

C1441/C14415

Cu-Sn ALLOY

1、Characteristic：

- Having high electrical conductivity, heat conductivity, good workability and corrosion resistance
- Easy plating Having fine gloss, fatigue resistance and corrosion

2、Application：

- Used in transistors and POWER ICs and lead frames
- Water tank, freezer fins
- Connectors for automobiles and electrical appliances
- Electrical switch, relay

3、Physical Properties：

Alloy	C1441	C14415
Melting Point (°C)	1080	1080
Solidifying Point (°C)	1065	1065
Density (g/cm ³)	8.90	8.92
Coefficient of Thermal Expansion×10 ⁻⁶ /°C	17.7	17.7
Thermal Conductivity (cal/cm ² /cm/sec/°C)	0.81	0.84
Electrical Conductivity (IACS%)	80	90

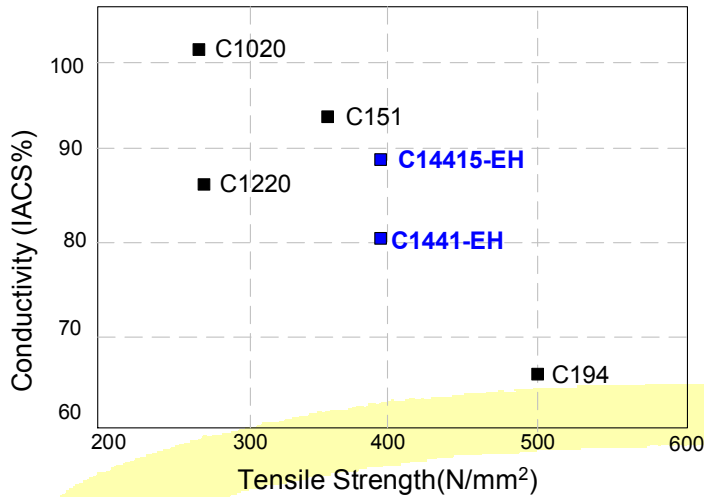
4、Chemical Composition (%)

Material	Chemical Composition (%)		
	Cu	Sn	P
C1441	Rem.	0.10~0.20	0.0030~0.024
C14415	Rem.	0.10~0.15	≤0.0010

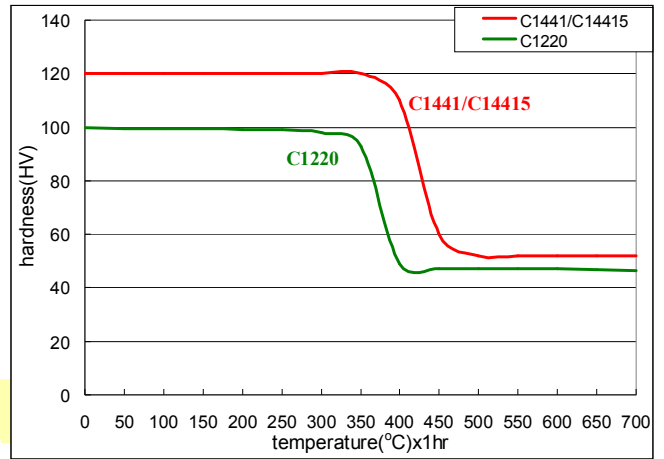
5、Mechanical Properties：

Alloy	Temper	Mechanical Properties		
		Tensile Strength Kgf/mm ² (N/mm ²)	Elongation %	Vicker's Hardness Hv Load 0.5Kg
C1441	O	195~245	≥ 35	≤ 70
	1/4H	215~295	≥ 25	65~100
	1/2H	255~335	≥ 15	80~110
	H	315~395	≥ 5	95~125
	EH	≥ 370	≥ 2	≥ 110
C14415	O	195~245	≥ 35	≤ 70
	1/4H	215~295	≥ 25	65~100
	1/2H	255~335	≥ 15	80~110
	H	315~395	≥ 5	100~125
	EH	385~460	≥ 2	120~145
	SH	450~510	—	130~150
	ESH	≥ 490	—	≥ 140

6、Characteristic location :



7、Heat resistance :



8、Bend properties :

(1)C1441x0.60xEH :

sample : thickness : 0.60 mm 、 width 30 mm 、 length 60 mm (90°-WBending test method)

Test method : JIS Z 2248

Alloy	Temper	Direction	R/t (Bending radiusmm / thickness mm)				R/t(min)
			0	0.5	1.0	1.5	
C1441	EH	Good way	△	◎	◎	◎	0
		Bad way	△	△	◎	◎	0

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

(2)C14415x0.15xEH :

sample : thickness : 0.15 mm 、 width 30 mm 、 length 60 mm (90°-WBending test method)

Test method : JIS Z 2248

Alloy	Temper	Direction	R/t (Bending radiusmm / thickness mm)				R/t(min)
			0	0.5	1.0	1.5	
C14415	EH	Good way	△	◎	◎	◎	0
		Bad way	△	△	◎	◎	0

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