



**MATERION**



High Reliability  
Automotive  
Applications

**BRUSH  
PERFORMANCE  
ALLOYS**



Materion Brush Performance Alloys' products provide a cost efficient solution for automotive applications requiring the highest reliability at material performance levels beyond the capability of other copper alloys

## High Reliability Automotive Applications

### Switches

windows  
door locks  
lights  
temperature controls  
seat controls  
ignition

### Relays

AC  
heater  
fan  
flasher  
wiper

### Signal Connectors

ABS  
ECU  
air bags  
emission controls  
door interlocks



### Small Motors

mirrors  
seats  
windows

### Sensors

auto-dimming mirror  
fuel levels  
pressure

### RF Connectors

telematics  
radar devices  
tire pressure  
GPS

### Power Connectors

HEV/EV  
ignition  
high intensity lights  
mirror heater  
fuse clips

## High Performance Copper Alloys for Automotive

Materion Brush Performance Alloys' high performance copper alloys provide automotive electrical component designers the performance and reliability that customers expect in today's worldwide markets.

**Miniaturization** – For lower contact resistance and increased reliability, contact stresses increase as connectors become smaller. *High strength copper alloys are the answer.*

**Power** – Temperature increases and power losses affect vehicle performance and reliability. EV and HEV power circuits operate at up to 100 kW where temperature control is both a reliability and a safety concern. Traditional 14 V power circuits are also affected by temperature rise in electrical contacts. *High conductivity alloys can control temperatures and minimize power loss.*

**Severe environments** – Engine environments involve high temperatures, vibration, and corrosion. Insertion force restrictions and multiple insertions can decrease reliability. *Resistance to stress relaxation promotes increased reliability by providing stability at high temperatures over the vehicle lifetime.*

**Operation critical** – Engine control and safety leave no room for compromises. *A contact alloy with proven performance over decades of use insures the reliability of your design.*

Brush Performance Alloys produces a range of copper alloys that are specifically formulated for automotive applications, and we can provide the expert technical support in selecting the best alloy. Contact a Brush Performance Alloys representative to discuss your specific application requirements and determine which high performance alloy will best meet your need and budget.

### BRUSH PERFORMANCE ALLOYS

6070 Parkland Boulevard  
Mayfield Heights, OH 44124 USA  
p 800.375.4205 +1.216.486.4200  
[www.materion.com/brushalloys](http://www.materion.com/brushalloys)

### MATERION CORPORATION

Materion (NYSE: MTRN) is a global advanced materials company dedicated to providing solutions that enable our customers' technologies and drive their growth. Our products include precious and non-precious specialty metals, precision optical filters, inorganic chemicals and powders, specialty coatings, specialty-engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems. [www.materion.com](http://www.materion.com)