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NEI Corporation introduces coating that reduces surface preparation and increases service life of steel

Somerset, NJ – [NEI Corporation](#) announced today that it has completed development of NANOMYTE® PT-20, a chromate-free pretreatment that significantly improves the adhesion and corrosion resistance of painted steel and reduces the level of surface preparation (grit blasting). The environmentally friendly, waterborne pretreatment promotes adhesion between the metal substrate and overlying paint layer by acting as a “double-sided bonding agent,” while at the same time improving corrosion resistance.

The new technology has value to applicators who paint metal structures, such as bridges, ships and other steel structures, by lowering the required level of surface preparation. It is also applicable to industrial painting operations such as coil and spray coating. A winning combination of immediate cost savings plus improved corrosion resistance results when applying the thin (1-2 micron) coating.

NANOMYTE PT-20 has been extensively tested at a major U.S. shipyard. In one test, steel panels were blasted to an SSPC SP-10 (near white blast cleaning) and SP-6 (commercial blast cleaning). The SP-6 panel preparation took less than half the time of the SP-10, and generated only a fraction of the powdery hazardous waste resulting from the blasting process. PT-20 was then applied to the SP-6 panels, but not the SP-10 panels. All the panels were then painted with two coats (8 mils thick) of a US Navy specified epoxy primer (MIL-PRF-23236D) and subjected to salt spray testing (ASTM B117). After four weeks of testing, the SP-6 panels with PT-20 exhibited half of the scribe creep compared to the SP-10 with no PT-20. The test results demonstrate PT-20's value of a dual benefit in not only accommodating a lower level of surface preparation, but also improving corrosion resistance as well.

Another shipyard trial took place in which steel parts were blasted to SP-10 and SP-6, and PT-20 was applied to the SP-6 panels. The parts were painted with a full US Navy specified paint system consisting of two coats of epoxy primer, and one coat of a silicone alkyd topcoat. After only six months of outdoor exposure in a severe marine environment, the SP-10 parts are showing rust, while the SP-6 plus PT-20 parts are rust free.

“Our chromate-free pretreatment for steel represents a significant advancement in the state-of-the-art for corrosion resistant technologies,” says Dr. Ganesh Skandan, CEO of NEI Corporation. He added, “Our goal is to engage customers as partners in implementing the NANOMYTE PT-20 technology and in developing cost-effective coating products tailored to specific, demanding requirements.” The development of the PT-20 coating was funded by the US Navy Small Business Innovative Research Program.

About NEI Corporation

Founded in 1997, NEI Corporation develops, manufactures, and distributes nanoscale materials for a broad range of industrial customers around the world. The Company's products incorporate proprietary nanotechnology and advanced materials science to create significant performance improvements in manufactured goods. NEI's products include advanced protective coatings, high performance battery



electrode materials, and specialty nanoscale materials for diverse applications. NEI has created a strong foundation in the emerging field of nanotechnology that has enabled the Company to become a leader in selected markets. The Company is based in Somerset, NJ.

For more information, contact:

Ms. Krista Martin

NEI Corporation

(732) 868-3141

sales@neicorporation.com

www.neicorporation.com

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