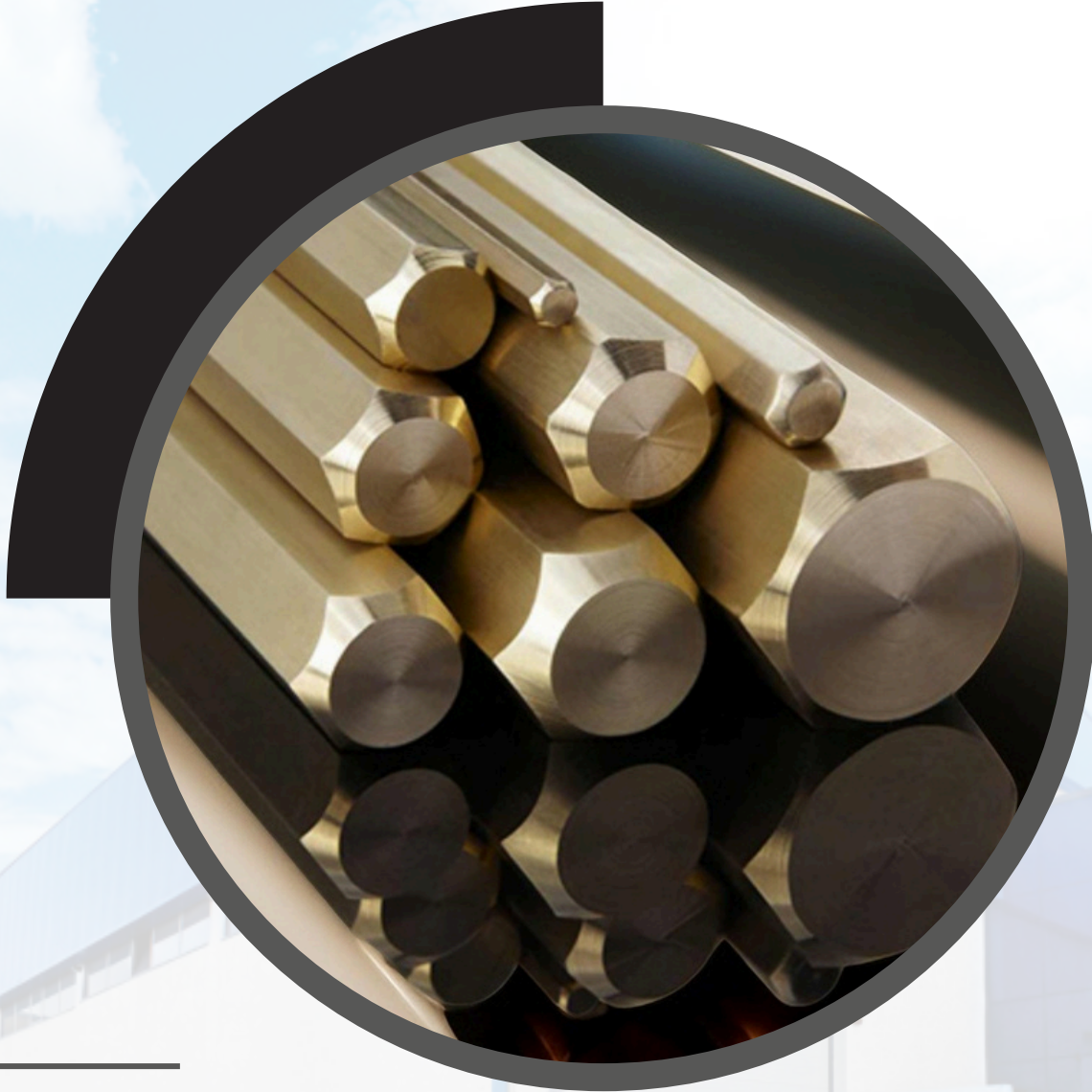


DATA SHEET

CW509L - CuZn40



■ **Quality is ...**

+90 444 1 445

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CW509L - CuZn40

Suitable alloy for manufacturing with high copper and low lead content.

