CSP research & testing provide bottom-line results to area companies

Developing exceptional products is just one part of a successful business enterprise. Another part of the enterprise involves providing proof to potential customers to show how effectively your products work. For two North Dakota companies, North Dakota State University’s Center for Surface Protection (CSP), a State of North Dakota Economic Development Center of Excellence, provided expertise to test and develop product solutions.

Technology Applications Group, Inc. (TAG), Grand Forks, N.D.

TAG developed and markets Tagnite®, a coating used on metal equipment and parts that must withstand demanding and extreme environments. The company developed the Tagnite® coating for a simple reason: existing magnesium coatings were inadequate for the demanding environments in which the metal was being used.

When looking for an external group that possessed strong technical coatings expertise and the equipment needed to conduct testing, TAG partnered with NDSU’s Center for Surface Protection. “CSP and the NDSU Department of Coatings and Polymeric Materials are acknowledged experts in the field of coatings,” said Bill Elmquist, President of TAG.

“The scientists and state-of-the-art instrumentation provide an impartial third party testing and analysis of our coatings performance.”

Testing metal samples and components coated with Tagnite® could take an exceptionally long time. To be successful, businesses need answers much more quickly. Specialized equipment at NDSU’s Center for Surface Protection allows such weathering to occur in a compressed amount of time using a salt fog chamber for accelerated, corrosive atmospheric testing. NDSU researchers used electrochemical impedance spectroscopy to characterize the protective properties of the anodic Tagnite® coating.

“Having a well-respected independent organization such as CSP analyze and validate our coatings performance allows us to approach new customers with hard data that backs up our claims of Tagnite® being the best anodized coating for magnesium metal,” said Elmquist.

The NDSU Center for Surface Protection and TAG represent a winning partnership. Sikorsky Aircraft, Boeing Helicopter, Orenda Aerospace and Pratt & Whitney are among the many global companies that have chosen TAG’s Tagnite® coating for their magnesium castings. Find more info at www.tagnite.com and www.ndsu.edu/csp.

“The data collected by CSP provides hard scientific evidence that our coatings are superior to other coatings being offered.”

—Bill Elmquist, President, TAG
SpaceAge Synthetics, Inc., Fargo, N.D.

SpaceAge Synthetics specializes in the design of composite materials for companies challenged by constraints imposed by traditional building materials or methods. The company’s products are developed for applications as diverse as Navy unmanned patrol vessels to communications towers and ice arenas. SpaceAge Synthetics’ Thermo-Lite Board® provides a tough, fiberglass-reinforced composite material for applications that require a no-rot, lightweight, high-strength material.

“NDSU’s Center for Surface Protection provided great leadership in proposing a unique solution using our technology together with a special coating to provide a superior new product,” said John Hertsgaard, President and CEO of SpaceAge Synthetics. “It gave some basis to begin targeting a totally new market.”

Researchers at NDSU tested coatings materials on the company’s product to protect the surface from weathering elements. The efforts led to CSP providing SpaceAge Synthetics with the potential to target the wind turbine blade market.

The CSP’s significant expertise in scientific coatings research can assist companies in formulating coatings that can be developed for specialty markets that lead to additional business opportunities. “They were in a position through their materials and polymers and coatings expertise to combine for a novel approach,” said Hertsgaard. “I believe that through our continued partnership, we could successfully find new applications for our technology. This could be our product alone or coupled with other materials,” said Hertsgaard.

The NDSU Center for Surface Protection and SpaceAge Synthetics represent a winning partnership. Find more info at www.spaceagesynthetics.com and www.ndsu.edu/csp.

“Using the research and technical expertise of NDSU to help North Dakota companies succeed with international clients is just one beneficial outcome of this program.”

—Philip Boudjouk, NDSU, VP Research

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