

Low outgassing conformal coating meets ASTM E595 & MIL-STD 883

Dymax 9771 Dual-Cure Light and Moisture-Cure Conformal Coating is now available. This *low outgassing* material is the first conformal coating that meets ASTM E595 **and** Mil-Std 883 and is therefore suitable for the aerospace and defence markets in applications including missile, satellite, and space critical printed circuit board assemblies. This coating has UL 94 V0 flammability rating, UL 746E recognized and has *low ionic content*.

Dymax 9771 is formulated to cure with UV light, with a secondary moisture cure mechanism to ensure all material, including any that flows underneath components on a PCB, fully cures. It is engineered for coating thickness of up to 0.20mm, has a low ionic content and meets low outgassing standard test **ASTM E595**, meaning it provides a cleaner PCB assembly during extreme conditions. This testing is run at 125°C under a 5×10^{-5} Torr vacuum for 24 hours and total weight loss, collected condensable volatile material and water vapor recovered are measured.

Under heat or vacuum, materials can emit gas in a process known as outgassing. This can be a concern to aerospace and defence businesses as it could indicate decomposition or structural change in a material, contaminate a surface that must remain clean to retain its electrical properties, contaminate the environment the part is in or indicate corrosion, or other surface weakening mechanisms. ASTM E595 is a standard test method to determine volatile contents of materials under vacuum.

Dymax 9771 passes the following **Mil-Std 883 Method 5011.7** tests: thermal stability and filler content via thermogravimetric analysis, specific ion content, total ionic content, hydrogen ion content (pH), and volume resistivity.

Mil-Std 883 method 5011 is a military test standard that establishes uniform methods, controls, and procedures for testing microelectronic devices. It includes procedures to test electronic devices for

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military and aerospace electronics systems, including mechanical, electrical, and environmental tests to determine quality and reliability, to ensure the product is suitable for its intended end use.

This means military and defence product manufacturers finally have a conformal coating which meets the required standards ASTM E595 & MIL-STD 883.

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Dual-Cure 9771 Conformal Coating

Superior PCB Protection
with Low Outgassing
and Ionic Content

Dual-Cure 9771 conformal coating was developed to meet the strict requirements of the aerospace and defense market. It is ideal for protecting printed circuit boards in missiles, satellites, and other space devices where exposure to extreme conditions are an obstacle. This conformal coating cures with UV/Visible light and features a secondary moisture-cure function to ensure complete cure of coating that flows into shadow areas.

Features & Benefits

- Meets ASTM E595 low outgassing
- Low ionic content compliance with Mil-Std 883 Method 5011
- UL 746-E and UL94V-0 flammability
- UV/Visible light cure with secondary moisture cure for shadow areas
- Excellent corrosion resistance
- Temperature and humidity resistance
- Fluoresces bright blue for easy inspection

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[9771 infographic](#)

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Conformal coatings are a well-established method of protecting PCBs without adding excessive cost or weight. **Dymax Dual-Cure conformal coatings** are easy to apply and cure, typically in seconds. The secondary cure mechanism ensures complete cure in applications where shadow areas on high-density boards are a concern, which typically takes two to three days dependent on the application.

Adding this product to our portfolio means manufacturers of missiles, satellites, and space-critical electronic assemblies have a material that meets ASTM E595 & MIL-STD 883, while offering the desired features like corrosion, temperature and humidity resistance, and the industry standard blue fluorescing tracer that allows in-line quality inspection before and after cure.

Get in touch to discuss evaluation for your critical assemblies.

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