



PROTECTIVE COATINGS APPLICATION SERVICES

www.chilternconnections.co.uk



TYPES OF COATINGS

CONFORMAL COATING

Conformal coatings are a thin protective film applied to PCBs to shield them from moisture, chemicals, dust and environmental stress, enhancing reliability across diverse operating conditions. As leading conformal coating specialists, we deliver high-quality services with a range of coating types to extend PCB working life and performance.

POTTING & ENCAPSULATION

For electronics that are subjected to strong chemicals, extreme temperatures, mechanical shock or liquid immersion, we would recommend our potting service to protect your components. This is where the PCB is fully encapsulated by a resin - usually polyurethane, epoxy or silicone.

NANO COATINGS

Nanocoatings are clear, ultra-thin protective films designed to enhance electronics durability by shielding against water, dust and scratches. They are environmentally friendly (PFAS-free) offering lightweight, invisible defence that helps prolong the lifespan and performance of sensitive components in demanding conditions.



INDUSTRIAL & FLEET

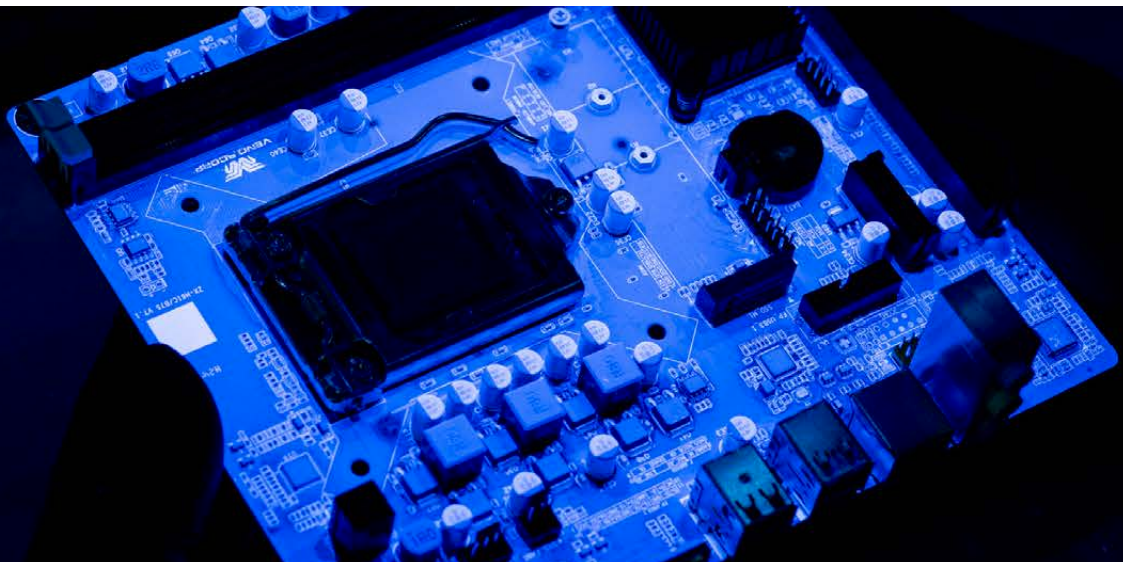
External industrial fleet coatings provide long-lasting protection for vehicles and assets exposed to harsh environments. These clear coatings dramatically extend painted surface life by enhancing corrosion, abrasion, chemical and UV resistance, reducing maintenance and repainting needs.

CONFORMAL COATING

Our conformal coating service delivers reliable protection for printed circuit boards, with coatings applied precisely to follow PCB contours and component profiles. This produces a consistent, high-performance protective layer that supports long-term durability and maintains electrical integrity, even in demanding operating environments.

With more than 30 years of specialist application experience, our team brings a deep understanding of materials, processes, and quality control. Careful preparation, controlled application, and thorough inspection underpin every project, giving customers confidence that their products are protected to a consistently high standard.

Working with Chiltern Connections means access to the facilities, technical expertise, and practical skill needed to extend product life, improve reliability, and reduce the risk of in-service failure.



**MOISTURE
RESISTANT**



**EXTREME
DURABILITY**



**DUST & CHEMICAL
SHIELD**



**INCREASED
LIFESPAN**

APPLICATION METHODS

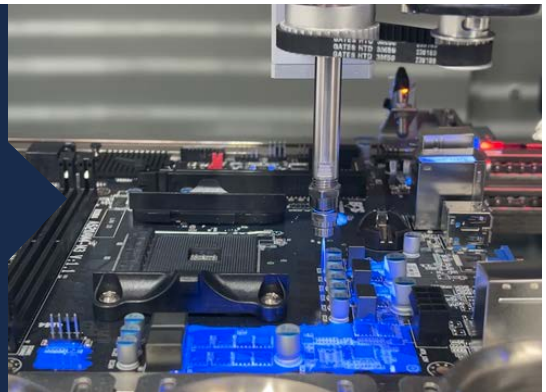


SPRAYING

Spraying conformal coating is used to coat low, medium, and medium to high volumes of PCBs. This process provides good coverage with a high-quality finish.

