

Fast FAQs

What people are asking about the ECOPLATE™ Process

What is the ECOPLATE Process?

It is an automated application and material solution for applying a thin metallic conformal coating to plastic parts for the purpose of EMI shielding.

What material is used?

While a variety of metals and metal alloys can be used, we have found that a tin/zinc alloy (ECOPLATE 5030 Material) provides the optimum balance of performance, cost and ease of application.

Where can I find a qualified applicator?

The ECOPLATE process is patent pending, and currently offered directly by Chomerics. Additional application sites will be brought on line as this technology is deployed throughout the world.

When will it be available?

Volume production is already under way in North America.

How does it compare to conductive paint?

As a pure metal alloy, the conductivity of the ECOPLATE coating is unencumbered by the non-conductive polymer binder system of a paint.

Compare results!

25 μm (0.001 inch) applications in cross-sectional view, 500X



*Metal flakes in **paints** leave substantial pockets of non-conductive polymer, compromising conductivity of the enclosure.*



*The **ECOPLATE** process applies a tenacious, pure metal film with <6% porosity, ensuring very high conductivity and reliability.*

What about the environment?

The ECOPLATE Process is free of harmful solvents, vapors and corrosives often associated with traditional paint and plating techniques.

continued

ECOPLATE™ Performance Data

Is it expensive?

There are many cost advantages to the ECOPLATE Process: automation... low-cost material... minimal processing time... no environmental concerns with solvents or corrosives treatment... no special storage or shipment.

Will it harm my thin-walled plastic substrate?

This is a room temperature process with precise controls that allow a minimal thermal mass as the molten droplets cool upon the plastic substrate. The result is a uniform coating, without warping, deformation or stress relief of the thin-walled plastic.

How does it compare to plating or vacuum metalization?

EMI shielding performance is equivalent to that of electroless plating, but at a considerable cost advantage. Suitable for low-volume applications as well as high volumes, the ECOPLATE process can provide a significant advantage over the relatively poor shielding performance, high set-up costs and long processing times of vacuum metalization.

It's a pure metal coating. Can I use it as a heat spreader?

Yes. Initial results in an application using ECOPLATE coating both as an EMI shield and a heat spreader on a plastic housing have shown reductions in junction temperature for a power semiconductor of as much as 30°C. Contact Chomerics' Applications Engineering Department to discuss your particular needs.

Is it possible to solder directly to an ECOPLATE coating?

Yes. As a tin-based alloy, ECOPLATE 5030 material provides a solderable surface. Limitations relating to plastic melt temperature and film thickness need to be considered when selecting a solder alloy and method. Contact Chomerics' Applications Engineering Department for additional assistance.

How do I know the adhesion is sufficient?

Adhesion is one of the primary concerns of any coating. To ensure that the ECOPLATE material adheres to virtually any substrate, the ECOPLATE process includes automated preparation of the substrate's surface morphology. This prepared surface is clean and free of any oxides or contaminants that could impair long-term adhesion of the coating.

Can I use it on metal?

As a replacement for conversion coatings, ECOPLATE 5030 material provides a stable coating on aluminum, zinc and magnesium castings. See our Performance Data sheet for further details of environmental conditioning.

How easy is it to mask areas I don't want coated?

As a line-of-sight process with an articulated, robotic application method, the ECOPLATE process provides the best of all worlds in coating techniques. Both hard metal and soft silicone masks can be used to minimize overall tooling cost and provide clean masking with no overspray.

To discuss these and any other questions you may have about the ECOPLATE process, contact Chomerics' Applications Engineering Department at any of the locations shown below.

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