ALMAG

DATA SHEET:
CZA25 CW625N

FREE MACHINING

HUG

CZA25 CW625N

Standard anti dezincification alloy.

Alloy optimized for mechanical machining with chip removal, it has reduced lead release values. It therefore finds applications in taps and components in contact with water intended for human consumption as a substitute for alloy CW602N. Approved by 4MS, it is included in the "Positive list" of metallic materials that can be used in contact with drinking water.

NAME OF ALLOY

UNI EN: CW625N - CuZn35Pb1.5AlAs

CHEMICAL COMPOSITION UNI EN 12164:2024

Cu	Pb	Sn	Fe	Ni	Mn	Al	As	Zn	Other elements
min. 62.0 max. 64.0 %	1.2 1.6 %	≤0.3 %	≤0.3 %	≤0.2 %	≤0.1 %	0.5 0.7 %	0.02 0.15 %	difference	≤0.2 %

Elements not listed must be ≤0.02 %.
Group of restriction of the surface in contact with drinking water: B,D.

HEAT TREATMENTS

STRESS RELIEVING

Enables the redistribution of tensions induced by mechanical processing of cold plastic deformation, reducing the risk of stress corrosion cracking.
The treatment consists of heating the items to 200°C - 250°C for 2 hours and cooling within the furnace. The validation of the stress relieving treatment can be performed with the ISO 6957 test.

SOLUBILIZATION OF RESIDUAL β PHASE

For the drawn products this treatment is performed by Almag Spa to eliminate the remaining beta phase left over from the extrusion. This treatment optimizes dezincification resistance for the alloy.

MECHANICAL PROPERTIES UNI EN 12164:2024

Condition of material	Diameter in mm		Hardness HBW*		Rm	$Rp_{0.2}$ N/mm²		Elongation %
	from	to (included)	min.	max.	min.	min.	max.	min.
M	All		As a product					
R280	6 (5)	80 (60)	-	-	280	-	200	30
H070	6 (5)	80 (60)	70	110	-	-	-	-
R320	6 (5)	60 (50)	-	-	320	200	-	20
H090	6 (5)	60 (50)	90	135	-	-	-	-
R400	4	15 (13)	-	-	400	250	-	8
H105	4	15 (13)	105	-	-	-	-	-

*the hardness value is determined in the mid-range
The values in brackets refer to the hexagonal section bar.
The standard condition produced by Almag is R320 for Rm or H090 for hardness.
The conditions shown are not included in any European standard. The conditions outlined correspond to standard Almag Spa.

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Standard anti-dezincification alloy.

TECHNOLOGICAL PROPERTIES

Structure	α	**Machinability**	low ▮▮▮▯▯▯▯ excellent
Density	8.4 kg/cm^2	**Weldability**	▮▮▯▯▯▯▯
Electrical conductivity	19% IACS	**Hot forming**	▮▮▮▯▯▯▯
Coeff. of thermal expansion	21.3 10^{-6}/K	**Cold forming**	▮▮▮▮▯▯▯
Thermal conductivity*	93 W/(m K)	**Corrosion resistance****	<200 µm
Specific heat	380 J/(kg K)		
Elasticity module	100 kN/mm^2		
Melting point	875-900 °C		

*at room temperature
**use care to ascertain compatibility with chemical substances

DIMENSIONS, TOLERANCES, AND STRAIGHTNESS UNI EN 12164:2024

ROUND section bar					HEXAGONAL and SQUARE		
Nominal Diameter (mm)		TOLERANCES			Nominal key (mm)		Tolerance mm
from	to included	Class A	Class B	Class C	from	to included	
6	10	0 - 0.06	0 - 0.036	0 - 0.025	6	10	0 - 0.09
10	18	0 - 0.07	0 - 0.043		10	18	0 - 0.11
18	30	0 - 0.08	0 - 0.052		18	23	0 - 0.13
30	40	0 - 0.16					

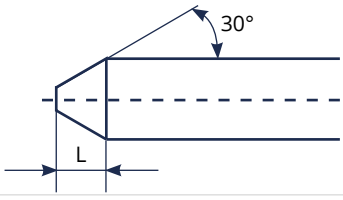
The standard tolerance for the round bar is Class A. Any different tolerances must be agreed upon when ordering
Almag Spa produces round bars up to Ø40 mm and hexagonal bars up to key 23 mm.

Diameter (mm)		Length of bar (mm)	Tolerance (mm)
2	30	3000 o 4000	+/- 50
30	50	3000 o 4000	+/- 100

Diameter or Key (mm)		Deviation from straightness in mm	
		Every 400 mm	Every m of length L ≥ 1
Round section bar			
10	40	0.4	1.0 x L
Hexagonal and square section bar			
10	23	0.6	1.5 x L

BAR FINISHING AND PACKAGING

Diameter or Key (mm)		Chamfer Length L mm		Tip Length L mm	
5	10	0.2	1.5	2	7
10	20	0.2	2	3	10
20	30	0.2	3	4	12



Unless otherwise specified by the buyer, the shape of the ends of products larger than 30 mm is up to the supplier

Ends of round bars	finishing with chamfer and tip up to and including Ø40 mm
	finishing with chamfer and cut greater than Ø40 mm
Ends of hexagonal bars	finishing with chamfer and cut
Bar surface	pickled
Packaging	1000 kg bundle – 3/5 metal straps different bundle packagings and quantities are possible upon request
Identification	adhesive label on bundle strap
Stress relieving	the polygonal bar was subjected to stress relieving treatment

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