SELECTIVE COATER

A selective coating machine is programmed to coat the exact areas required on a repeatable basis. Select areas or full coverage can both be achieved.

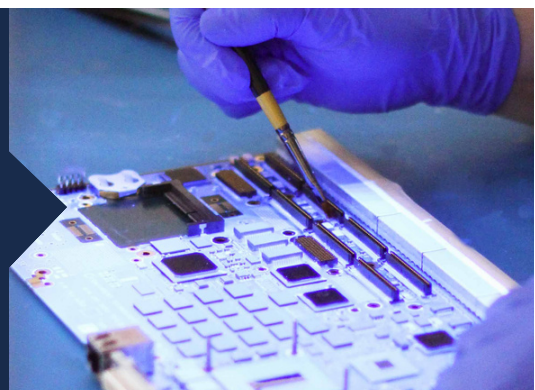


DIPPING

Dip coating is a process whereby a PCB assembly is submerged, either fully or partially, into a tank of conformal coating.

HAND BRUSHING

This is the application of conformal coating using a brush directly onto the PCB. This technique is used on coating smaller assemblies and final touches on boards after de-masking.



POTTING & ENCAPSULATION

At Chiltern Connections, we do more than supply potting materials - we provide complete potting solutions. Working closely with our customers, we manage the entire process from specification to application at our facility, delivering reliable results with expert support every step of the way.

Potting and encapsulation offer maximum protection for electronic assemblies operating in harsh environments. By fully enclosing PCBs in durable resins such as polyurethane, epoxy or silicone, components are safeguarded against moisture, chemicals, extreme temperatures, vibration and mechanical shock. This robust protective solution creates a solid barrier that enhances reliability, prevents corrosion and significantly extends product lifespan in demanding industrial and specialist applications.