NAME OF ALLOY			
UNI EN: CW509L - CuZn40	DIN: 2.0360	ASTM: C27540	BS: CZ109

CHEMICAL COMPOSITION UNI EN 12164 ED.2016									
(%)	Cu	Pb	Fe	Sn	Al	Ni	As	Zn	Other
min.	59,00	-	-	-	-	-	-	Diff.	-
max.	61,50	0,2	0,20	0,20	0,05	0,30	-		0,2

DIMENSIONS, TOLERANCES, AND STRAIGHTNESS UNI EN 12164 ED.2016												
STANDARD		EN 12164			EN 12165		EN 12168					
Measure Range		Round Bar		Hexagonal, Square	Round Bar		Round and Hexagonal Hollow Bar, External Dimension Tol.			Hole Tolerance Round Bar		Hole Tol. Hexagonal
from	included	A Class	B Class	Bar	A Class	B Class	A Class	B Class	C Class	A Class	B Class	
6	10	0 -0,06	0 -0,036	0 -0,09	+0,25	+0,14	-	-	-	-	-	-
10	13	0 -0,07	0 -0,43	0 -0,11	+0,25	+0,14	-	-	-	-	-	-
13	18	0 -0,07	0 -0,43	0 -0,11	+0,25	+0,14	-	-	-	+0,35	-	+0,70 -0
18	30	0 -0,08	0 -0,52	0 -0,13	+0,30	+0,17	-	0 -0,21	0 -0,13	+0,42	+0,17	+0,84 -0
30	50	0 -0,16	-	0 -0,16	+0,60	+0,20	+0,31	0 -0,25	0 -0,16	+0,80	+0,20	+1,6 -0
50	80	0 -0,19	-	0 -0,19	+0,70	+0,37	+0,60	0 -0,46	0 -0,30	+0,95	-	-
80	120	-	-	-	+2	-	-	-	-	-	-	-
120	140	-	-	-	+2,5	-	-	-	-	-	-	-

Nominal Diameter or Nominal width between parallel surfaces (mm)		Rod Length (mm)	Length Tolerances (mm)
...from	...to included		
2	30	3000 veya 4000	50
30	50	3000 veya 4000	100
50	80	3000	100

LINEARITY

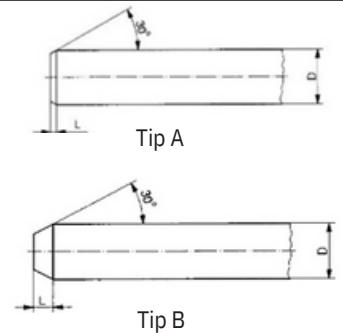
Nominal Diameter or Nominal width between parallel surfaces (mm)	Maximum Deviation from Linearity (TS EN 12164:2016)			
	Each 400 mm	Each 1 meter (inclusive) and above rod	Each 400 mm	Each 1 meter (inclusive) and above rod
	Round Bar		Polygonal Section Bar	
10mm - 50mm (included)	0,4	1,0 X M	0,6	1,5 X M

Nominal Diameter or Nominal width between parallel surfaces (mm)	Maximum Deviation from Linearity (TS EN 12165:2016)	
	Each 400 mm	Each 1 meter (inclusive) and above rod
	Round Bar	
10mm - 60mm (included)	1,5	3,0 X M

Nominal Diameter or Nominal width between parallel surfaces (mm)	Maximum Deviation from Linearity (TS EN 12168:2002)			
	Each 400 mm	Each 1 meter (inclusive) and above rod	Each 400 mm	Each 1 meter (inclusive) and above rod
	Round Bar		Polygonal Section Bar	
12mm - 50mm (included)	0,7	1,5 X M	1,0	2,0 X M

BAR FINISHING AND PACKAGING

Nominal Diameter or Nominal between parallel surfaces width (mm)		Type A (Chamfered) Length L		Type B (Pointed) Length L	
..from	..included	min	max	min	max
5	10	0,2	1,5	2	7
10	20	0,2	2	3	10
20	30	0,2	3	4	12



