

Plating of composite plastics for EMI shielding and grounding



msi is a leading electroplater to the interconnect industries providing plated continuous strip and progressive stamped / bandoleered contacts, barrel plated screw machine contacts and both metallic and composite connector shells. With sixteen multi-finish continuous plating lines and barrel and rack capabilities operating 24 x 7 and quality certifications to ISO9000, AS9000, NADCAP and FAA, **msi** provides state of the art electroplating for today's demanding technology markets.

Interconnect applications in harsh commercial environments such as communication towers and exposed outdoor uses have promoted the use of composite structural plastics for connector shells and fittings. In addition communications, manufacturing process control, aerospace and medical equipment requiring low or non-metallic signatures have also promoted such uses. The requirement for EMI shielding and grounding in such applications has established the need for high quality uniform conductive coatings that completely cover the sometimes intricate surfaces of connector receptacles and plugs. These coatings have to interface with spring rings and washers for continuity. In addition, composite connector construction has benefited from enhanced corrosion protection with the application of these coatings providing endurance from salt spray exposure frequently exceeding 2000 hours.

msi's Electroless Nickel and Electroless Gold finishes provide uniform, seamless conductive surfaces on composite products manufactured from *Ulfem* polyetherimide (PEI) and many other glass / carbon fiber filled plastics. Chemical or abrasive processing techniques provide excellent surface preparation followed by the coating / plating process.

Nickel- Electroless

msi's Electroless Nickel plating is a process that deposits a uniform thickness of Nickel on to parts by chemical reduction. This allows complex shapes to be plated evenly and completely. Electroless Nickel offers an excellent corrosion protection and it's hardness and low surface friction characteristics make it well suited for bearing surfaces. Electroless Nickel is also widely used by interconnect and electronics industries for complex components and conductors. **msi's** Electroless Nickel typically conforms to Mil-C-26074 and AMS 2404C.

Gold-Electroless.

msi's Electroless Gold plating provides a pure gold coating solution for microelectronic applications and non-conductive substrates. It has excellent wire bondability, solderability and eutectic die attach properties. Usually designed for use with an electroless nickel or copper undercoat this autocatalytic immersion process can deposit a uniform layer over complex surfaces.

Plate & Hold.

msi provides a 'plate and hold' inventory system that allows customers to store components in their own 'virtual' inventory in raw condition or plated for immediate release. This system allows for products to be received directly from the component supplier and does not impact customers inventory value with additional plating cost until required. Scheduled weekly shipments throughout the USA or individual releases can compliment JIT and Lean Manufacturing programs. Web based access for inventory and schedule verification is being provided.



Automated Barrel Plating.

msi's state of the art automated barrel plating facility provides computer controlled high volume processing through up to thirty process stages. This 24x7 system provided reliable and repeatable processing for high volume applications. Our plating system features sophisticated controls reducing the need for operator management, guaranteeing consistency and quality. With variable configurations of multiple plating, rinse and activation tanks automated hoists transfer between processes. Process times, activation parameters and energy controls are integrated to provide uniform and repeatable finishes.