



Application Note 2005.03.02

PDA - Plated Plastic Shield

Problem

A major PDA manufacturer utilized a plated magnesium die cast shield to provide EMI shielding and mechanical strength. The magnesium shield was costly due to excessive tool wear during forming operation and the magnesium plating cost. In its newest models, the OEM sought a cost reduction and evaluated a plated plastic shield that provided the required mechanical strength as well as EMI shielding.

Cybershield Solution

Cybershield teamed with the OEM, an injection molder, and a plastic resin supplier to design and fabricate the plated plastic shield. PC/ABS was specified due to its low cost, high impact strength and ability to be plated. Cybershield applies All-Over electroless plating 10 micro-inches (0.25 μ) Nickel over 40 micro-inches (1.0 μ) Copper, which meets ASTM 3359 plating adhesion standard.

Three inserts are installed by heat staking to facilitate assembly. Cybershield offers customers a wide range of manufacturing services, including dispensed gaskets, hardware installation, decorative paint and mechanical assembly.

Many other plastic resins are compatible with Cybershield plating processes.



Plated Plastic Shield

Plateable Resins – Consult Cybershield for details
ABS, PC/ABS, Polycarbonate, Polyetherimide (Ultem), Syndiotactic Polystyrene (SPS), Noryl, Polypropylene, Polyphthalamide (Nylon), Xenoy, Polyethersulfone (PES), Polyetheretherketone (PEEK)

For more information about this application or to discuss your requirements for an EMI shielding solution or EXACT™ 3D Circuits, consult Cybershield or its sales representatives.

Cybershield
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- Fabricate a full range of EMI shielding solutions – Electroless Plating and Conductive Paint
- 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

EMI Shielding & ESD Control Coatings	Assembly Services
All-Over Electroless Plating Selective Electroless Plating Conductive Paint	Dispensed Gaskets (Conductive or Environmental) Insert Installation (Ultrasonic or Heat Staking) Decorative Paint Mechanical Assembly

Other Cybershield Plastic Metallization Systems



Plated Plastic
Router Chassis



Plated Plastic RF
Filter Housing



Plated Plastic
Shielded Connectors



EXACT™ 3D
Circuits