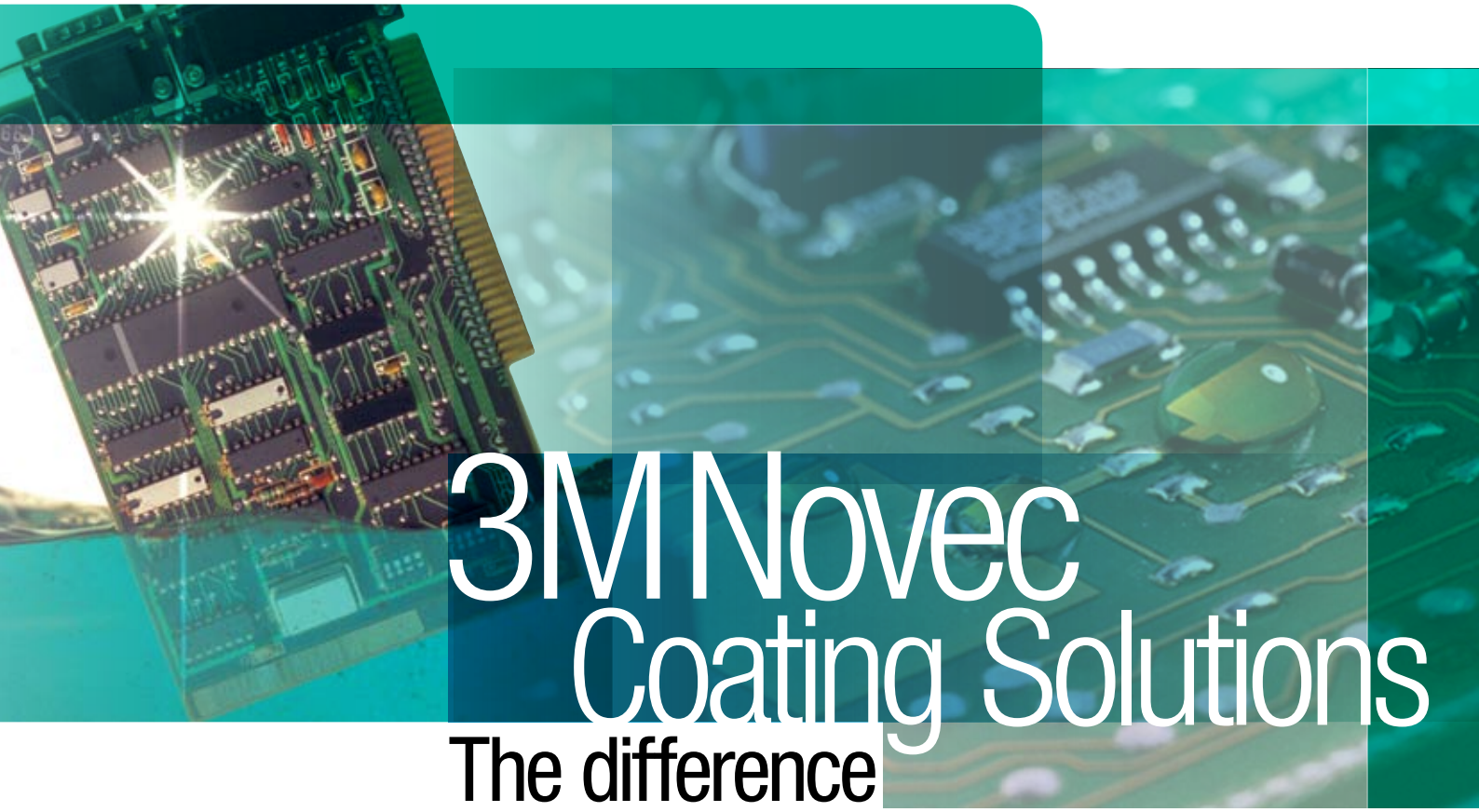


3M Novec Coating Solutions

The difference is clear...

3M Novec Surface Modifiers provide fast and effective coating protection for electronics manufacturing and assembly solutions

Key Benefits:

- Offers start to finish PCB coating in less than 40 minutes
- Rapid application - no masking of contacts required
- Excellent protection and particle repellency
- Re-workable solution enables quick repairs
- Excellent health & safety profile - non flammable solutions
- Excellent environmental properties

The coating effect:

Why 3M™ Novec™ Surface Modifiers?

