

CORSON(C7025)

Cu-Ni-Si ALLOY

1、Characteristic：

- Cu-Ni-Si Special Alloy
- High strength、middle electrical conductivity
- Good bending characteristics and heat resistance
- Good stress corrosion resistance
- Mainly applicable to electrical contacts、automobile terminals、lead frame、IC terminals

2、Chemical Composition：

Alloy	Chemical Composition %			
	Cu	Ni	Si	Mg
C7025	Bal.	2.2~4.2	0.25~1.2	0.05~0.3

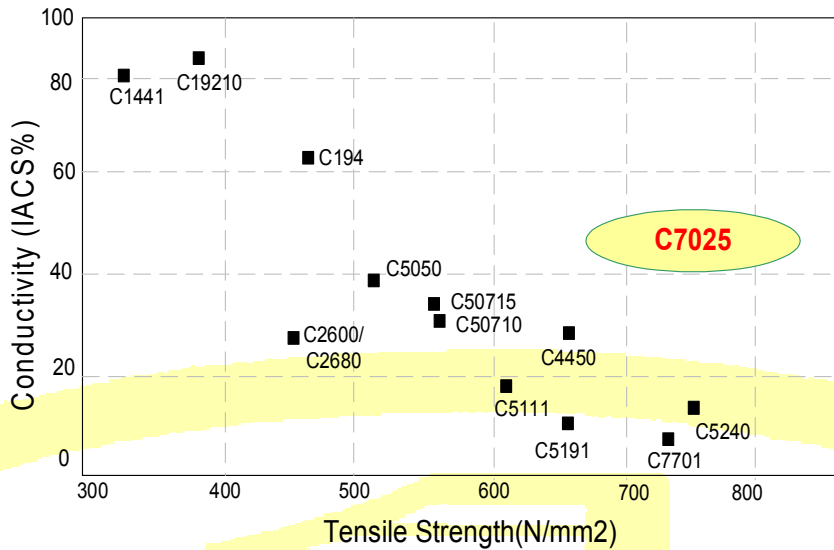
3、Physical Properties：

Characteristic	C7025
Melting point °C (Liquid)	1095
Melting point °C (Solid)	1075
Density (gm/cm ³) (20°C)	8.82
Coefficient of Thermal Expansion (10 ⁻⁶ /°C 20°C~100°C)	17.3
Thermal Conductivity (cal/cm ² /cm/sec/°C 20°C)	0.40 (167 W/mk)
Electrical Conductivity (Annealing) (IACS%)	40
Modulus of Elasticity (kgf/mm ²)	13500

4、Mechanical Properties：

Alloy	Temper	Mechanical Porperties			
		TS (N/mm ²)	Ys (N/mm ²)	EL (%)	Hv(500g)
C7025	O	620~755	≥ 500	≥ 10	180~210
	1/2 H	655~825	585~760	≥ 7	200~230
	3/4H	685~860	655~830	≥ 5	220~250
	H	795~900	≥ 700	≥ 1	240~270

5、Characteristic location :



6、Bending Properties :

(1)90° bending test : ($t \leq 0.3$)

Test method : JIS Z 2248

Temper	Thickness mm	Direction	R/t						R/t (min)	
			0	0.5	1.0	1.5	2.0	2.5		3.0
O	≤ 0.3	Good way	▲	○	◎	◎	◎	◎	◎	0.5
		Bad way	▲	△	◎	◎	◎	◎	◎	0.5
1/2H	≤ 0.3	Good way	▲	▲	○	◎	◎	◎	◎	1.0
		Bad way	▲	▲	△	○	◎	◎	◎	1.0
3/4H	≤ 0.3	Good way	▲	▲	▲	○	◎	◎	◎	1.5
		Bad way	▲	▲	▲	△	○	◎	◎	1.5

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

(2)180° bending test : ($t \leq 0.3$)

Test method : JIS Z 2248

Temper	Thickness mm	Direction	R/t						R/t (min)	
			0	0.5	1.0	1.5	2.0	2.5		3.0
O	≤ 0.3	Good way	▲	▲	△	◎	◎	◎	◎	1.0
		Bad way	▲	▲	△	○	◎	◎	◎	1.0
1/2H	≤ 0.3	Good way	▲	▲	▲	▲	◎	◎	◎	2.0
		Bad way	▲	▲	▲	▲	△	○	◎	2.0
3/4H	≤ 0.3	Good way	▲	▲	▲	▲	▲	▲	○	3.0
		Bad way	▲	▲	▲	▲	▲	▲	△	3.0

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