ALMAG

DATA SHEET:
CZ727R CW727R

HOT FORGING

HUG

CZ727R CW727R

Antidezincifying alloy suitable for contact with drinking water.

New lead-free alloy specially developed to be used in contact with drinking water. The antidezincifying effect of tin and phosphorus allows the elimination of arsenic ensuring the alloy greater mechanical characteristics.

NAME OF ALLOY

UNI EN: CW727R - CuZn35Sn1P

CHEMICAL COMPOSITION (waiting for standardization)

Cu	Pb	Sn	Fe	Ni	Al	Si	P	Zn		Others
min 63.5 max 65.0%	≤0.10 %	0.5 % 1.0 %	≤0.10 %	≤0.10 %	≤0.05 %	≤0.10 %	0.05 % 0.15 %	Diff.		≤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 or 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

After hot forging, to obtain the corrosion resistance required of the material, the heat treatment between 500°C and 550°C is mandatory for a permanence time at the temperature of at least 2 hours and cooling outside the oven.
This treatment allows the solubilization of the residual beta phase, making the material single-phase alpha.
The omission of this treatment does not allow the alloy to resist corrosion due to dezincification.

TECHNOLOGICAL PROPERTIES

low ▯▯▯▯▯▯▯ excellent

Structure	α	**Machinability**	■■■□□□□
Density	8.5 kg/cm^2	**Weldability**	■■■■■■□
Electrical conductivity	27% IACS	**Hot forming**	■■■■■□□
Coeff. of thermal expansion	20.5 10^{-6}/K	**Cold forming**	■■■■■■□
Thermal conductivity*	117 W/(m K)	**Corrosion resistance****	<100 µm
Specific heat	377 J/(kg K)		
Elasticity module	103 kN/mm^2		
Melting point	880-910 °C		

*at room temperature
**value detectable only after heat treatment

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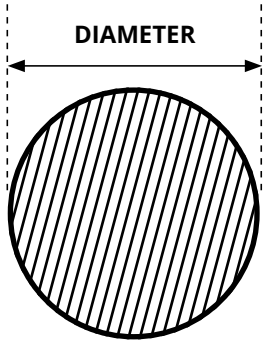

MECHANICAL PROPERTIES (waiting for standardization)

Condition of material	Diameter in mm		Hardness HBW	
	from	to (included)	min.	max
M	All		As a product	

Any special hardness values must be defined when ordering

Rm N/mm²	$Rp_{0.2}$ N/mm²	A%
320-450*	200-350*	20-40*

* The values shown are not regulated and are only indicative

DIMENSIONS, TOLERANCES, AND STRAIGHTNESS (waiting for standardization)

Nominal diameter (mm)		TOLERANCES		Diameter mm		Length of bar	Tolerance mm
		Class A	Class B				
10	18	+/- 0.25	+/- 0.14	10	30	3.0 - 5.0	+/- 100
18	30	+/- 0.30	+/- 0.17	30	50	3.0 - 5.0	+/- 200
30	50	+/- 0.60	+/- 0.20	50	80	3.0	+/- 300
50	80	+/- 0.70	+/- 0.37				
80	120	+/- 2					

The standard “Extruded calibrated” product is produced in Class B up to and including Ø80 mm
Semi-finished products over Ø45 mm can be supplied in the “pressed” and “rolled” forms with Class A tolerance

Diameter (mm)		Deviation from straightness in mm	
		Every 400 mm	Every m of length L ≥ 1
10	60	1.5	3.0 x L

BAR FINISHING AND PACKAGING

Bar ends	finishing with saw cut and chamfer
Bar surface	not pickled
Packaging	1000 kg bundle – 3/5 metal straps different bundle packagings and quantities are possible upon request
Identification	adhesive label on bundle strap

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