TECHNOLOGICAL PROPERTIES

Density (g/cm ³)	8,39	Ther. Exp. Coefficient (10-6/K)	20,8
Melting point (°C)	880	Hot Process	İyi
Specific heat (J/g°C)	375	Cold Process	İyi
Electrical Conductivity %IACS	28	Processability	50%
Thermal Conductivity*	122	Stress Relief	200°C - 250°C
Modulus of Elasticity (Gpa)	105	Annealing	450°C - 550°C



CW509L - CuZn40

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MECHANICAL PROPERTIES / AUTOMAT RODS TS EN 12164:2016

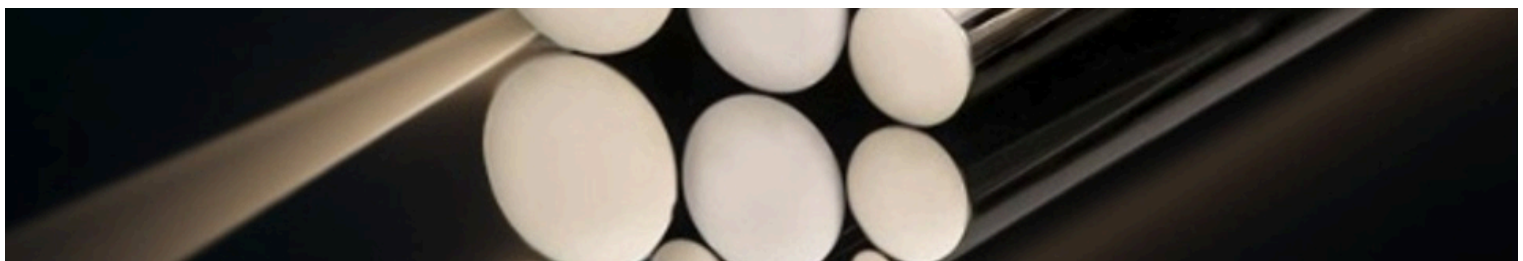
Condition of material	Diameter(mm)		Width between parallel surfaces (mm)		Hardness HB*		Tensile strength Rm N/ mm ² min	0,2 % permanent stress Rp _{0,2} N/mm ²		Lengthening %	
	..from	..to included						min.	max.	A11,3 %	A %
			min.	max.	min.	max.					
					min.	max.					
M	All		All		As a product						
R360	6	80	5	60	-	-	360	-	320	15	20
H090	6	80	5	60	90	125	-	-	-	-	-
R430	2	40	2	35	-	-	430	220	-	8	10
H110	2	40	2	35	110	160	-	-	-	-	-
R500	2	14	2	10	-	-	500	350	-	3	5
H135	2	14	2	10	135	-	-	-	-	-	-

MECHANICAL PROPERTIES / HOT FORGED BARS TS EN 12165:2016

Demonstrations		Condition of material	Diameter(mm)		Hardness HB*	
Condition			..from	..to included	min.	max.
Symbol	No					
CuZn40	CW509L	M	All		As a product	
		H070	8	120	70	110

MECHANICAL PROPERTIES / HOLLOW RODS TS EN 12168:2016

Condition of material	Wall Thickness (mm)		Width between parallel surfaces (mm)		Hardness HB*		Tensile strength Rm N/mm ² min	0,2 % per. stress Rp N/mm ² _{0,2}		Lengthening %	
	..from	..to included						min.	max.	min.	max.
			min.	max.							
			min.	max.							
M											
R360	6	80	5	60	-	-	360	-	320	15	20
H090	6	80	5	60	90	125	-	-	-	-	-
R430	2	40	2	35	-	-	430	220	-	8	10
H110	2	40	2	35	110	160	-	-	-	-	-
R500	2	14	2	10	-	-	500	350	-	3	5
H135	2	14	2	10	135	-	-	-	-	-	-





GÜZEL METAL SANAYİ VE TİCARET LİMİTED ŞİRKETİ

OSMANGAZİ MAH. 3142. SK. NO: 8 İÇ KAPI NO: 1 ESENYURT/İSTANBUL

Tel: +90 44 1 445 - Fax: +90 212 501 96 96

Mail: info@guzelmetal.com

Web: www.guzelmetal.com