



MATERION



High Reliability Cell
Phone Connectors

**BRUSH
PERFORMANCE
ALLOYS**



Materion Brush Performance Alloys is one of the world's leading suppliers of high performance alloys for a wide range of markets, including consumer electronics. From product design and development to innovative manufacturing practices, our engineers and technical staff will work with you to provide the best solution for your consumer electronics application.

High Reliability Cell Phone Connectors

In a recent study, the research firm Square Trade, analyzed failure rates of over 50,000 smart phones. The overall field failure rate varied depending on the phone model and ranged from 11.7% to 16.9% failures in the first 12 months of use. Billions of dollars could be saved by improving cell phone reliability and millions of phones could avoid being discarded as electronic waste each year.



High Performance Copper Beryllium

Copper beryllium alloys provide the combination of properties necessary for a connector to provide reliable service. Alloy 25 provides the highest strength of any copper alloy and has excellent formability since it is heat treated after forming. Alloys 190 and 290 are pre-heat treated (mill hardened) versions of Alloy 25 and are used when post heat treatment needs to be avoided. For power applications, mill hardened Alloy 390E and Brush 60 provide a combination of strength and high electrical conductivity

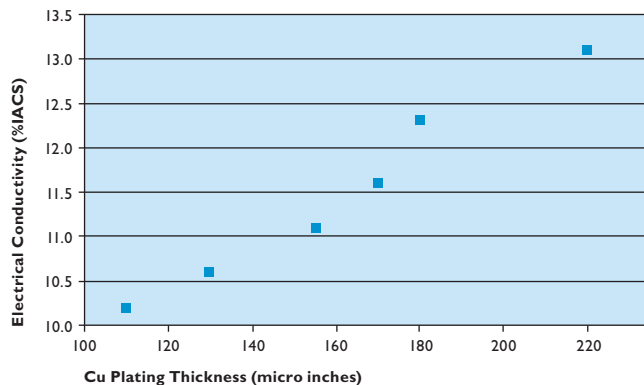
Alloy Attributes

- High strength
- Good electrical conductivity
- Excellent stress relaxation resistance
- High fatigue strength
- Good ductility

Cu Plated BF158 (CuNiSn)

Brushform® 158 is a high-performance, heat treatable spinodal copper nickel tin alloy with strength levels similar to copper beryllium. It is available in both pre-heated (mill hardened) and heat treatable forms. The addition of plated copper can be used to increase electrical conductivity with only a small loss in tensile strength.

ELECTRICAL CONDUCTIVITY VS. COPPER PLATING THICKNESS



For more information about our alloy products please visit our website:
<http://materion.com/Products/Materials/Copper%20Beryllium.aspx>

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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