

NEWS ALERT



Using MCI® to Enhance Sustainability of Concrete Oil and Gas Structures



Regardless of the current impetus toward “greener” energy, it remains a fact that society is heavily dependent on the oil and gas industry and will likely remain so in the near future. This does not mean nothing can be done to improve the sustainability of existing oil and gas infrastructure. One great strategy for doing so is to extend the service life of reinforced concrete structures using Cortec® MCI®.

Taking Concrete From Grey to Green™

[MCI® Technology](#) extends concrete service life by mitigating corrosion on embedded reinforcing metal. Corrosion is one of the chief enemies of concrete longevity because it leads to cracking, spalling, and eventual deterioration of the structure. Since concrete production is such an energy intensive activity, helping concrete last longer is an important part of a sustainability-savvy and resource-efficient society. The less often that concrete repairs or replacements have to be made, the more resources are saved, and the smaller the concrete carbon footprint becomes.

Vulnerable Oil & Gas Structures

There are many different concrete structures to consider in the oil and gas industry, with some at greater risk for corrosion than others. For example, many oil and gas terminals are located in coastal environments or harsh regions of the Middle East where airborne chlorides, heat, humidity, or even soil minerals can be highly corrosive. Many fixed or floating offshore platforms, terminals, foundations, and caissons are also made of reinforced concrete exposed directly to high-chloride seawater. These factors can seriously decrease the service life of concrete structures if special measures are not taken to counteract corrosion. Among these measures, a high-performance concrete design mix, preventative maintenance, and quality repairs are of utmost importance.

Cortec® Corporation is the global leader in innovative, environmentally responsible VpCI® and MCI® corrosion control technologies for the Packaging, Metalworking, Construction, Electronics, Water Treatment, Oil & Gas, and other industries. Headquartered in St. Paul, Minnesota, Cortec® manufactures over 400 products distributed worldwide. ISO 9001 and ISO 14001 Certified, and ISO 17025 Accredited.





When to Use MCI®

The best time to apply MCI® is as a concrete admixture ([MCI®-2005](#) or [MCI®-2005 NS](#)) in new cast-in-place structures or precast concrete elements. MCI® molecules form a protective layer on the surface of the reinforcing metal that delays time to corrosion and reduces corrosion rates once started. However, even existing structures can benefit from MCI®. [CorrVerter® MCI® Rust Primer](#) is an excellent option for prepping exposed rusted rebar during concrete repairs. Surface applied corrosion inhibitors (SACI) such as [MCI®-2019](#) (MCI® + water repellent) or [MCI®-2020](#) (MCI® only) are excellent additions to enhance the lifetime of the repair or to apply simply for periodic maintenance on oil and gas structures. These MCI® SACIs migrate through the concrete pores to reach and protect embedded reinforcement. [MCI®-2061](#) is a complementary biological-based cleaner that uses biodegradable surfactants and microorganisms to remove oil stains before the application of a SACI, a coating, or a membrane system.

Take Responsibility for Critical Resource Stewardship

The oil and gas industry is part of today's existing critical infrastructure that demands responsible stewardship. By taking basic steps like using MCI® Technology to extend service life—particularly for at-risk structures in corrosive environments—the oil and gas industry can save time and money while indirectly reducing their carbon footprint. Contact Cortec® for further assistance in finding ways to enhance the sustainability of concrete oil and gas industry structures: <https://www.cortecmci.com/contact-us/>

Keywords: *sustainability, concrete oil and gas structures, MCI, From Grey to Green, extend service life, mitigating corrosion, concrete admixture, Cortec, rusted rebar, reduce carbon footprint*