



**MATERION**



Smaller, Cooler, More Reliable  
Lithium-Ion Battery Connections

**COPPER-TO-ALUMINUM  
DOVETAIL CLAD<sup>®</sup> METALS**

# COPPER-TO-ALUMINUM DOVETAIL CLAD<sup>®</sup> METALS

Materion has state-of-the-art metal cladding technology that meets the challenges of lithium-ion battery cell and pack design.

Dovetail Clad<sup>®</sup> metal is produced using our patented cladding technology to join copper and aluminum side-by-side in long continuous master coils. The coils can easily be stamped and formed to create bus bars and lead tabs for lithium-ion battery packs for hybrid electrical vehicles (HEVs), plug in hybrid electric vehicles (PHEVs) and electric vehicles (EVs). Bus bars and lead tabs made of Dovetail Clad metal are superior in mechanical, electrical and thermal performance over ultrasonic, bolted or mixed metal welded connections.

## BENEFITS OF COPPER-TO-ALUMINUM DOVETAIL CLAD METAL

The advantages of using Dovetail Clad metal over other bus bar and lead tab materials include:

- The lowest electrical resistance available which results in significantly cooler pack temperatures.
- The highest life-testing reliability in mechanical and fatigue strength.
- Low height for more compact module design.
- Narrow copper-aluminum joint for optimal design flexibility.
- Easier welding of like material on bus bars.
- Simplified bussing.

## DESIGN OPTIONS

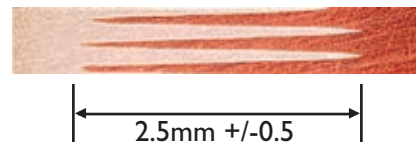
**Aluminum:** 1050, 1100, 1145

**Copper:** C10200 w/Ni or Sn plate

**Thickness:** 0.1 mm to 2.5 mm

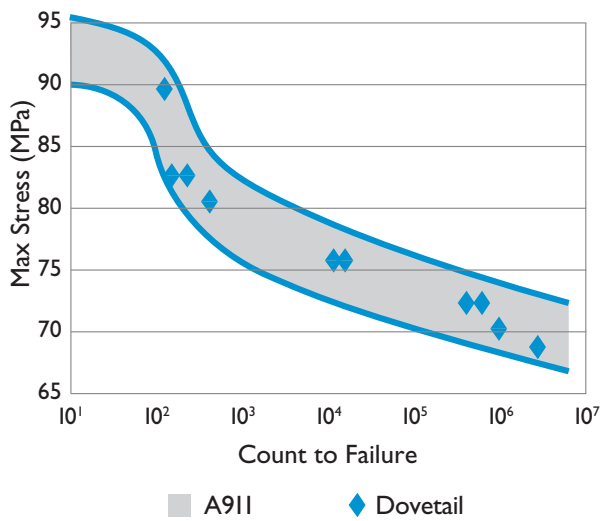
**Width:** Up to 165 mm

## DOVETAIL JOINT

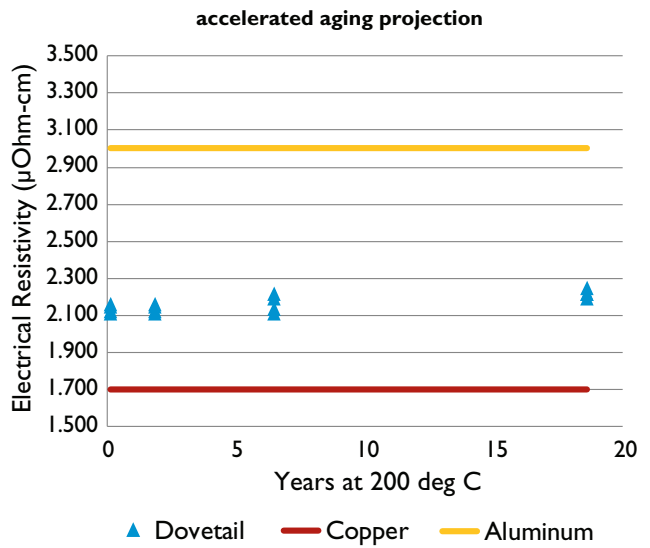




### DOVETAIL S-N FATIGUE CURVE



### DOVETAIL JOINT RESISTIVITY VS. TIME



For more about Dovetail Clad metal

visit [www.Materion.com/Dovetail](http://www.Materion.com/Dovetail) or call +1 800.375.4205



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