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 20º C	8.44	Kg/dm^3
Melting point	885-910	ºC
Modulus of elasticity, longitudinal	102	GPa
Thermal Conductivity	109	W/M . K
Electrical Conductivity	13.9	$M/\Omega\ mm^2$
Electrical resistivity	0.07	$\Omega\ mm^2/M$
Coefficient of linear expansion from 20 up to 300ºC	20.4×10^{-6}	K^{-1}
IACS (International Annealed Copper Standard)	24	%

WORKABILITY :

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

MAIN APPLICATIONS :

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

CONDITIONING :

a) In coils
b) 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

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MECHANICAL PROPERTIES : **Cu Zn 38 Pb 2**

EN NORM 1652

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

(For reference only)

DIN NORM 17670

TEMPER	THICKNESS	Rm (MPa) min	Rm (MPa) max	Rp 0.2 (Mpa)	ELONGATION 0.10 up to 2.5 mm A50 % min	ELONGATION above 2.5 mm A100 % min	Vickers HARDNESS min	Vickers HARDNESS 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 min	Vickers HARDNESS max	Rm (MPa) min	Rm (MPa) max
H12	135	160	400	500
H13	145	170	450	550
H14	150	180	500	600
H15	170	195	550	650

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