

Tin Brass(C4250)

Cu-Sn-Zn ALLOY

1、Characteristic：

- Mechanical strength is higher than C2600 brass and close to phosphor bronze C5191
- Conductivity is twice as high as phosphor bronze C5191
- Good heat resistance
- Applied to automotive terminal materials

2、Chemical Composition (%)

Material	Chemical Composition (%)					
	Cu	Pb	Fe	Sn	Zn	P
C4250	87~90	≤0.05	≤0.05	1.5~3.0	Rem.	≤0.35

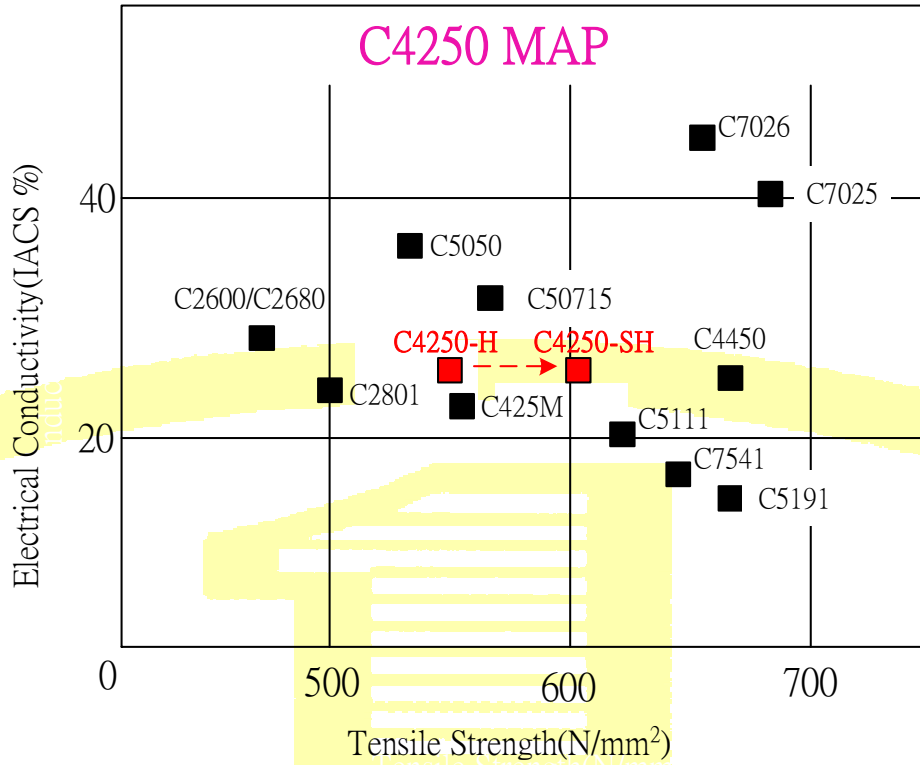
3、Physical Properties：

Alloy	C4250
Melting Point (°C)	1030
Solidifying Point (°C)	1010
Density (g/cm ³)	8.8
Coefficient of Thermal Expansion×10 ⁻⁶ /°C	18.5
Thermal Conductivity (cal/cm ² /cm/sec/°C)	0.285
Electrical Conductivity (IACS%)	26
Modulus of Elasticity (KN/mm ²)	112

4、Mechanical Properties：

Alloy	Temper	Mechanical Properties		
		Tensile Strength Kgf/mm ² (N/mm ²)	Elongation %	Vicker's Hardness Hv Load 0.5Kg
C4250	O	295~380	≥35	50~100
	1/4H	340~405	≥25	80~130
	1/2H	390~470	≥15	110~160
	3/4H	430~510	≥10	120~170
	H	480~565	≥5	140~180
	EH	525~605	—	150~190
	SH	580~650	—	165~205
	ESH	≥635	—	≥180

5、Characteristic location :



6、Bend properties :

(1) 90°-Bending test method : ($t \leq 0.3$ mm)

Test method : JIS Z 2248

Temper	Thickness mm	Direction	R/t (Bending radius mm / thickness mm)											R/t (min)	
			0	0.25	0.5	0.75	1.0	1.25	1.5	2.0	2.5	3.0	4.0		
H	≤ 0.3	Good way	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	0
		Bad way	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	0
EH	≤ 0.3	Good way	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	0
		Bad way	△	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	0

Determination : ▲ : Crack (Failed) 、 △ : Big wrinkles (Qualified) 、 ○ : Small wrinkles (Qualified) 、 ◎ : good (Qualified)

(2) 180°-Bending test method : ($t \leq 0.3$ mm)

Test method : JIS Z 2248

Temper	Thickness mm	Direction	R/t (Bending radius mm / thickness mm)													R/t (min)
			0	0.5	1.0	1.25	1.5	2.0	2.5	3.0	4.0	4.5	5.0	7.0	7.5	
H	≤ 0.3	Good way	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	0
		Bad way	▲	▲	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1.0
EH	≤ 0.3	Good way	▲	▲	▲	▲	○	◎	◎	◎	◎	◎	◎	◎	0	
		Bad way	▲	▲	▲	▲	△	○	◎	◎	◎	◎	◎	◎	1.5	

Determination : ▲ : Crack (Failed) 、 △ : Big wrinkles (Qualified) 、 ○ : Small wrinkles (Qualified) 、 ◎ : good (Qualified)