

Datasheet: EN Cu-HCP / CW021A 99,95% Pure Copper Hot rolled Alumeco ApS 13-01-2025		Internal alloy name: CW021A Metal: Copper Chemical Symbol: Cu-HCP EN: EN Cu-HCP UNS: C10300 SIS: - GB: TU0.003 / C10300 JIS: - Also known as: - Alloy type: Electrical conducting																																	
Main usage: - Electrical conductors - Industrial applications – e.g. boilers, pressure tanks, piping etc. - Components for impact extrusion Main properties: - High thermal and electrical conductivity - Good atmospheric corrosion resistance - Good welding and soldering properties as well as resistance to hydrogen		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 <table><tr><td>Cu</td><td>Bi</td><td>P</td><td>Pb</td><td colspan="2">Other elements</td></tr><tr><td></td><td></td><td></td><td></td><td>Each</td><td>Together</td></tr><tr><td>Min. 99,95</td><td>Max. 0,0005</td><td>0,002 – 0,007</td><td>Max. 0,005</td><td>-</td><td>0,03</td></tr></table>				Cu	Bi	P	Pb	Other elements						Each	Together	Min. 99,95	Max. 0,0005	0,002 – 0,007	Max. 0,005	-	0,03														
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Properties and information's (3 Excellent; 2 Good; 1 Poor/not recommendable)¹ <table><tr><td> Machinability (Zerspanbarkeitsindex): 20* *(CuZn39Pb3 = 100) Forming Methods: Hot Formability: 2 Cold Formability: 3 Corrosion resistance: Atmosphere: 2 Waters and alkaline: 2 Acids, Ammonia, Seawater etc.: 1 </td><td> Joining Methods: Soldering: 3 Brazing: 3 Laser welding 1-2 Gas-shielded arc welding: 1 TIG welding: 2-3 MIG welding: 2-3 Spot/seam welding 1 Butt welding 2 Gluing/adhesion: 2 </td><td> Surface Treatment: Polishing: Mechanical: 3 Electrolytic: 3 Galvanizing: 3 Hot Dipping: 3 </td></tr></table> ¹Information extracted from Kundenverband:				Machinability (Zerspanbarkeitsindex): 20* *(CuZn39Pb3 = 100) Forming Methods: Hot Formability: 2 Cold Formability: 3 Corrosion resistance: Atmosphere: 2 Waters and alkaline: 2 Acids, Ammonia, Seawater etc.: 1	Joining Methods: Soldering: 3 Brazing: 3 Laser welding 1-2 Gas-shielded arc welding: 1 TIG welding: 2-3 MIG welding: 2-3 Spot/seam welding 1 Butt welding 2 Gluing/adhesion: 2	Surface Treatment: Polishing: Mechanical: 3 Electrolytic: 3 Galvanizing: 3 Hot Dipping: 3																													
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Tolerances for Hot rolled Products of CW021A

Dimensions: EN 1652:1997*

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

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

1) For all materials except for CuAl8Fe3 (CW303G), CuNi10Fe1Mn (CW352H), CuNi30Mn1Fe (CW354H) and CuZn20Al2As (CW702R).

2) For alloys CuAl8Fe3 (CW303G), CuNi10Fe1Mn (CW352H), CuNi30Mn1Fe (CW354H) and CuZn20Al2As (CW702R).

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* 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