



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

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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