# **CW509L**

## **LEAD FREE BRASS**

#### DESCRIPTION

CW509L is a lead free material which is however quite suitable for machining due to its structural constitution. CW509L can be therefore used as a cost-effective replacement for conventional lead-containing machining brass provided that it must not meet high requirements as regards mechanical properties and corrosion resistance.

### **CHEMICAL COMPOSITION**

All	Element	S		Min (%	<b>)</b> (2)				Max (%)		
49	Cu	THE SHET	Althous	59.00	, t	2	No. IN.	HAMS	61.50	5	
1 M	Pb	C. BAHAD	40	THE	NS MEI	ANNO ANNO		Ba	0.20	S	E WE
-HALF MA	Fe	6	ETA	MS ME	BAJHAN	1.		1 PM	0.20	MEL	CAJHAN
5 Bray	Sn <sub>رج</sub>	METAL	HANSPAC	entre -	<u>c.</u>	11 M	5	. and ME	0.20		
and the second s	Ni	HAND	6823	5	METAL	HANSON	48	2 her	0.30	<u>_</u>	NET MIS
. WS ME	A	62.	ALS.	SWEID-	JHAND	62.2		5	0.05		HANSPE
C.B.JHPP	Total Othe	ers (N <sup>S</sup>	NS ME	anthen -	52.	and	.,c	WEIPE	0.20	\$	bo.
6	Zn	all ph	H.F.	<	THIS	Remaind	er		62.		15

### **MECHANICAL PROPERTIES (AS PER TEMPER R410)**

Range (mm)	From	То	UTS Min (Mpa)	PS Min (Mpa)	Elongation Min %	Hardness Min (HRB)	Hardness Max(HRB)
Round (Dia)	2	40	410	230	10		METTIN - JHAND
Hex (A/F)	3	35	410	230	10	-SME - AllAN	- 62
Square (A/F)	3	35	410	230	10 M	192 60	-

### **RAJHANS METALS PRIVATE LIMITED**

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### **PHYSICAL PROPERTIES**

	Melting Point - Liquidus°F	1660
	Melting Point - Solidus°F	1650
	Density lb/cu in. at 68°F	0.303
ŝ	Specific Gravity	8.39
	Electrical Conductivity % IACS at 68°F	28
'B'	Thermal Conductivity Btu/ sq ft/ ft hr/ °F at 68°F	71
	Coefficient of Thermal Expansion 68-57210 <sup>-6</sup> per °F (68 – 572°F)	11.6
	Specific Heat Capacity Btu/ lb /°F at 68°F	0.09
	Modulus of Elasticity in Tension ksi	15000
	Modulus of Rigidity ksi	5600
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## **FABRICATION PROPERTIES**

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Good
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Not Recommended
Spot Weld	Good
Seam Weld	Not Recommended
Butt Weld	Good
Capacity for Being Cold Worked	Fair
Capacity for Being Hot Formed	Excellent
Forgeability Rating	90
Machinability Rating	40

### TYPICAL USES

- > Architecture
- > Builders Hardware
- > Fasteners
- > Industrial

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