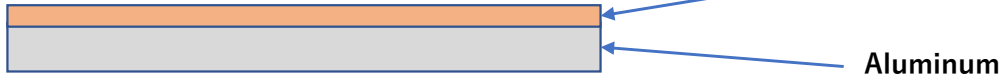


## Introduction to Aluminum-Copper Composite Materials

### (1) Product Structure

A composite material produced by bonding copper to aluminum using hot-melt casting and rolling technology.

2 layered composite material



3 layered composite material



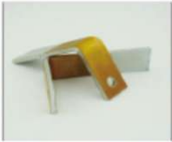
### (2) Dimension and Specification

Product Type	Thickness (mm)	Width (mm)	Length (mm)	Elongation(%)	Conductivity (AC)
Sheet Products	1~15	20~600	~2000	10~40	> 98%
Coil Products	0.055~8	20~600	-	10~40	> 98%

★Standard composition: Copper 10% / Aluminum 80% / Copper 10%

### (3) Applications

- ① Transformers / Reactors / Inverters 2-layer: Copper/Aluminum, 3-layer: Copper/Aluminum/Copper  
 High electrical conductivity, excellent mechanical strength, light weight, for power output applications.



### ② Lithium Battery Materials

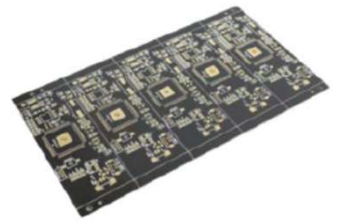
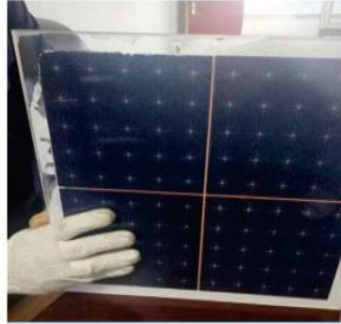
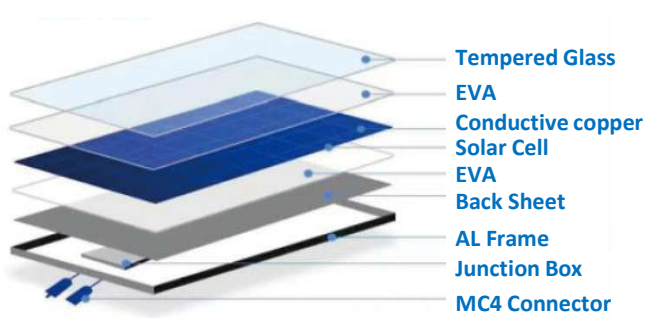
Copper-aluminum composite terminal materials connect the battery negative electrode with copper tabs, and connect the positive electrode with the aluminum casing to form both poles of the battery cell. When both electrode tabs are aluminum, standard laser welding can be used for connection.

#### Automotive Lithium Batteries

Battery pack joining can be completed using laser welding.



### ③ Copper-Aluminum Composite Foil



### ④ Heat Dissipation Substrates

Combines the thermal conductivity of copper with lightweight aluminum to contribute to compact and lightweight heat dissipation system designs.

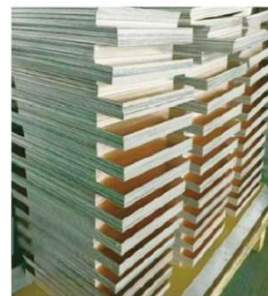
Used as heat dissipation modules in industrial electrical equipment, LEDs, PCs, and new energy vehicles.



### ⑤ 4G/5G base station

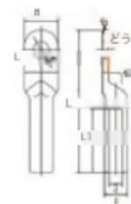
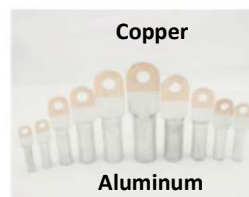
Able to replace aluminum and copper-plated materials.

Used in domestic and overseas 3G, 4G, and 5G network base stations.



### ⑥ Electrical Hardware

Widely used in electrical hardware applications such as terminals and wire clips.



#### (4) Properties of Aluminum-Copper Composite Materials

##### ① Electrical Conductivity (Heating Test)

Comparison data for 100% Cu, 100% Al, and composite material (Cu20% / Al80%)

Sample dimensions: Thickness 3.0 mm × Width 20 mm × Length 100 mm

AC Current (A)	Peak Temperature (° C)		
	Cu100%	Al100%	Cu-Al
240	7.5	10.5	8.3
420	41.0	54.0	45.0
480	49.0	65.0	55.5

★The Cu20% composite material has heat generation characteristics close to 100% copper

##### ② Thermal Conductivity

		Thermal Conductivity (W/m·K)			
Cu Ratio	Al Ratio	Cu	Al	Cu-Al	ALN
0.2	0.8	398	236	280~300	285

★No actual measured values for the composite material; estimated values