
ZenARMOR™ : Novel Corrosion Protection Technology Developed by Zentek

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Zentek Ltd. has developed ZenARMOR™, a novel corrosion protection technology based on functionalised graphene oxide.

Corrosion is a costly issue that impacts many industries, including naval and marine infrastructures, bridges, buildings, and pipelines. According to a [United States](#) Congressional Briefing on 31 May 2012, corrosion-related costs amount to \$452bn per year in the US. Corrosion protection technology can help combat this problem and has the ability to extend the life of existing infrastructure and equipment.

Over the last two years, graphene technology development and commercialisation company [Zentek Ltd.](#) has developed a new corrosion protection technology based on functionalised graphene oxide. ZenARMOR™ offers superior performance, self-healing properties, and a potential environmental advantage.

Greg Fenton, CEO of Zentek, said: “With ZenARMOR, our team has developed a nanomaterial-based technology that has the potential to further enhance this return on investment by not only improving the performance of existing corrosion protection solutions but doing so in a way that reduces environmental impact.”

The company’s corrosion protection technology has been subjected to third-party testing

In collaboration with Quantum Chemical, Zentek has tested ZenARMOR in an epoxy system following ASTM B-117 Salt Spray Testing. With the addition of a very low dose of ZenARMOR, the testing demonstrated excellent corrosion resistance with no blisters or any other signs of corrosion after 1,500 hours. The same corrosion protection epoxy without ZenARMOR started

breaking down at the 1,000-hour mark. Testing is ongoing and further significant testing milestones will be reported.

Compared to other products on the market, Zentek's corrosion protection technology is comprised of fewer active ingredients which management believes can have significant environmental benefits.

Tony Lagrange, Founder and Owner of Quantum Chemical, commented: "These initial results of ZenARMOR after 1,500 hours of salt spray testing are impressive. Corrosion is a significant problem, and we are excited to be part of the Zentek testing and optimising strategy for the ISC challenge and to help address this global corrosion problem.

"We are also leaders in the development of intumescent coating and paint products. We have significant in-house testing infrastructure equipment for intumescent coatings optimisation. We are well positioned to work with Zentek on both corrosion and intumescent coating technologies that can improve performance and safety while reducing environmental impact."

Next steps: Submission to the Innovation Solutions [Canada](#) testing stream

A proposal for Zentek's corrosion protection technology was submitted to the Innovative Solutions [Canada](#) (ISC) testing stream – Military Call for Prototypes. It has been confirmed that the ZenARMOR proposal meets the mandatory and technical evaluation criteria of the Military Call for Prototypes, Military Component, and is considered conditionally qualified, pending further steps such as matching the innovation with a Government of [Canada](#) Organisation (GCO) interested in testing ZenARMOR.

Zentek and the ISC programme have begun to socialise ZenARMOR to GCOs, exploring opportunities for partnership and testing.

Intellectual property

Zentek has filed a provisional patent with the [United States](#) Patent and Trademark Office for the ZenARMOR corrosion protection technology and has also filed a trademark for ZenARMOR.

Read the [original article](#) on Innovation News Network.