

Mounting Support for EnerCera[®] Pouch battery



NGK INSULATORS, LTD.

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Rev.3

Mounting Support - EnerCera[®] Pouch battery

The following methods are recommended for mounting.
 Contact NGK for support ⇒ ✉ enercera-sales@ngk.co.jp

■ Method1 : Solder for aluminum tab

	Solder alloy (No lead)	Flux	Method	Temp.	Result
Ref.	General	No	General	370°C* ¹	NG
①	For Al use A* ²	No	General	380°C	OK
②	For Al use B* ³	Yes* ⁴	General	380°C	OK
③	For Al use B* ³	No	Ultrasonic soldering * ⁵	—	OK

Note : General solder cannot be used for mounting.

*1) Quoted from Marutsuelec Co., Ltd. HP

*2) Ishikawa Metal Co., Ltd. EHA series is used for Al solder

*3) Nihon Superior Co., Ltd. ALUSAC-35 is used for Al solder

*4) Nihon Superior Co., Ltd. No.1261 is used for flux

*5) The cavitation effects surface cleaning as flux usage

■ Method2-1 : Isotropic conductive film (ICF) bonding

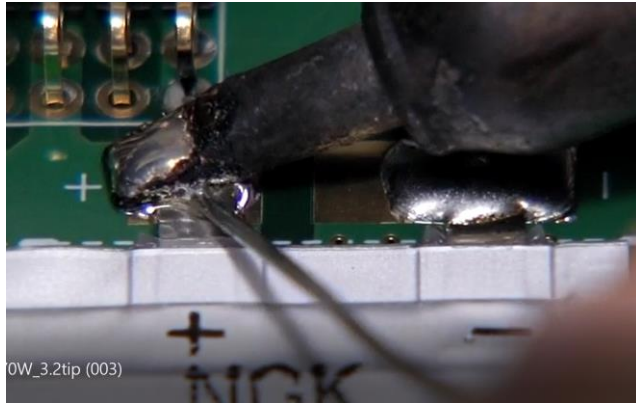
Company name		Showa Denko Materials Co., Ltd.
ICF Type		IC-01A
Thickness		25μm
Bonding	Temperature	144°C
	Pressure	2.5MPa
	Time	10sec

■ Method2-2 : Anisotropic conductive film (ACF) bonding

Company name		Dexerials Corporation	
ACF Type		CS-96V	CS-98S
Thickness		35μm	14μm
Bonding	Temperature	140°C	150°C
	Pressure	5MPa	
	Time	10sec	

Method 1 : Solder for aluminum tab

Confirmed good mounting condition with the use of aluminum soldering of Ishikawa Metal Co., Ltd.



【Condition】

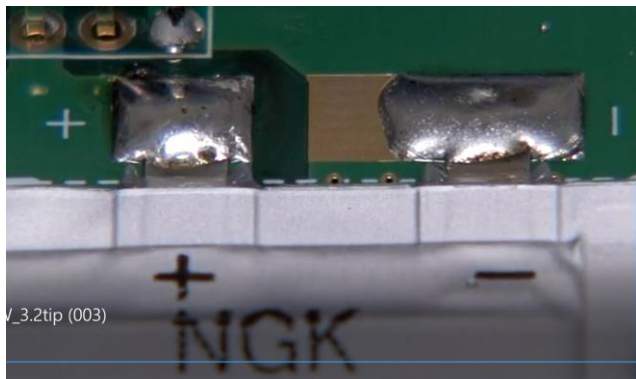
Solder type : K4-EHA-3

**Soldering iron : JAPAN UNIX Co., Ltd.
Iron type : UNICON-107 70W**

**Edge of soldering iron : 3.2mm flat
U500330D**

Temperature of soldering iron : 380°C

The negative electrode Ni tab can also be soldered under the same conditions.



Source : Ishikawa Metal Co., Ltd. (<http://www.ishikawa-metal.com/english/>)

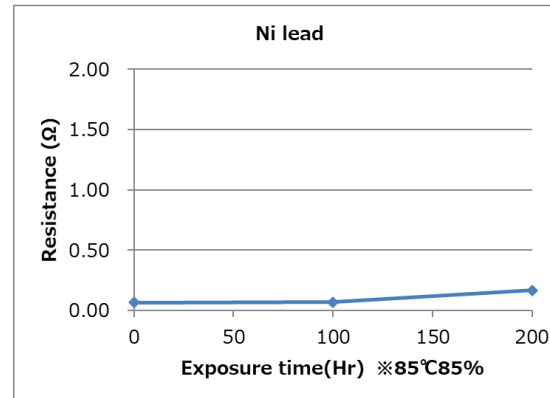
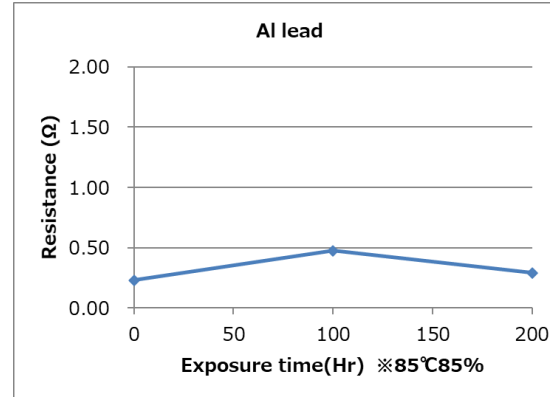
Method2-1 : Reference for ICF Bonding (Showa Denko Materials Co., Ltd)

