

Data Sheet: EN Cu-OF / CW008A 99,95% Pure Copper Hot 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		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					
Main properties: - High thermal and electrical conductivity - Great welding and excellent soldering properties - Good corrosion resistance							
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	Rm MPa	Rp0,2 MPa	A50mm for thickness up to 2,5 mm	A for thickness up to 2,5 mm	Hardness HBW	Hardness HV
	mm	(Min. – Max.)		%	%		
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)	Solidification range	Electrical conductivity	Thermal conductivity (20 °C)	Thermal expansion (20 - 300 °C)	Annealing temperature	E – modulus (20 °C)	
g/cm³	°C	%IACS	W/m K	µm m ⁻¹ K ⁻¹	°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:							

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Tolerances for Hot rolled Products of CW008A

Dimensions: EN 1652:1997*

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

Nominal thickness <i>t</i> (mm)	Tolerance on thickness for nominal widths <i>w</i> (mm)						1500 < <i>w</i>
	<i>w</i> ≤ 700		700 < <i>w</i> ≤ 1000		1000 < <i>w</i> ≤ 1500		
	1)	2)	1)	2)	1)	2)	
<i>t</i> ≤ 2,5	By agreement						By agreement
2,5 < <i>t</i> ≤ 5,0	± 0,25	± 0,30	± 0,30	± 0,35	± 0,35	± 0,45	
5,0 < <i>t</i> ≤ 7,5	± 0,35	± 0,45	± 0,40	± 0,50	± 0,45	± 0,55	
7,5 < <i>t</i> ≤ 10	± 0,45	± 0,60	± 0,50	± 0,65	± 0,55	± 0,75	
10 < <i>t</i> ≤ 15	± 0,75	± 0,95	± 0,80	± 1,00	± 0,90	± 1,10	
15 < <i>t</i> ≤ 25	± 0,95	± 1,20	± 1,05	± 1,30	± 1,30	± 1,60	
25 < <i>t</i> ≤ 50	± 1,30	± 1,60	± 1,40	± 1,75	± 1,50	± 1,90	
50 < <i>t</i>	± 1,50	± 1,90	± 1,65	± 2,05	± 1,80	± 2,20	

1) For all materials except for CuAl8Fe3 (CW303G), CuNi10FeIMN (CW352H), CuNi30MnIFe (CW354H) and CuZn20Al2As (CW702R).

2) For alloys CuAl8Fe3 (CW303G), CuNi10FeIMN (CW352H), CuNi30MnIFe (CW354H) and CuZn20Al2As (CW702R).

* Values are referred from Table 4 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)		
	$w \leq 350$	$350 < w \leq 1250$	$1250 < w$
$t \leq 2,0$	+2,0 0	+6,0 0	By agreement
$2,0 < t \leq 5,0$	+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)	$t \leq 15$	± 50
Fixed length (FL)	$t \leq 5,0$	+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)		
	$1000 < l \leq 2000$	$2000 < l \leq 3000$	$3000 < l$
$350 < w \leq 700$	6	7	8
$700 < w \leq 1250$	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 diameter d (mm)	Maximum allowable differences between diagonals, for lengths l (mm)		
	$1000 < l \leq 2000$	$2000 < l \leq 3000$	$3000 < l$
$d \leq 500$	± 1	$\pm 1,5$	± 2
$500 < d \leq 1000$	± 2	$\pm 2,5$	± 3
$1000 < d \leq 2000$	± 3	$\pm 3,5$	± 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