CW510L

LEAD FREE BRASS

DESCRIPTION

CW510L is a lead free material which is however quite suitable for machining due to its structural constitution. CW510 can be 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

Elements	Min (%)	Max (%)
Cu	57.00	59.00
Pb	-	0.20
Fe	-	0.30
Sn	-	0.30
Ni	-	0.30
Al	-	0.05
Total Others	-	0.20
Zn	Remainder	

MECHANICAL PROPERTIES (AS PER TEMPER 430)

Range (mm)	From	To	UTS Min (Mpa)	PS Min (Mpa)	Elongation Min %	Hardness Min (HRB)	Hardness Max(HRB)
Round (Dia)	2	40	430	220	10	-	-
Hex (A/F)	3	35	430	220	10	-	-
Square (A/F)	3	35	430	220	10	-	-

RAJHANS METALS PRIVATE LIMITED

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PHYSICAL PROPERTIES

Electrical conductivity %IACS	31
Thermal conductivity W/(m·K)	139
Thermal expansion coefficient (0–300 °C)	10-^{6} /K 21.70
Density	8.41 g/cm3
Modulus of elasticity	107 Gpa

FABRICATION PROPERTIES

Joining Technique	Suitability
Machinability (CuZn39Pb3=100 %)	60%
Capacity for being cold worked	poor
Capacity for being hot worked	Excellent
Resistance welding (butt weld)	Fair
inert gas shielded arc welding	Fair
Gas welding	Fair
Hard soldering	Excellent
Soft soldering	Excellent
Melting range	870-900 °C
650-750 °C	650-750 °C
450-550 °C	450-550 °C
Thermal stress relieving (1-3 h)	250-350 °C

TYPICAL USES

- Bending
- Forging
- Riveting

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