WATERPROOF



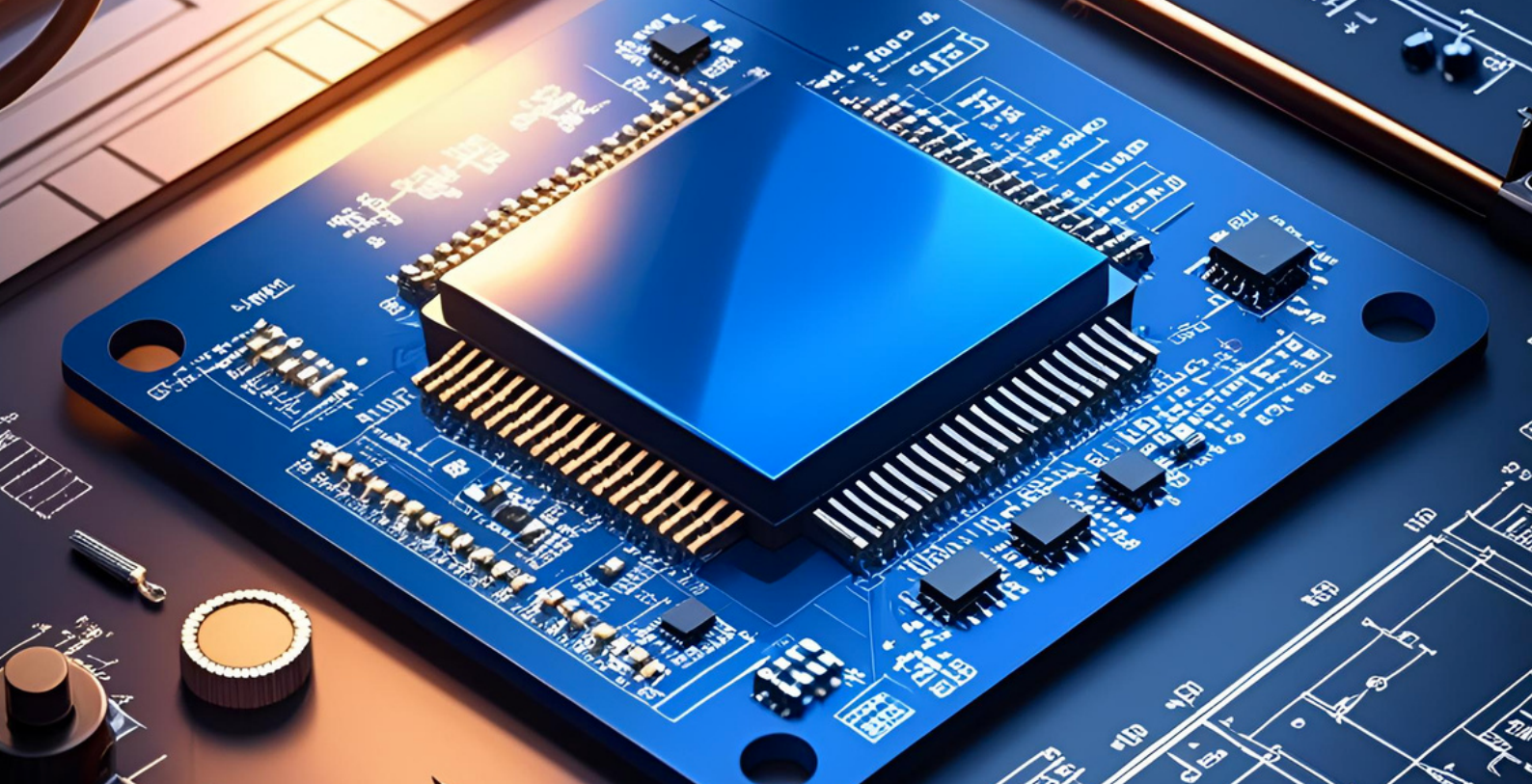
**CHEMICAL
RESISTANCE**



**VIBRATION
PROTECTION**



**THERMAL
CONTROL**



NANO COATINGS

Our nano-coating service uses advanced ultra-thin, transparent coatings that bond directly to electronic surfaces, forming a hydrophobic barrier that repels moisture, contaminants, and abrasion while preserving full electrical functionality. The coating provides effective ingress protection without adding bulk or affecting connectors or component interfaces, and its antimicrobial properties support reliable performance across a wide range of environments.

Applied as a thin-film layer, nano-coatings eliminate the need for masking, reducing process complexity, labour time, and lead times. Through our partnership with a specialist nano-coating provider, we are able to offer fast-turnaround, fully protective solutions well suited to modern, high-performance electronic assemblies.



WATERPROOF



**CONTAMINANT
SHIELD**



**INCREASED
DURABILITY**



PFAS FREE

INDUSTRIAL & FLEET

Our industrial fleet coating solution uses nano-structured technology to reinforce and protect existing paint systems. Applied as a clear overcoat, it significantly boosts corrosion protection, scratch and chemical resistance, and long-term UV stability, extending surface life by up to 15+ years and cutting repaint cycles and maintenance costs. This durable external coating helps industrial and fleet assets maintain performance and appearance in demanding outdoor conditions.



UV STABILITY



**CHEMICAL
RESISTANCE**



**SCRATCH
RESISTANCE**



**EXTENDED
SURFACE LIFE**



HOW WE CAN HELP

01 MATERIAL SELECTION & APPLICATION SUPPORT

We are the experts in the field. We know our materials inside out - their benefits and how they should be applied. Tell us your requirements and we can advise on the best materials.

02 QUALIFICATION

Need to check the material and application are to spec? We can help with that too. We can coat samples and produce FAI reports where necessary.

03 FULL PRODUCTION

Once we have the greenlight, we go into full production. Whether you need a small run or large quantities on a month by month call off, we can facilitate any quantity.

**FULL-SERVICE
COATING
SOLUTIONS -
FROM START
TO FINISH**



OUR PARTNERS

ELECTROLUBE

ShinEtsu

DESCO EUROPE

Permabond
Engineering Adhesives

 **ANTISTAT**TM
ESD & PRODUCTION CONSUMABLES

MG Chemicals

Nano-Clear[®]

AMORIM
CORK
SOLUTIONS



NANOFLOW
ADVANCED NANOCOATINGS 

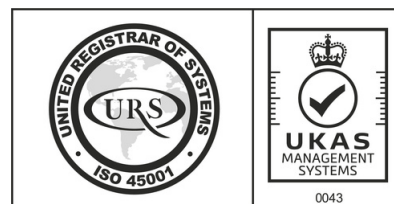

daylight[®]



ABOUT US

Trading since 1990, we have become a leading specialist organisation in conformal coating solutions and grown to become a well-trusted distributor of a wide range of materials.

We are a family run engineering company based in the Chilterns, UK and have developed an outstanding reputation for tailoring complete solutions to meet customers' unique requirements worldwide. So, whether you require the best protection for your PCBs, or need practical, scientific advice on materials or equipment, our team of highly experienced consultants will work with you to find the most innovative products and solutions to meet your needs.





 +44 (0) 1491 824788

 sales@chilternconnections.co.uk

 5 Verda Park, Wallingford,
Oxfordshire, UK, OX10 9SJ

