



## Cu Zn 38 Pb 2

## LEADED BRASS

### CHEMICAL COMPOSITION :

Cu	60-61 %
Pb	1.60-2.50 %
Zn	balance
Fe	0.20%

### ALLOY DENOMINATIONS :

MATERIAL N° EN :	CW608 N
WN/MATERIAL N° DIN :	2.0371
ROBERT LAMINAGE :	390
EN :	CU ZN38 Pb2
DIN :	CU ZN38 Pb1.5
AFNOR :	CU ZN39 Pb2
UNS* :	C 35000

\*Unified Numbering System (USA)

### PHYSICAL PROPERTIES :

Density 20° C	8.44	Kg/dm <sup>3</sup>
Melting point	885-910	°C
Modulus of elasticity, longitudinal	102	GPa
Thermal Conductivity	109	W/M . K
Electrical Conductivity	13.9	M/Ω mm <sup>2</sup>
Electrical resistivity	0.07	Ω mm <sup>2</sup> /M
Coefficient of linear expansion from 20 up to 300°C	20.4 x 10 <sup>-6</sup>	K <sup>-1</sup>
IACS (International Annealed Copper Standard)	24	%

### WORKABILITY :

Coldworking	Medium
Hotworking	Very good (700-760 °C)
Machining	Very good
Soldering, brazing	Medium
Tin soldering	Very good
Polishing	Good
Annealing temperature	450-650 °C
Stress relieving heat treatment temperature	200-300 °C

### MAIN APPLICATIONS :

Stamped components for heavy machining,  
Machining of cogs, watch parts, base plate,  
turning, drilling, milling

### CONDITIONING :

- In coils
- Cut to length, from 0.5 up to 3 m

### AVAILABLE SIZES :

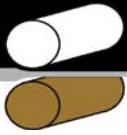
Widths	from 2 up to 350mm
Thickness	from 0.01up to 3.40mm

### TOLERANCES :

Depending on product

### QUALITY OF EDGES :

Slit edges



**MECHANICAL PROPERTIES :**

**Cu Zn 38 Pb 2**

**EN NORM 1652**

TEMPER	THICKNESS		Rm (MPa)		Rp 0.2 (Mpa)	ELONGATION		Vickers HARDNESS		GRAIN SIZE
			min	max		0.10 up to 2.5 mm A50 % min	dés 2.5 mm A100 % min	min	max	
R340 H075	0.3	10	340	420	(max 240)	33	43	-	-	-
			-	-	-	-	-	-	75	110
R400 H110	0.3	10	400	480	(min 200)	14	23	-	-	-
			-	-	-	-	-	-	110	140
R470 H140	0.3	5	470	550	(min 390)	5	12	-	-	-
			-	-	-	-	-	-	140	170
R540 H165	0.3	2	540	-	(min 490)	-	-	-	-	-
			-	-	-	-	-	-	165	-

(For reference only)

**DIN NORM 17670**

TEMPER	THICKNESS	Rm (MPa)		Rp 0.2 (Mpa)	ELONGATION		Vickers HARDNESS	
		min	max		0.10 up to 2.5 mm A50 % min	above 2.5 mm A100 % min	min	max
F34	> 0.3	min	340	max 240	43	38	-	-
H75	< 15	-	-	-	-	-	75	110
F41	≥ 0.3	min	410	min 240	23	20	-	-
H110	≤ 15	-	-	-	-	-	110	140
F47	≥ 0.3	min	470	min 390	12	9	-	-
H140	< 5	-	-	-	-	-	140	165
F54	≥ 0.3	min	540	min 490	-	-	-	-
H165	≤ 2	-	-	-	-	-	165	-

**AFNOR NORM NF A 51-101**

TEMPER	Vickers HARDNESS		Rm (MPa)	
	min	max	min	max
H12	135	160	400	500
H13	145	170	450	550
H14	150	180	500	600
H15	170	195	550	650

CERTIFIÉ ISO 9001: 2008