



.....

**DATA SHEET:**  
**CZA25 CW625N**

.....

**FREE MACHINING**



## 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 ED.2016

| Cu                       | Pb           | Sn     | Fe     | Ni     | Mn     | Al           | As             | Zn         | Other elements |
|--------------------------|--------------|--------|--------|--------|--------|--------------|----------------|------------|----------------|
| min. 62.0<br>max. 64.0 % | 1.2<br>1.6 % | ≤0.3 % | ≤0.3 % | ≤0.2 % | ≤0.1 % | 0.5<br>0.7 % | 0.02<br>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 ED.2016

| Condition of material | Diameter in mm |               | Hardness HB* |      | Rm   | Rp <sub>0.2</sub> N/mm <sup>2</sup> |      | 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 R400 for Rm or H105 for hardness.

The conditions shown are not included in any European standard. The conditions outlined correspond to standard Almag Spa.

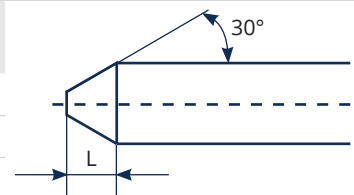
| TECHNOLOGICAL PROPERTIES    |                          | low  | excellent |
|-----------------------------|--------------------------|--|-----------|
| Structure                   | α                        |  |           |
| Density                     | 8.4 kg/cm <sup>2</sup>   |  |           |
| Electrical conductivity     | 19% IACS                 |  |           |
| Coeff. of thermal expansion | 21.3 10 <sup>-6</sup> /K |  |           |
| Thermal conductivity*       | 93 W/(m K)               | Corrosion resistance** <200 μm   |           |
| Specific heat               | 380 J/(kg K)             |  |           |
| Elasticity module           | 100 kN/mm <sup>2</sup>   | *at room temperature<br>**use care to ascertain compatibility with chemical substances |           |
| Melting point               | 875-900 °C               |  |           |

| DIMENSIONS, TOLERANCES, AND STRAIGHTNESS UNI EN 12164 ED.2016 |             |            |                      |           |                  |             |              |
|---|-------------|------------|----------------------|-----------|------------------|-------------|--------------|
| 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) | Diameter or Key (mm) | Deviation from straightness in mm |                         |
|---|--------------------|----------------|----------------------|-----------------------------------|-------------------------|
|   |                    |                |                      | Every 400 mm                      | Every m of length L ≥ 1 |
| 2                                       | 30                 | 3000 o 4000    | +/- 50               |                                   |                         |
| 30                                      | 50                 | 3000 o 4000    | +/- 100              |                                   |                         |
| <b>Round section bar</b>                |                    |                |                      |                                   |                         |
| 10                                      | 40                 |                | 0.4                  | 1.0 x L                           |                         |
| <b>Hexagonal and square section bar</b> |                    |                |                      |                                   |                         |
| 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

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

COMPANY WITH  
MANAGEMENT SYSTEM  
CERTIFIED BY DNV GL  
= ISO 9001 =  
= ISO 14001 =  
= OHSAS 18001 =



[www.almag.it](http://www.almag.it)

**ALMAG S.p.A.** AZIENDA LAVORAZIONI METALLURGICHE E AFFINI GNUTTI  
*Single-member S.p.A.* *A subsidiary of HUG S.p.A.*

25030 Roncadelle (BS) - Via Vittorio Emanuele II n. 39 - Fully paid share capital € 2.000.000  
Tel. +39 030 2789511 - Fax +39 030 2789680 (admin.) - Fax +39 030 2789690 (sales)  
F.C./VAT and Brescia Chamber of Comm. Reg. No. 03368970988 - R.E.A. No. 528368 - Cert. email [almagspa@legalmail.it](mailto:almagspa@legalmail.it)

