



Functional Coating Material with Precise Thickness Control

Adhesive solution



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Whether your use environment demands insulation or conductive surface properties, we offer a wide breadth of application solutions to meet and/or exceed your performance requirements. These coatings encapsulate your products to create a highly uniform coating, which replicates all surface geometry and provides excellent resistance to wear and corrosion. We possess and globally supply coating solutions for such applications as seen below.

CollTech Coatings Material's Properties and Advantages

Our product has excellent film-forming properties, which can fully meet the requirements of customers. CollTech conductive coating is suitable for a variety of material types with the following advantages:

- Apply for conductive coating and insulation coatings
- Conductive fillers that can be added: silver powder, nickel powder, silver-coated nickel, graphite, graphene, carbon nanotubes, etc.
- Offers excellent flexibility, toughness and adhesion
- Combined with the proprietary process, quickly form a film
- Can achieve high-precision spraying, uniform thickness
- Can be applied ultra-thin (down to 2 μm)
- Using water as solvent, environment friendly
- Can meet the requirements of semiconductor applications with high purity

CollTech is also committed to discussing the needs with customers in depth, providing customized solutions, and providing customers with cost-effective products with excellent performance and stable performance.

Conductive coatings

Package level EMI (Electromagnetic Interference) shielding solutions

With the increasing proliferation of wireless devices, designers are challenged with various electromagnetic waves from multiple sources radiating at the same spectrum of frequencies, resulting in electromagnetic interference (EMI). Thinner, lighter device designs have made the transition from board level shielding to IC Package shielding, enabling higher board density. We have developed specialized conductive coatings that are specifically designed for package-level use. Our conductive coating is suitable for a variety of material types, such as LCP/PPS/ABS/EMC, providing an effective EMI shield.



CollTech specialized materials have optimal properties and characteristics:

- Provide reliable shielding and adhesion performance
- Deliver critical EMI/RFI shielding on plastic and composite housings of electronic assemblies.
- A variety of electrically conductive filler and binder configurations,
- Designed for durable, reliable and high performing EMI/RFI shielding in various applications
- Suitable for use across a diverse range of applications
- Reduced weight, cost, and labor.

Coating process information



Coating method: Ultrasonic
Airless Spraying



130 °C

Fixture temperature: 130 °C



5s/~2um

Drying time: 5 second per
spray with thickness of ~2um



30mins/150 °C

Curing condition:
30min @ 150 °C

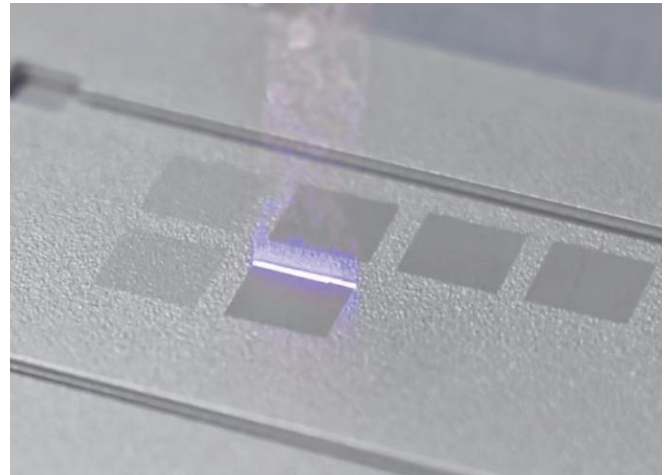
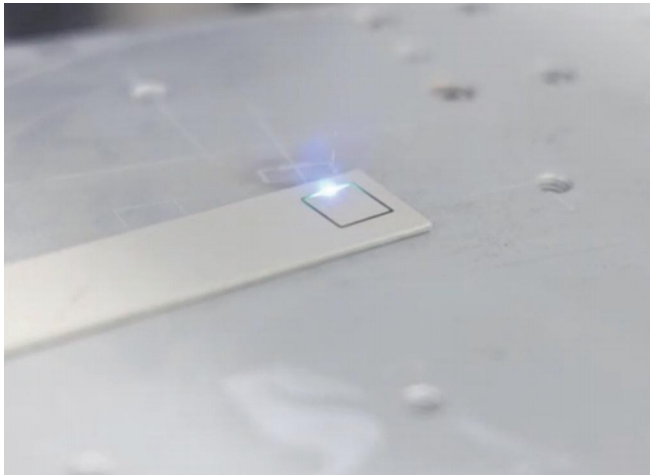
Advanced Technology for Advanced Antennas

Materials science is yielding new possibilities in antenna design. We are using advances in technologies that are critical for tomorrow's advanced antennas.

Our know-how brings us solutions for cost-effective selective metallization of three-dimensional parts. Our coatings allow us to cost-effectively metalize arbitrary materials—including composites—for creating conformal antennas on nearly any shape. We are also committed to providing customers with process solutions for 2D plane and 3D surface image forming to meet customers' diverse and flexible design needs. This 3D selective metallization process can be applied to a wide range of substrates – including plastics, chemically resistant composites, glass, ceramic, and metals – with acceptable adhesion with high temperature up to 200°C, and corrosion resistance.

Conductive coatings offer paths to innovative antennas through:

- Reducing their size, weight, and cost
- Increasing design flexibility
- Improving their manufacturability
- High Conductivity
- The ability to create 3D circuits, such as 3D RF couplers and direct circuit connections to antennas



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Laser forming

Insulation coatings

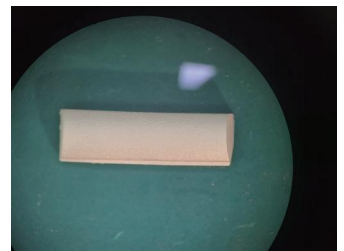
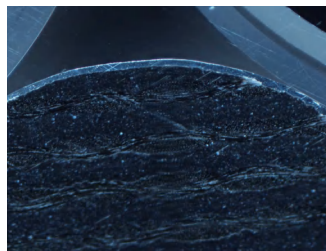
The thinly spray-coated material provides uniform coverage on top and sidewalls, clean edges without backside contamination, and excellent adhesion to substrate with outstanding insulation effectiveness . Excellent vertical flow ability can easily deal with complex corners

and side walls. CollTech special technology is simple, allowing easy production scalability and design flexibility with minimal cost of ownership using spray-coating. Our products can be customized to specific performance and application requirements and are manufactured globally to consistent quality and performance standards.

Ability of CollTech insulation coatings

Performance of insulation : resistance higher than 500M Ω (thickness: $\leq 100\mu\text{m}$)

Temperature resistance: Long working temperature: 150 $^{\circ}\text{C}$, Short working temperature: 500h@200 $^{\circ}\text{C}$



Coating process information



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Fixture temperature: 130 $^{\circ}\text{C}$



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Drying time: 5 second per
spray with thickness of ~2 μm



30mins/150 $^{\circ}\text{C}$

Curing condition:
30min @ 150 $^{\circ}\text{C}$



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Adhesive Supplier

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