

Datasheet: EN CuZn35Pb1,5AlAs / CW625N Brass with Lead Rod for free machining purposes Alumeco ApS 06-05-2025				Internal alloy name: CW625N Metal: Brass Chemical Symbol: CuZn35Pb1,5AlAs EN: EN CuZn35Pb1,5AlAs UNS: - SIS: - GB: - JIS: - Also known as: - Alloy type: Brass with lead																																																																																														
Main usage: Faucets, fittings and pipes for industrial or homes Machined parts, screws, gears, nuts and bolts Components for water boiler, condenser and heat exchanger Main properties: Good machinability Increased corrosion and oxidation resistance compared to CW602N Contact with drinking water Resistance to dezincification				Important norms and literature: General Standards EN 12164:2024: Copper and copper alloys – Rod for free machining purposes Geometric Tolerance EN 12164:2024: Copper and copper alloys – Rod for free machining purposes EN 12165:2024: Copper and copper alloys – Wrought and unwrought forging stock																																																																																														
Chemical composition in %: EN 12164:2024 <table><tr><td>Cu</td><td>Al</td><td>As</td><td>Fe</td><td>Mn</td><td>Ni</td><td>Pb</td><td>Sn</td><td>Zn</td><td>Others</td></tr><tr><td>62,0 – 64,0</td><td>0,5 – 0,7</td><td>0,02 – 0,15</td><td>Max. 0,1</td><td>Max. 0,1</td><td>Max. 0,2</td><td>1,2 – 1,6</td><td>Max. 0,3</td><td>Remaining</td><td>Max. 0,2</td></tr></table>										Cu	Al	As	Fe	Mn	Ni	Pb	Sn	Zn	Others	62,0 – 64,0	0,5 – 0,7	0,02 – 0,15	Max. 0,1	Max. 0,1	Max. 0,2	1,2 – 1,6	Max. 0,3	Remaining	Max. 0,2																																																																					
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Properties and information's (3 Excellent; 2 Good; 1 Poor/not recommendable) <table><tr><td> Machinability (Zerspanbarkeitsindex): 70* *(CuZn39Pb3 = 100) Forming Methods: Hot Formability: 2 Cold Formability: 2 Corrosion resistance: Atmosphere: 2 Waters and alkaline: 1-2 Acids, Ammonia, Seawater etc.: 1 </td><td> Joining Methods: Soldering: 3 Brazing: 2 Oxy-acetylene welding: 1 Gas-shielded arc welding: 1 TIG welding: 1 MIG welding: 1 Gluing/adhesion: 1-2 </td><td> Surface Treatment: Polishing: Mechanical: 2 Electrolytic/chemical: 1 Galvanizing: 2-3 Hot Dipping: 2-3 </td></tr></table>										Machinability (Zerspanbarkeitsindex): 70* *(CuZn39Pb3 = 100) Forming Methods: Hot Formability: 2 Cold Formability: 2 Corrosion resistance: Atmosphere: 2 Waters and alkaline: 1-2 Acids, Ammonia, Seawater etc.: 1	Joining Methods: Soldering: 3 Brazing: 2 Oxy-acetylene welding: 1 Gas-shielded arc welding: 1 TIG welding: 1 MIG welding: 1 Gluing/adhesion: 1-2	Surface Treatment: Polishing: Mechanical: 2 Electrolytic/chemical: 1 Galvanizing: 2-3 Hot Dipping: 2-3																																																																																						
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Tolerances for Rods of CW625N

Dimensions: EN 12164:2024* Tolerances on diameter of round rod		Dimensions in millimetres
Nominal diameter	Tolerances Class B	
$2 \leq D \leq 3$	0 - 0,025	
$3 < D \leq 6$	0 - 0,030	
$6 < D \leq 10$	0 - 0,036	
$10 < D \leq 18$	0 - 0,043	
$18 < D \leq 30$	0 - 0,052	
$30 < D \leq 50$	-	
$50 < D \leq 80$	-	

* Values are referred from Table 16 of EN 12164:2024

Dimensions: EN 12164:2024* Tolerances on width across-flats of regular polygonal rod		Dimensions in millimetres
Nominal width across-flats	Tolerances	
$2 \leq W \leq 3$	0 - 0,06	
$3 < W \leq 6$	0 - 0,08	
$6 < W \leq 10$	0 - 0,09	
$10 < W \leq 18$	0 - 0,11	
$18 < W \leq 30$	0 - 0,13	
$30 < W \leq 50$	0 - 0,16	
$50 < W \leq 60$	0 - 0,19	

* Values are referred from Table 17 of EN 12164:2024

Dimensions: EN 12164:2024* Tolerances on straightness of rod			Dimensions in millimetres
Nominal diameter	Maximum deviation from straightness (See Figure 1 in EN 12164:2024)		
	h_2 depth of arch in any length l_2 of 400 mm	h_1 depth of arch in any length l_1 of 1000 mm	
$10 \leq D \leq 50$	0,4	1,0	

* Values are referred from Table 18 of EN 12164:2024

Dimensions: EN 12164:2024* Corner radii for square and polygonal rod			Dimensions in millimetres
Nominal diameter or width across-flats	Preferred lengths	Tolerance on length	
$2 \leq w \leq 30$	3000 or 4000	± 50	
$30 < w \leq 50$	3000 or 4000	± 100	
$50 < w \leq 80$	3000	± 100	

* Values are referred from Table 19 of EN 12164:2024

Dimensions: EN 12164:2024* Corner radii for square, hexagonal and octagonal rod			Dimensions in millimetres
Nominal width across-flats	Radii for sharp and rounded corners		
	Sharp max.	Rounded range	
$2 \leq w \leq 3$	0,2	0,2 – 0,3	
$3 < w \leq 6$	0,3	0,3 – 0,5	
$6 < w \leq 10$	0,4	0,4 – 0,8	
$10 < w \leq 18$	0,5	0,5 – 1,2	
$18 < w \leq 30$	0,6	0,6 – 1,8	
$30 < w \leq 50$	0,7	0,7 – 2,8	
$50 < w \leq 80$	0,8	0,8 – 4,0	

* Values are referred from Table 20 of EN 12164:2024

Dimensions: EN 12164:2024*	
Maximum twist of square, hexagonal and octagonal rod	
Dimensions in millimetres	
Nominal width across-flats W	Maximum permitted twist V in any 1 m length of rod (mm)
$10 \leq W \leq 18$	1,0
$18 < W \leq 30$	2,0
$30 < W \leq 60$	3,0

* Values are referred from Table 21 of EN 12164:2024

Dimensions: EN 12164:2024*	
Sampling rate	
Nominal diameter or width across-flats w (mm)	Mass of inspection lot for one test sample kg
$D/W \leq 25$	≤ 1000
$25 < D/W$	≤ 2000

* Values are referred from Table 22 of EN 12164:2024

Dimensions: EN 12165:2024*	
Tolerances on diameter of round forging stock	
Dimensions in millimetres	
Nominal diameter	Tolerances Class A
$80 < D \leq 120$	± 2
$120 < D \leq 160$	$\pm 2,5$

* Values are referred from Table 10 of EN 12165:2024

Dimensions: EN 12165:2024*		
Tolerances on straightness of round forging stock		
Dimensions in millimetres		
Nominal diameter	Maximum deviation from straightness (See Figure 1 in EN 12164:2024)	
	h_2 depth of arch in any length l_2 of 400 mm	h_1 depth of arch in any length l_1 of 1000 mm
Straightness tolerances for rods over 60 mm diameter shall be agreed between the involved parties		