# 🙏 MITSUBISHI MATERIALS

Copper & Copper Alloy Business

## **Products Information**

#### Features

- □ Available for high temperature condition (Plating before stamping)
- □ Superior electrical connection reliability, because Tin (Sn) layer remains for a long time under high temperature condition
- Lower cost than precious metal plating

# Application examples

Terminals with high voltage in electric vehicle, Terminals and Bus bars required heat resistance under high temperature conditions, such as Engine compartment

### Heat resistance



Structure of plating □ Nickel layer suppresses the excessive growth of Cu-Sn intermetallic compound (IMC)

□ Two level of heat resistance depending on different thickness of Sn layer

and improves heat resistance



Cross section of plating

10 × Conventional Sn reflow plating Contact resistance (mΩ) Heat-resistant 3-layer plating Enhanced heat-resistant 3-layer plating 800 200 400 600 0 1000 Heating time (hr) Exposure temperature: 150°C

Applicable temperature for Heat-resistant / Enhanced heat-resistant 3-layer plating 

- Heat-resistant 3-layer plating : Up to 120°C
- Enhanced heat-resistant 3-layer plating : Up to 150°C

🙏 MITSUBISHI MATERIALS URL:http://www.mitsubishi-copper.com/en/ Date: 15/12/2021

Sales Div., Copper & Copper Alloy Business Unit, Advanced Products Company Address: 3-2-3 Marunouchi, Chiyoda-ku, TOKYO 100-8117 Email: mb-copper@mmc.co.jp

Heat-resistant 3-layer plating