NEI Corporation

Technical Data Sheet

NANOMYTE® MEND 3000-UVP

NANOMYTE® MEND 3000-UVP is an ambient cure, self-healing coating with UV protective properties. When scratched or damaged, the 2-part coating's self-healing function is activated upon application of a small amount of heat, such as from hot water or a hair dryer, to restore the surface back to its original appearance. MEND 3000-UVP is enhanced with NEI's UV-Protect (UVP) technology, which blocks UV radiation and protects coated surfaces from the harmful effects of sun and weather exposure. The addition of UVP helps maintain the unique properties of the coating when subjected to long-term outdoor exposure, while preserving the underlying material's strength, coating adhesion, and appearance.

Physical Characteristics

Composition:	2k polyurethane with proprietary additives
Color:	Clear, colorless (as supplied; pigmented versions available upon request)
Gloss (20°/60°):	81 GU/ 87 GU
Pot Life:	> 3 hours
Viscosity:	Not available
Curing Temperature:	20°C (minimum)
Self-healing Temperature:	60 – 80 °C
Solvent:	Toluene
Catalyst:	Tin
Mixing Ratio (A:B):	4:1 (by weight)
Solids Content:	33 – 36%
Dry Film Thickness (DFT)	1.5 mils (minimum recommended)
Weatherability:	1,000 hours (minimum, DFT = 2 mils) by ASTM D4587 (G154, Cycle 1)

Application Instructions

1. Combine 4 parts (by weight) of Part A with 1 part of Part B (both components are included with purchase)
2. Mix thoroughly until homogeneous and apply promptly (preferably within 2 hours)
3. Once applied, dry-to-touch conditions can be achieved within 30 minutes (1 mil @ 25°C)
4. Recommended ambient cure time of 60 hours for general use; up to 60 days for full properties
    - Accelerated cure can be achieved on dry-to-touch samples by baking for 30 minutes at 100°C

Application Notes

- A slight, uniform haze is normal for Part A liquid. It will clear when mixed with Part B.
- Dry-to-touch for thick films (> 1.5 mil) may be longer than 30 minutes
- Self-healing is initiated by heating the film to a temperature of 60°C or greater
- Healing response is faster at temperatures of 70°C and greater
- Deep scratches may not be completely healed or may require higher temperatures to heal
- Avoid extended exposure to temperatures in excess of 140°C
- Depending on film thickness and curing conditions, hardness and solvent resistance may continue to develop over a period of weeks to months
- For best performance, when applying to UV-sensitive surfaces (e.g., plastics, composites), apply as thick a coating as possible, and/or ensure a minimum dry film thickness of 1.5 mils. Select the appropriate surface preparation protocol (cleaning and/or surface treatment, priming) and test to ensure coating adhesion has been maximized. Some surfaces (e.g., certain paints, plastics, and composites) may require a primer, such as **NANOMYTE® SR-Primer.**

Customization

- Viscosity may be adjusted by diluting with MEND Reducer; contact NEI if a higher viscosity is desired.
- Tints and pigments are available, contact NEI for further information.
- DTT (dry-to-touch) time may be reduced with the addition of MEND catalyst. This will also reduce pot life.

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Instructions for Use

- Use care when first damaging the surface for demonstration purposes. Sharp instruments may cause irreversible damage. Gouges or deep cuts may not fully heal.
- Self-healing begins at 60°C. To demonstrate rapid self-healing properties, the film must reach a uniform temperature of 80°C or greater for at least 5 seconds. Hot water (>80°C) is very efficient for demonstration purposes. Otherwise, use of a heat gun is recommended.
- For testing purposes, complete healing can be ensured by placing the damaged part in an oven for 5 minutes at 100°C. Higher temperatures or longer heating times will not typically result in additional self-healing.

Storage and Handling

Precautions for Safe Handling

Contains a potential sensitizer! Appropriate personal protective equipment should be used at all times. Provide good ventilation or extraction. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapor or mist. Keep away from heat, sparks, flames and other sources of ignition.

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

Conditions for Safe Storage

PART A: Ambient temperature storage is preferred; avoid temperature extremes. Avoid contamination with incompatible materials. Keep away from heat, sparks, flames and other sources of ignition. Residual vapors might explode on ignition. Do not apply heat, cut, drill, and grind or weld on or near this container. Precipitation from low temperature exposure may be reversed by warming.

PART B: Keep container tightly sealed. Store at room temperature in a dry place. Keep away from sources of ignition. Protect from cold temperatures. Gelation may occur as a result of reaction with moisture. Purge container with dry, inert gas after use.

NOTE – Components should be stored separately until ready to use. Once mixed, coating solution should be used within the time allotted (see pot life).

Available Quantities

NANOMYTE® MEND 3000-UVP is sold and shipped directly from NEI in liter or gallon quantities (components A & B are included with purchase). Bulk quantities and customized versions of our MEND coatings are also available upon request – contact NEI for details.

Additional Information

WARNING: This product should not be used, stored, or transported until all handling precautions and recommendations stated in the Technical Data Sheet (TDS) and Safety Data Sheet (SDS) 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.

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