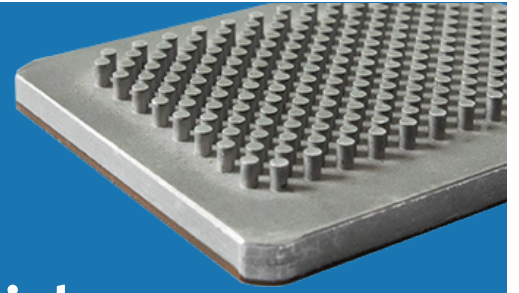


Heat sinks

Aluminum-Copper Clad



Al-Cu as Thermal Interface Materials or Heat sink material

If materials that fulfill more than one property are required for efficient thermal management, clad materials are used. A heat sink has the task of dissipating heat loss through thermal conduction and convection to the environment in order to prevent possible damage from overheating.

Heat sinks usually consist of a metal with good thermal conductivity, usually aluminum or copper. Among other things, they are used in power electronics (e.g. for electro cars, processors, LED-operated lights, etc.). The advantage of a heat sink made out of aluminum-copper clad is that the thermal conductivity of copper and the heat capacity of aluminum are combined in one composite. There are no electrical or thermal contact resistances. A composite with aluminum-copper is therefore more effective for heat sinks than pure aluminum or copper. Furthermore, no galvanic finishing of the pin fins is required with an aluminium-copper heat sink. Compared to a heat sink made of aluminum, the lifecycle of a chip can be doubled, as the temperature of the component is reduced by 10 Kelvin.

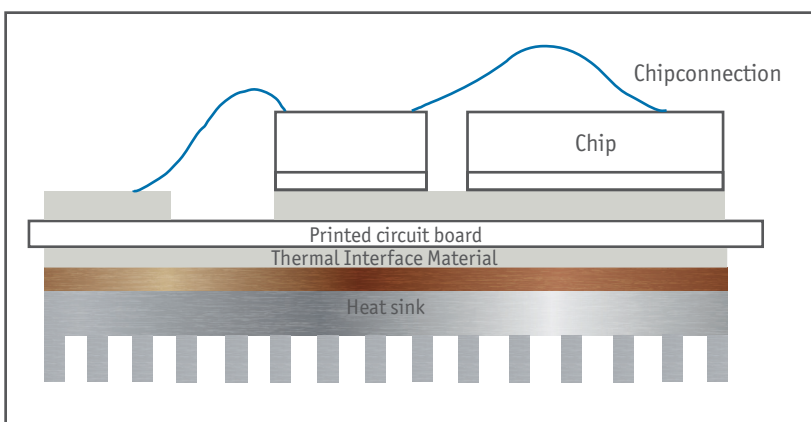
Aluminum-Copper claddings of 7.0 mm as standard can be produced at Wickeder Westfalenstahl.
Other dimensions on request.

Cladding combination for your heat sinks



Copper
Aluminum

Schematic representation



Advantages

- › High thermal conductivity
- › High electrical conductivity
- › Excellent soldering properties
- › Sinterability
- › Surface coating properties
- › No contact resistance between copper and aluminum
- › Highly malleable, easy to fabricate
- › Impact extrusion possible
- › Weight and cost advantage compared to pure copper

Your contact:

Christian Mücke
+49 2377 917-413
christian.muecke@wickeder.de