Test condition

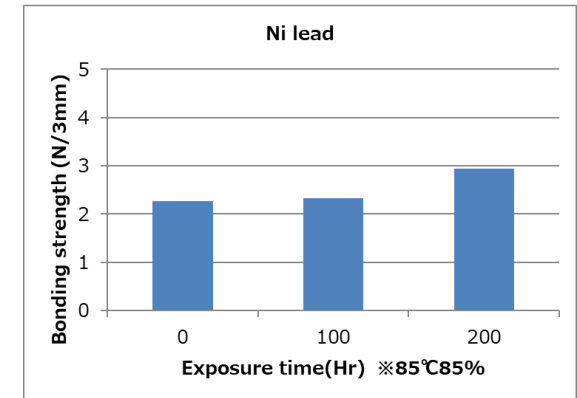
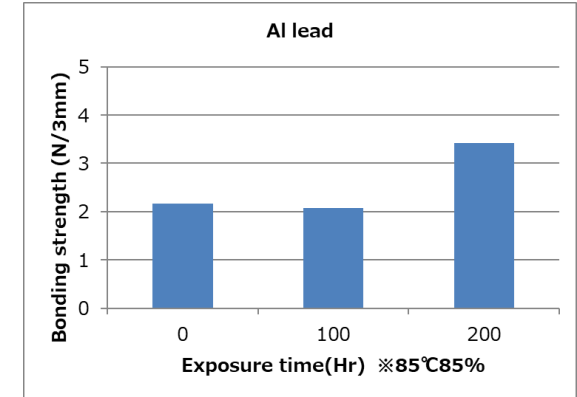
ICF Type		IC-01A
Thickness (um)		25
Bonding※	Temperature (°C)	144
	Pressure (MPa)	2.5
	Time (sec)	10

※ It is not set value of equipment.

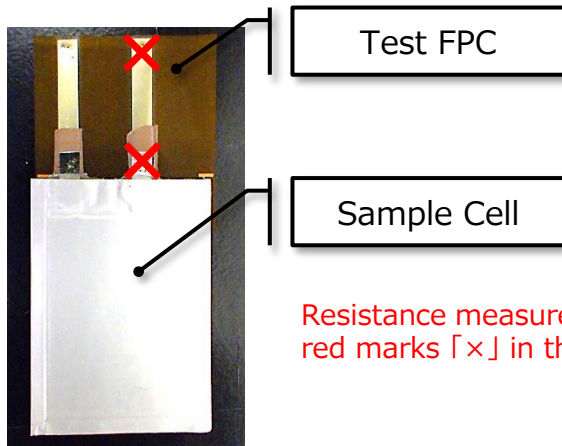
Resistance



Bonding strength



Appearance



Resistance measurement between red marks 「x」 in the picture.

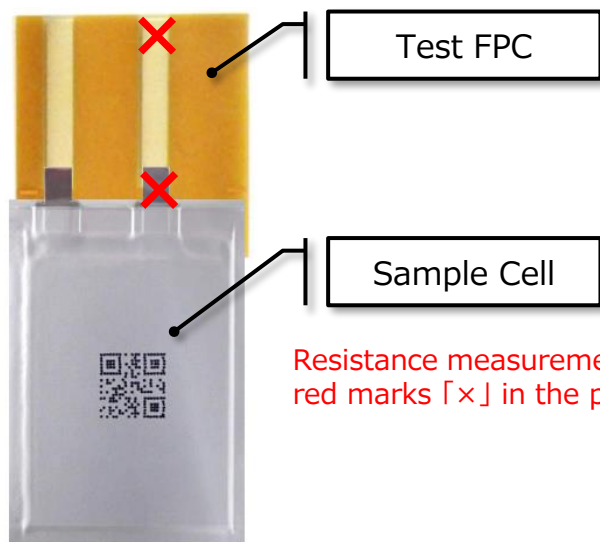
Method2-2 : Reference for ACF Bonding (Dexerials Corporation)

Test condition

ACF Type		CS-96V	CS-98S
Thickness (um)		35	14
Bonding ※	Temperature (°C)	140	150
	Pressure (MPa)	5	
	Time (sec)	10	

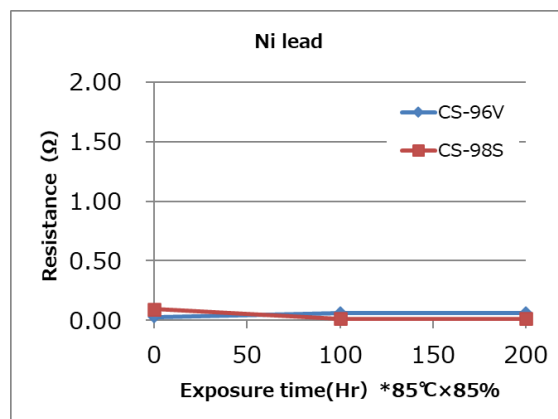
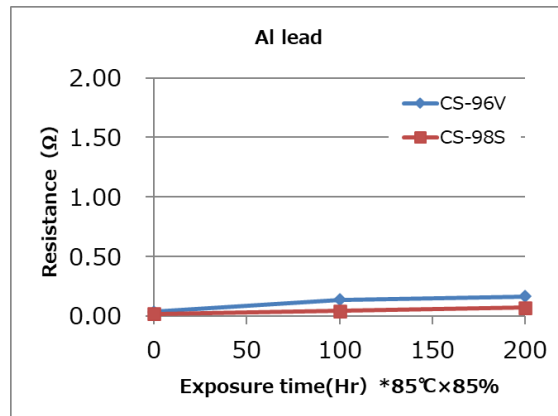
※ It is not set value of equipment.

Appearance



Resistance measurement between red marks 「×」 in the picture.

Resistance



Bonding strength

