Datasheet:

EN Cu-OF / CW008A
99,95% Pure Copper
Cold & Hot Rolled Products

Alumeco ApS
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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 13599:2014: Copper and copper alloys – Copper plate, sheet and strip for electrical purposes

Geometric Tolerance:
EN 13599:2014: Copper and copper alloys – Copper plate, sheet and strip for electrical purposes

Chemical composition in %: EN 13599:2014

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

Mechanical properties: EN 13599:2014

Material Condition	Thickness range	Tensile strength R_m	0,2% proof strength $R_{p0,2}$	Elongation Min. %		Hardness HV
	mm	MPa	MPa	A_{50mm}	A	
M	10 – 25	as manufactured				
R200	0,20 – 10	200 – 250	Max. 100	-	42	-
R220	0,10 – 5	220 – 260	Max. 140	33	42	-
H040	0,10 – 10	-	-	-	-	40 – 65
R240	0,10 – 10	240 – 300	Min. 180	8	15	-
H065	0,10 – 10	-	-	-	-	65 – 95
R290	0,10 – 10	290 – 360	Min. 250	4	6	-
R360	0,10 – 2	Min. 360	Min. 320	-	2	

*** Information values only;**

Physical properties:

Density (20 °C) g/cm³	Solidification range °C	Material condition	Electrical conductivity % IACS Min.	Volume resistivity $\frac{\Omega \times mm^2}{m}$ Max.	Mass resistivity $\frac{\Omega \times g}{m^2}$ Max.	Thermal conductivity (20 °C) W/m K	E – modulus (20 °C) N / mm²
8,94	1080	M	98,3	0,01754	0,1588	390	118.000
		R200, R220, H040	100	0,01724	0,1533		
		R240, H065, R290	98,3	0,01754	0,1559		
		R360	96,6	0,01786	0,1588		

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

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:	2
Oxy-acetylene welding:	1
Gas-shielded arc welding:	1
TIG welding:	1
MIG welding:	1
Spot/seam welding	1
Butt welding	2
Gluing/adhesion:	2

Surface Treatment:

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

[1] **Information extracted from Kupferverband;**

Tolerances for Rolled Products of CW008A

Dimensions: EN 13599:2014*

Tolerances on thickness of plate, sheet and strip

Values in millimetres

Nominal thickness t (mm)	Tolerance on thickness for nominal widths w (mm)					
	10 < w ≤ 200		200 < w ≤ 350	350 < w ≤ 700	700 < w ≤ 1000	1000 < w ≤ 1250
	normal	special				
0,1 < t ≤ 0,2	± 0,010	± 0,007	± 0,015	-	-	-
0,2 < t ≤ 0,3	± 0,015	± 0,010	± 0,020	± 0,03	± 0,04	-
0,3 < t ≤ 0,4	± 0,018	± 0,012	± 0,022	± 0,04	± 0,05	± 0,07
0,4 < t ≤ 0,5	± 0,020	± 0,015	± 0,025	± 0,05	± 0,06	± 0,08
0,5 < t ≤ 0,8	± 0,025	± 0,018	± 0,030	± 0,06	± 0,07	± 0,09
0,8 < t ≤ 1,2	± 0,030	± 0,022	± 0,040	± 0,07	± 0,09	± 0,10
1,2 < t ≤ 1,8	± 0,035	± 0,028	± 0,06	± 0,08	± 0,10	± 0,11
1,8 < t ≤ 2,5	± 0,045	± 0,035	± 0,07	± 0,09	± 0,11	± 0,13
2,5 < t ≤ 3,2	± 0,055	± 0,040	± 0,08	± 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
10,0 < t ≤ 25,0	-	-	± 0,25	± 0,30	± 0,35	± 0,45

* Values are referred from Table 4 of EN 13599:2014

Dimensions: EN 13599:2014*

Tolerances on width of strip

Values in millimetres

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 ≤ 5,0	+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 5 of EN 13599:2014

Dimensions: EN 13599:2014*

Tolerances on width of plate and sheet

Values in millimetres

Nominal thickness t (mm)	Tolerance on thickness for nominal widths w (mm)	
	w ≤ 350	350 < w ≤ 1250
0,05 < t ≤ 2,0	+2,0 0	+6,0 0
2,0 < t ≤ 5,0	+4,0 0	+8,0 0
5,0 < t ≤ 10,0	+8,0 0	+10,0 0
10,0 < t ≤ 25,0	+10,0 0	+12,0 0

* Values are referred from Table 6 of EN 13599:2014

Dimensions: EN 13599:2014*

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

Values in millimetres

Length	Nominal thickness (mm)	Tolerance on length
As Manufactured (ML)	t ≤ 25	± 50
Fixed length (FL)	t ≤ 5,0	+10 0
	5,0 < t ≤ 10,0	+15 0
	10,0 < t ≤ 25,0	+20 0

* Values are referred from Table 7 of EN 13599:2014

Dimensions: EN 13599:2014*

Squareness of cut plate and sheet

Dimensions in millimetres

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

* Values are referred from Table 8 of EN 13599:2014

Dimensions: EN 13599:2014*

Edgewise curvature c

Dimensions in millimetres

Nominal width *w* (mm)	**Maximum edgewise curvature *c* for thicknesses *t* (mm)**				
	t ≤ 0,5	0,5 < *t* ≤ 1,2	1,2 < *t* ≤ 2,5	2,5 < *t* ≤ 3,2	3,2 < *t* ≤ 5
10 < *w* ≤ 15	7	10	-	-	-
15 < *w* ≤ 30	4	6	8	-	-
30 < *w* ≤ 50	3	4	6	7	By agreement
50 < *w* ≤ 1250	2	3	4	5	

* Values are referred from Table 9 of EN 13599:2014