



3M

Novtec™

Brand



**Performance meets
peace of mind.**

3M™ Novtec™ Electronic Grade Coatings

3M Science. Applied to Life.™

No worries — inside or outside.

Safe, sustainable electronic grade coatings help protect your device components from corrosion or your display surfaces from dirt, grime and fingerprints

Electronic devices have become an inescapable part of life for people around the world. From consumer devices like smartphones, tablets and wearables to specialized industrial technology such as automation controls, electronics and sensors are everywhere — including in many challenging environments. New industries, markets and geographies mean new demands for reliability and performance. This fuels the critical need to protect devices from environmental threats, including moisture, sulfur and pollution.

Give your customers peace of mind with 3M™ Novec™ Electronic Grade Coatings. These ultra-thin coatings are designed to maintain optimal performance and functionality in a wide range of electronics applications. They help protect against environmental elements such as pollution and humidity that can cause corrosion and electrical failure, as well as contaminants such as oils, dirt, or grime that can affect the appearance and use of the device. Using 3M Novec coatings can help improve reliability and your customer's user experience.

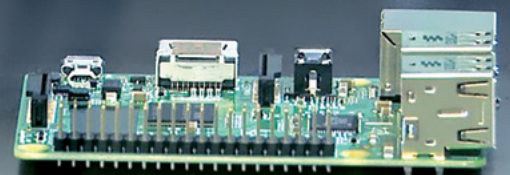
What's more, these coatings are engineered to be easy to work with because they dry quickly, can be applied using a variety of application methods and most don't have to be cured. Their low viscosity helps them form a thin protective layer on many materials used in electronics. That makes them a win-win solution — enhanced protection for your customers, and improved manufacturing efficiency for you.



The science behind the solutions

All Novec coatings are engineered for safety and sustainability, utilizing unique proprietary 3M chemistry. They are part of our longstanding commitment to continually improve the environmental, health and safety profiles of our chemical products. All Novec coatings are formulated using 3M™ Novec™ Engineered Fluids, which are:

- Low global warming potential (GWP) solvents with zero ozone depletion potential (ODP)
- Exempt from the U.S. EPA definitions for Volatile Organic Compounds (VOCs)
- Not scheduled for regulatory phasedown or phase-out
- Low in toxicity with a wide margin of worker safety
- Non-flammable



The right protection for the job.

Whether you're looking to protect sensitive electronics against corrosion that will shorten device life or give touchscreens and other surfaces an easy-to-clean and smudge-resistant finish to help them look good and function properly — you can depend on 3M™ Novec™ Electronic Grade Coatings.

These innovative coatings are all RoHS-compliant and offer high resistance to chemicals and contaminants. Their low viscosity and surface tension make them easy to apply using a variety of methods.* They are ultra-thin and transparent so they have little to no impact on device performance and appearance.

* Novec coatings can be applied using spray, dip or syringe methods.

For spray application, 3M recommends using engineered controls or personal protection equipment (PPE) to help minimize worker exposure.

Internal device component protection

Without adequate protection, components inside electronic devices can suffer corrosion when exposed to environmental contaminants. This degrades electronic performance and may lead to electrical shorts and device failure. Guard against moisture, water or salt water immersion, sulfur, oils, salt spray and pollution with Novec coatings for internal device component protection.

- Ultra-thin alternative to traditional conformal coatings
- Thermally and electrically stable
- UV-detectable versions available
- Easy to apply — dries in seconds and most do not require curing
- Suitable for protecting printed circuit boards, solder alloys, components, metals and composites

Easy-clean device surface protection

Hand-held mobile devices and touchscreens let users access information with a simple swipe, but they also tend to accumulate fingerprints, oils, liquids, cosmetics and other materials that can damage them or make them unappealing to use. Choose durable Novec coatings for easy-clean device protection.






- Help keep surfaces smudge-free
- Help improve lubricity
- Do not change surface appearance
- Easy to apply — dries in seconds, thermal curing adds chemical and abrasion resistance
- Suitable for protecting glass and glass-like surfaces

Better together!

Consider choosing sustainable 3M™ Novec™ Engineered Fluids as solvents for cleaning components prior to coating. They are also ideal carriers for coatings that need to be diluted before use. Ask your 3M representative for help determining which Novec fluid is right for your application.

We have you covered.

When you choose Novec coatings, you gain all the advantages of 3M's innovative materials, chemical expertise and dedicated support. Here's a look at some of the key benefits these high-performance coatings can help you realize:

Engineered for:	To give you:
 Protection	A uniform oleophobic and hydrophobic layer that helps cover surfaces of a component for exceptional repellency of moisture, oils, dirt, grime, fingerprints and other environmental contaminants
 Sustainability	Low environmental impact, zero ODP carrier solvents with low GWP, compared to conventional coatings formulated with hydrocarbon solvents
 Speed	Ability to handle coated components within seconds; many options do not need to be cured and masking components may not be required
 Cost savings	Lower manufacturing costs and greater efficiency when eliminating thermal curing and masking steps
 Health and safety	A non-flammable, low toxicity coating product for improved worker safety

Engineered for performance, safety and sustainability

3M has been providing coatings to the electronics industry for decades, with our chemistries continually evolving and improving. Our scientists are constantly seeking the answers to how to do it all better, safer and more responsibly. The result – a broad range of ultra-thin 3M™ Novec™ Electronic Grade Coatings to choose from.

With excellent repellency and corrosion protection, Novec coatings give you all the performance, without compromising safety and sustainability.



Let's get started—together

3M Novec is more than a line of products – we're people who share your passion for solving problems and improving lives.

Not sure which coating is right for your application? We are here to help!

Contact us to answer any questions you may have and for guidance, product data and test samples.

Visit 3M.com/Novec or contact your local 3M Novec representative for more information and to get started today.

The 3M™ Novec™ Brand Family

The Novec brand is the hallmark for a variety of proprietary 3M products. Although each has its own unique formula and performance properties, all Novec products are designed in common to address the need for smart, safe and sustainable solutions in industry-specific applications. These include precision and electronics cleaning, heat transfer, fire protection, protective coatings, immersion cooling, advanced insulation media replacement solutions and several specialty chemical applications.

3M™ Novec™ Engineered Fluids • 3M™ Novec™ Aerosol Cleaners • 3M™ Novec™ 1230 Fire Protection Fluid • 3M™ Novec™ Electronic Grade Coatings • 3M™ Novec™ Electronic Surfactants • 3M™ Novec™ Dielectric Fluids

Safety Data Sheet: Consult the safety data sheet before use.

Regulatory: For regulatory information about this product, contact your 3M representative.

Technical Information: The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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