

NANOMYTE® AM-100EC

NANOMYTE® AM-100EC is a single-component, liquid coating designed to impart easy-to-clean and antimicrobial functionalities to diverse substrates, including plastics, metals, glass, and ceramics. The cured coating exhibits a hard, dense, and smooth morphology, characterized by a nanostructured composite architecture comprised of organic and inorganic phases. This unique composition offers superior mechanical properties, including scratch and chip resistance, strong adhesion, and enhanced hydrophobicity and soil repellency.

Technical Data

Color:	Clear liquid (Translucent)
Water Contact Angle:	100 – 105°
Anti-Microbial Efficiency:	ISO 22196 Test - As compared to an uncoated Boltaron® 9815E control, the coated surface leads to 4 log reduction (i.e., 1,000,000 reduced to 100) in count of E. coli ATCC#8739 after a contact time of 24 hours
Curing:	Ambient air dry
Cured Film Thickness:	5 – 15 µm
Coverage:	800 – 1,200 ft ² / gallon
Carrier Type:	Solvent-borne
Shelf Life:	6 months

Surface Preparation

Before coating, ensure surfaces are clean, dry, and in sound condition. Remove all oil, grease, dust, dirt and other foreign material by using an appropriate cleaner. Afterward, use a lint-free white cloth with a solvent (such as alcohol or acetone) and wipe the surface to ensure that the surface is completely free of oil and grease. If the cloth remains white, the surface is clean; if the cloth turns dark, continue cleaning until the cloth remains white. Once clean, follow the coating application instructions below.

Coating Application Instructions

AM-100EC can be readily applied through various methods such as spraying, roll coating, brushing, dipping, or flow coating. Application should be performed in a clean environment to minimize surface defects. Make certain the final surface is clean, dry, and free of dust as per preparation instructions above before continuing.

Spraying:

If spraying in an enclosed space, make sure to tent off the area being sprayed with plastic tarps to avoid spray dust from traveling and contaminating other surfaces with overspray dust. Tented and enclosed areas always require to be positively supplied with fresh air and have ventilated exhaust to outside using fans. Never spray near any open flame or possible source of ignition such as a pilot light or anything that may spark, as this may cause ignition and explosion of the fumes and vapors.

If applying outdoors and there is high wind, this will affect the quality of the finish as blowing wind can disrupt the spray pattern from your HVLP. It can also contribute to contamination of the finish with blowing dust. It may be necessary to erect a windscreen to protect the area.

Begin application using a high volume, low pressure (HVLP) spray gun with a 1.0 mm tip and a pressure of approximately 25 to 30 psi. Test spray first on a piece of cardboard to achieve a 6" to 8" elongated pattern approximately 2.5" wide in the middle and fluid enough to cover but not puddle. When spraying, ensure the coated surface is wetted entirely using 3-4 passes to achieve the recommended thickness. The coated part can be inspected in a dark room under black light from one to two feet away. The coated surface will glow yellow.

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Roll Coating:

Using a white, ultra-smooth high-density foam roller, pour AM-100EC into a roller pan and completely saturate the roller. Apply in a cross-pattern; left to right, then up and down as quickly as possible as the coating dries fast. Avoid down pressure on the roller to achieve a better-looking finish.

Brushing:

Select the appropriate size brush width based on the surface area being coated. Using a good quality China bristle brush, apply AM-100EC in a cross-pattern; up and down, then left and right. For best results, do not overwork the coating as it dries fairly quickly. Do not bear down with the brush. Use light strokes using the tip of the brush to smooth out the coating. Desired wet film thickness (WFT) is approximately 2.0 to 2.5 mils.

Dipping:

Pour the coating liquid into a container of proper size. Immerse the part to be coated completely. Withdraw the immersed part gently at a constant speed less than 20 cm/min.

Flow Coating:

Flood the surface to be coated with a thick layer of coating liquid. Drain the excess liquid naturally by gravity.

Curing

The coating is fully cured after 24 hours under ambient conditions (25°C / 77°F, 50% RH). Avoid stressing the surface during this period.

Clean Up

Immediately clean tools and thoroughly flush equipment with butyl acetate or acetone before the product dries. Once the coating is dry, it cannot be removed with any solvent.

Storage & Handling

Precautions for Safe Handling

Appropriate personal protective equipment should be used at all times. Provide good ventilation or extraction. Avoid prolonged or repeated breathing of vapor. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Keep away from heat, sparks, flames and other sources of ignition – no smoking.

Conditions for Safe Storage

Keep container tightly closed in a dry and well-ventilated place. Opened containers must be carefully resealed and kept upright to prevent leakage. Residual vapors might explode on ignition. Do not apply heat, cut, drill, grind, or weld on or near this container. Storage class (TRGS 510): 3: Flammable liquids

Refer to SDS for complete information on the safe handling of this product.

Additional Information

WARNING: This product should not be used, stored, or transported until all handling precautions and recommendations stated in the Technical Data Sheet and Safety Data Sheet for this coating are understood. Exposure should be minimized, and direct contact should be avoided through the observance of proper precautions, use of appropriate engineering controls, and proper personal protective clothing and equipment. NEI Corporation believes that the information in this technical data sheet is an accurate description of the typical use of the product. However, NEI disclaims any liability for incidental or consequential damages, which may result from the use of their products that are beyond its control. Employers should use this information only as a supplement to other information gathered by them and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy, and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual right.