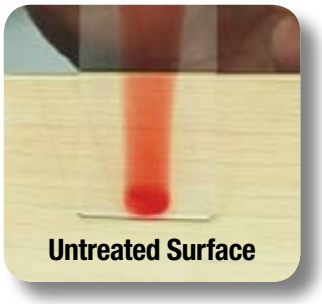
3M have developed a range of coating products to add to the 3M Novec family of chemical solutions. Novec Surface Modifiers provide a high performing alternative to conformal coatings. The product range has been designed to deliver;

- Excellent protection and repellency properties;
- Improved manufacturing efficiencies in the coating process;
- Health & Safety and environmental benefits.

Features of Novec Surface Modifiers

- One micron thick - provides protection by creating a thin layer of protection which when applied to an electronic assembly dries to a clear, uniform film.
- Excellent repellency - coats all surfaces of a component reducing the surface energy to just 14-15 mN/m enabling exceptional repellency of moisture & particles.
- Environmental profile - Low environmental impact compared to alternative coating solutions.
- No masking required - the thin layer of surface modifiers can be applied to all contacts on a PCB without affecting functionality.
- Health & safety profile - 3M™ Novec™ Solutions are non flammable and low in toxicity enabling high level of worker exposure & minimum equipment requirements.
- Speed of application - Novec Surface Modifiers deliver on manufacturing efficiencies. Due to no requirement for masking contacts and the thin layer of coating applied, a PCB can be coated and dry in under 7 minutes.
- Re-workable - the one micron thick coating can be soldered through for fast & effective repairs to PCB.

PCB protection:
PCB Protection 3M™ Novec™ Surface Modifier coated on a PCB protects the component from corrosion which can result in malfunctions and costly repairs.



Coloured water tested on untreated and 3M Novec treated glass slide. Demonstrating the repellency properties of the substrate when treated with a 3M Novec Surface Modifier.

Physical (Liquid) Properties		
	3M™ Novec™ EGC-2702	3M™ Novec™ EGC-1700
% Solids	2%	2%
Viscosity	0.61 mPa.S	0.61 mPa.S
Flash Point	None	None
Physical (Coating) Properties		
Coating Thickness	<1micron	<1Micron
Coverage	19m2/Ltr	19m2/Ltr
Surface Energy	14-15 mN/m	15-16 mN/m
Temperature Range	-50 to 200°C	-65 to 175°C
Health & Safety Profile	Excellent	Excellent
Manufacturing		
Drying Time	<5min	<5min
Curing time	30min @ 80°C	Not Required
Masking/De-masking required	No	No
Preferred Application method	Dip	Dip
Optically Clear	Yes	Yes
Strippable	No	Yes with HFE-7100
Solder-through Repairability	Yes	Yes
Repellency Properties		
Water	Excellent	Excellent
Oil	Excellent	Excellent
Solvents	Excellent	Excellent
Approvals		
Thermal Cycling (IEC 68-2-14)	Pass	Pass
Humidity (BS3900 F9 / ISO 6270-1:2001)	Pass	Pass
Fungal growth (IPC-TM-650 2.6.1.1)	Pass	Pass
Surface Insulation Resistance (SIR) (IPC TM-650 2.6.3.4 & IPC-B25A test boards, pattern D)	Pass	Pass
UL 746 E Registration	Qualified	Qualified
UL 94 V(0)	Pass	Pass

If you require further information visit our website **www.3M.co.uk/NovecCoating**

Alternatively you can email us at **3Melectrouk@mmm.com**

3M

Electronic Solutions Group
3M United Kingdom plc
Sales/Head Office
3M Centre
Cain Road, Bracknell
Berkshire RG12 8HT
Tel: +44 (0)1344 858000

3M United Kingdom plc
Sales Office
Bedford
MK41 OHR
Tel: +44 (0)1234 229463

3M Ireland Limited
The Iveagh Building
The Park
Carrickmines, Dublin 18
Tel: 01 280 3555
Fax: 01 280 3849

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