NEI Corporation

Press Release

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NEI Corporation introduces UV-Protect Technology to NANOMYTE® Coating Line

Somerset, New Jersey (USA) – NEI Corporation announced today that it has introduced UV-Protect (UVP) technology to formulate enhanced versions of its popular NANOMYTE® coating products, which offer unique functionalities in coatings with unparalleled durability. The NANOMYTE® line of protective coatings and surface treatments provide tailored functionalities, such as hydrophobicity, superhydrophobicity, oleophobicity, superoleophobicity, self-healing, fog resistance, self-cleaning (or easy-to-clean), scratch resistance, anti-corrosion, and anti-icing. They have found wide applicability in the industrial and automotive markets for their versatility and ability to be applied to a variety of surfaces – including glass, plastic, fiber-composite, metal, and ceramic. UVP technology imparts enhanced protection from the effects of sun and weather exposure to maintain the unique properties of their coating products when subjected to long-term outdoor exposure.

The newly-introduced product lineup consists of:

- **NANOMYTE® MEND Self-Healing Coatings**
  - » MEND 1000-UVP
  - » MEND 2000-UVP
  - » MEND 3000-UVP
- **NANOMYTE® Top Coats**
  - » TC-4001-UVP
  - » TC-5001-UVP
- **NANOMYTE® Easy-to-clean Coating**
  - » SR-500EC-UVP
- **NANOMYTE® Anti-ice Coating**
  - » SuperAi-UVP

NANOMYTE® coating products with UVP technology have demonstrated their ability to endure a minimum of 1,000 hours of weatherability testing per ASTM D4587, "Accelerated Weathering under Fluorescent UV-Condensation Exposure." The testing was performed in a QUV chamber under the conditions specified in ASTM G154, Cycle 1, the most commonly used exposure cycle designed to simulate severe outdoor service conditions. The UVP functionality has been incorporated into each coating system without degrading other performance characteristics or ease of application. The cured film is both inherently resistant to the sun's UV radiation, as well as capable of providing UV protection for the underlying surface. This, for example, allows the NANOMYTE® MEND product line to maintain excellent gloss and appearance in outdoor applications, such as automotive coatings. Polymer and composite materials can be particularly sensitive to the effects of UV exposure, which can

have a variety of undesirable effects, beginning at the surface and often spreading throughout the bulk of the material. Surface attack immediately begins to compromise coating adhesion, eventually resulting in cracking and peeling. UV-degraded materials may also change colors, often resulting in the familiar yellowing of plastics and lose mechanical strength, making them prone to failure. UVP coatings block UV radiation, which protects surfaces by preserving coating adhesion and aesthetics, and prevents further penetration of UV light which can compromise the material's strength and appearance.

Outdoor exposure can present additional challenges for surfaces to resist buildup of dirt, airborne contaminants, corrosion, and even ice. NEI's line of durable protective topcoats, formulated as one-component, ambient-cure systems for ease of use, now offer UVP technology to extend their performance and shield sensitive surfaces. NANOMYTE® SR-500EC-UVP can protect a wide variety of surfaces from the effects of outdoor exposure, coupled with an easy-to-clean functionality with enhanced weatherability. For surfaces prone to icing, NANOMYTE® SuperAi-UVP not only helps keep surfaces clean, but also enhances their ability to shed ice buildup, all while providing excellent protection from the elements. Both of these coatings can maintain excellent hydrophobicity, with a static water contact angle of 100 – 105°, even after 2,000 hours of QUV exposure, while NANOMYTE® SuperAi-UVP maintains a low ice adhesion value of less than 1 psi after more than 1,000 hours of exposure. NANOMYTE® TC-4001-UVP and TC-5001-UVP have been optimized for metals to form a hard, durable coating with excellent barrier properties to prevent moisture penetration and corrosion.

NEI coating products featuring UVP technology can be applied by conventional processes, such as dipping, brushing or spraying. NEI also offers in-house coating services for customer's parts, as well as coating development services, wherein coating formulations are created to address specific customer requirements. The development of NANOMYTE® UVP functional coatings has come about as a result of NEI's capabilities in creating functionalized nanocomposite coatings. In addition to imparting protective and aesthetic properties, NANOMYTE® coatings lead to gains in productivity and efficiency and therefore can be used in many applications that traditionally have not used paints or coatings.

Additional Information: NANOMYTE® UVP Technology Brief (pdf)

About NEI Corporation:

NEI Corporation is an application-driven company that utilizes nanotechnology to develop and produce advanced materials. The company's core competencies are in synthesizing nanoscale materials and prototyping products that incorporate advanced materials. NEI offers an array of Advanced Protective Coatings for metal and polymer surfaces, with tailored functionalities such as anti-corrosion, self-healing, scratch resistance, ice-phobic, and self-cleaning.

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