *t* ≤ 0,3	± 0,022	± 0,03	± 0,04	-
0,3 < *t* ≤ 0,4	± 0,025	± 0,04	± 0,05	± 0,07
0,4 < *t* ≤ 0,5	± 0,030	± 0,05	± 0,06	± 0,08
0,5 < *t* ≤ 0,8	± 0,040	± 0,06	± 0,07	± 0,09
0,8 < *t* ≤ 1,2	± 0,050	± 0,07	± 0,09	± 0,10
1,2 < *t* ≤ 1,8	± 0,060	± 0,08	± 0,10	± 0,11
1,8 < *t* ≤ 2,5	± 0,070	± 0,09	± 0,11	± 0,13
2,5 < *t* ≤ 3,2	± 0,080	± 0,10	± 0,13	± 0,17
3,2 < *t* ≤ 4,0	± 0,10	± 0,12	± 0,15	± 0,20
4,0 < *t* ≤ 5,0	± 0,12	± 0,14	± 0,17	± 0,23
5,0 < *t* ≤ 6,0	± 0,14	± 0,16	± 0,20	± 0,26
6,0 < *t* ≤ 7,0	± 0,16	± 0,19	± 0,23	± 0,29
7,0 < *t* ≤ 8,0	± 0,18	± 0,22	± 0,26	± 0,32
8,0 < *t* ≤ 9,0	± 0,20	± 0,25	± 0,29	± 0,35
9,0 < *t* ≤ 10,0	± 0,22	± 0,28	± 0,32	± 0,38

* Values are referred from Table 5 of EN 1652:1997

Dimensions: EN 1652:1997*

Tolerances on width of cold rolled strip

Nominal thickness *t* (mm)	Tolerance on thickness for nominal widths w (mm)						
	w ≤ 50	50 < *w* ≤ 100	100 < *w* ≤ 200	200 < *w* ≤ 350	350 < *w* ≤ 500	500 < *w* ≤ 700	700 < *w* ≤ 1250
0,1 < *t* ≤ 1,0	+0,2 0	+0,3 0	+0,4 0	+0,6 0	+1,0 0	+1,5 0	+2,0 0
1,0 < *t* ≤ 2,0	+0,3 0	+0,4 0	+0,5 0	+1,0 0	+1,2 0	+1,5 0	+2,0 0
2,0 < *t* ≤ 2,5	+0,5 0	+ 0,6 0	+0,7 0	+1,2 0	+1,5 0	+2,0 0	+2,5 0
2,5 < *t* ≤ 3,0	+1,0 0	+1,1 0	+1,2 0	+1,5 0	+2,0 0	+2,5 0	+3,0 0
3,0 < *t* ≤ 4,0	+2,0 0	+2,3 0	+2,5 0	+3,0 0	+4,0 0	+5,0 0	+6,0 0

* Values are referred from Table 6 of EN 1652:1997

Dimensions: EN 1652:1997*

Tolerances on width of plate and sheet

Nominal thickness *t* (mm)	Tolerance on thickness for nominal widths *w* (mm)		
	w ≤ 350	350 < *w* ≤ 1250	1250 < *w*
t ≤ 2,0	+2,0 0	+6,0 0	By agreement
2,0 < *t* ≤ 5,0	+4,0 0	+8,0 0	
5,0 < *t*	+8,0 0	+10,0 0	

* Values are referred from Table 7 of EN 1652:1997

Dimensions: EN 1652:1997*

Tolerances on length of plate, sheet and strip cut for lengths up to 5000 mm

Length	Nominal thickness (mm)	Tolerance on length (mm)
As Manufactured (ML)	t ≤ 15	± 50
Fixed length (FL)	t ≤ 5,0	+10 0
	5,0 < t	+15 0

* Values are referred from Table 8 of EN 1652:1997

Dimensions: EN 13599:2014*

Squareness of cut plate and sheet

Nominal width *w* (mm)	Maximum allowable differences between diagonals, for lengths *l* (mm)		
	1000 < *l* ≤ 2000	2000 < *l* ≤ 3000	3000 < *l*
350 < *w* ≤ 700	6	7	8
700 < *w* ≤ 1250	8	9	10
1250 < *w*	By agreement		

* Values are referred from Table 9 of EN 1652:1997

Dimensions: EN 1652:1997*

Tolerances on diameter for circles

Nominal diamter *d* (mm)	Maximum allowable differences between diagonals, for lengths *l* (mm)		
	1000 < *l* ≤ 2000	2000 < *l* ≤ 3000	3000 < *l*
d ≤ 500	± 1	± 1,5	± 2
500 < *d* ≤ 1000	± 2	± 2,5	± 3
1000 < *d* ≤ 2000	± 3	± 3,5	± 4
700 < *d*	-	-	By agreement

* Values are referred from Table 10 of EN 1652:1997

Dimensions: EN 1652:1997*

Edgewise curvature c

Nominal width *w* (mm)	Maximum edgewise curvature *c* for thicknesses *t* (mm)	
	t ≤ 1,0	1,0 < *t* ≤ 4,0
3 < *w* ≤ 8	12	-
8 < *w* ≤ 15	8	10
15 < *w*	4	6

* Values are referred from Table 11 of EN 1652:1997