ALMAG

DATA SHEET:
OT60/40 CW509L

HOT FORGING

HUG

OT60/40 CW509L

High-copper and lead-free alloy for hot forging.

Alloy with reduced impurities and lead-free (<0.05%). Named "Muntz Metal" which is characterized by excellent performances of hot and cold deformability. Low machinability due to chip removal. It complies with the provisions of the 4MS group for the prerogatives of US standards for materials in contact with drinking water.

NAME OF ALLOY

UNI EN: CW509L - CuZn40	**ASTM:** C28000	**DIN:** 2.0360	**BS:** CZ109	**GOST:** L60

CHEMICAL COMPOSITION UNI EN 12165 ED.2016

Cu	Pb	Sn	Fe	Ni*	Al	Zn	Other elements
min. 59.0 max. 61.5 %	≤0.05 %	≤0.2 %	≤0.2 %	≤0.2 %	≤0.05 %	difference	≤0.2 %

*Limitation according 4MS. 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.

OTHER TREATMENTS

No other heat treatments are required.

TECHNOLOGICAL PROPERTIES

low — excellent

Structure	α+β	**Machinability**	
Density	8.4 kg/cm^2	**Weldability**	
Electrical conductivity	28% IACS	**Hot forming**	
Coeff. of thermal expansion	20.8 10^{-6}/K	**Cold forming**	
Thermal conductivity*	122 W/(m K)	**Corrosion resistance****	Not resistant
Specific heat	375 J/(kg K)		
Elasticity module	105 kN/mm^2		
Melting point	880-910 °C		

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

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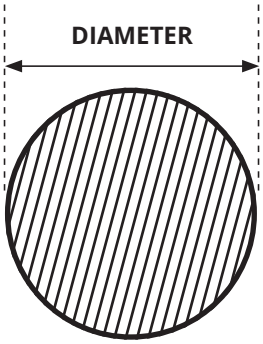

MECHANICAL PROPERTIES UNI EN 12165 ED.2016

Condition of material	Diameter in mm		Hardness HB	
	from	to (included)	min.	max.
M	All		As a product	
H070	8	120	70	100

Any special hardness values must be defined when ordering

Rm N/mm²	$Rp_{0.2}$ N/mm²	A%
430-480*	310-380*	20-30*

*The values shown are not regulated and are purely indicative.

DIMENSIONS, TOLERANCES, AND STRAIGHTNESS UNI EN 12165 ED.2016

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	50	0.4	1.0 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

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

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