Application Note

Telecommunication Switch- Plated and Decoratively Painted Faceplates

Problem

Telecommunication switch manufacturers utilize injection molded faceplates. The faceplates attach to the PC Boards that are slid into the switch rack. Since the faceplates are plastic, they are transparent to EMI and require shielding. The faceplates require decorative paint to color match with the switch as well as the assembly of lock latches.

Cybershield Solution

Cybershield worked with several switch manufacturers to design and produce the EMI shielded faceplates made from Polycarbonate or PC/ABS plastic resins. The customers required the shielding effectiveness offered by All-Over electroless plating with 10 micro-inches (0.25 µ) Nickel over 40 micro-inches (1.0 µ) Copper (See Exhibit 1 for Shielding Effectiveness). The electroless plating also met the adhesion standard, ASTM 3359.

Cybershield installs a fabric-over-foam EMI gasket, applies decorative paint and assembles lock latches, onto the faceplates by ultrasonic insertion (See Exhibit Finished Faceplate Assembly).

Many other plastic resins are compatible with Cybershield plating processes.

<table>
<thead>
<tr>
<th>Plateable Resins – Contact Cybershield for details</th>
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<tbody>
<tr>
<td>ABS, PC/ABS, Polycarbonate, Polyetherimide (Ultem), Syndiotactic Polystyrene (SPS), Noryl, Polypropylene, Polyphthalalimide (Nylon), Polyethersulfone (PES), Polyetheretherketone (PEEK), Epoxy, Urethane</td>
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Exhibit 1 - Shielding Effectiveness

Exhibit 2 – Finished Faceplate Assembly

For more information about this application, Cybershield capabilities and/or to review your application requirements for metallized plastic, contact Cybershield
Cybershield
308 Ellen Trout Drive
Lufkin, TX 75904
214-227-3680
Email: sales@cybershieldinc.com

- Fabricate a full range of EMI shielding solutions – Electroless Plating and Conductive Paint
- Electroplating Copper, Nickel, Trivalent Chrome, including decorative plating on plastics and metal
- Offer engineering design assistance – plastic resin selection, metal coating specification and mechanical design recommendations
- Serve applications in volumes from 25 units per month to millions of units per month
- Provide extensive mechanical assembly services to its customers
- Manage entire supply chain, including plastic injection molding to provide customers with turnkey solutions, designed and manufactured to strict OEM requirements

<table>
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<tr>
<th>EMI Shielding, ESD and Electroplated Coatings</th>
<th>Assembly Services</th>
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<tr>
<td>All-over &amp; Selective Coverage Electroless Plating Copper, Nickel, Tin, Gold Electroplating Copper, Nickel, Trivalent Chrome Conductive Paint</td>
<td>Dispensed Gaskets (Conductive or Environmental) Insert Installation (Ultrasonic or Heat Staking) Decorative Paint Mechanical Assembly</td>
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Other Cybershield Plastic Metallization Systems

- Plated Plastic Router Chassis
- Plated Plastic RF Filter Housing
- Plated Plastic Shielded Connectors
- Military Electronics EMI Shielding