

# PRODUCT INNOVATION

the dire shortage of educational infrastructure in the country.

By introducing 3D printing technology into the construction process, the project initiators aim to expedite the creation of educational facilities and lay the foundation for the reconstruction of housing and vital infrastructure throughout Ukraine.

Visit <https://cobod.com/> for more information on COBOD.

## THE POWER OF MCI® CONCRETE ADMIXTURES AS GREEN BUILDING MATERIALS

How do MCI® admixtures extend the service life of a concrete structure? The means is corrosion inhibition. Corrosion of embedded reinforcement is one of the primary causes of concrete deterioration leading to repair or replacement. It is often caused by high chloride exposure in coastal environments or regions with severe winters where deicing salts are needed. It can also be the result of concrete carbonation, caused by the gradual loss of naturally protective high alkalinity levels after decades of exposure to the atmosphere. Corrosion products can cause the reinforcing metal to expand to several times its original size, pushing on the overlying concrete and making it crack or spall, which creates pathways for more corrosives to enter and continue the vicious cycle.

MCI® admixtures dosed into the ready mix at the time of construction fight the corrosion process by forming a molecular protective layer on the rebar. This interrupts the natural corrosion reaction, delaying time to corrosion and reducing corrosion rates once started. ASTM G109 testing has shown MCI® to reduce corrosion rates by five to 13 times when compared to untreated samples. This corrosion reduction can have powerful effects on a structure's service life and delay time to the first needed repair by the simple addition of a concrete admixture at a fraction of the entire structure's cost.

For more information visit <https://www.cortecmci.com/contact-us/>

## TIPS FOR DEALING WITH RUSTY REBAR AT THE CONSTRUCTION SITE

Before deciding what to do about rebar rust, it is helpful to evaluate its severity.

1. Apply MCI® CorShield®. If the flash rust is light but the rebar will be sitting

out in the open for some time, the next best option is to wipe off the flash rust and apply MCI® CorShield®, a clear non-tacky temporary coating that does not need to be removed before concrete placement. MCI® CorShield® will slow down the corrosion process until the rebar is installed or the rest of the concrete is placed.

2. Clean the rebar and apply MCI®CorShield®. If the rebar is moderately flash rusted, it may need to be cleaned off with a high-pressure rinse to remove most or all of the rust before coating. One of Corrosionpedia's suggestions for countering corrosion during the water blasting process is to add corrosion inhibitors to blast water. By their nature, the corrosion inhibitors in a cleaner such as MCI®-2060 fall under the guide's classification of "passivators," i.e., those corrosion inhibitors that leave behind a thin protective film to extend the window of time in which metal can be coated without flash rusting. Once the rust has been removed and the surface has dried, MCI® CorShield® can be applied for extended outdoor protection.

3. Remove loose rust and apply CorVerter® MCI®. If the rust is moderate to heavy and more than can be removed with a good pressure wash, CorVerter® MCI® Rust Primer is another excellent option. After removing loose rust and cleaning the rebar, workers can apply this water-based coating directly onto the rusty rebar. CorVerter® MCI® converts existing rust into a hydrophobic passive layer and discourages re-rusting, leaving the rebar with a clean fresh start for concrete placement. While you cannot completely stop rust, you can fight it and prevent it from doing as much damage as it could do otherwise. Finding rusty rebar at the construction site is not the end of the story, but neither should it be overlooked. While proper treatment of rusty rebar is an art, evaluating its severity and applying appropriate methods of cleaning, protection, and passivation, should leave you and other contractors much less overwhelmed by the sight of rusty reinforcing bars on the jobsite.

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## EASY MCI® PEEL-OFF COATING PROTECTS WINDOWS, DOORS, AND MORE!

MCI® Peel-Off Coating is an acrylic water-based coating for temporary protection of non-porous surfaces against physical abrasion, weathering, and corrosion. It is low VOC (0.2 lbs/gal [24 g/L]) and may be applied by spray, roll, or dip. When no longer needed, the coating can be peeled off the surface and disposed as solid waste. MCI® Peel-Off Coating can be tinted to several basic colors to blend in with or stand out from the surrounding environment. It offers UV resistance for outdoor applications, in addition to temporary protection from salt and chemical induced corrosion. Although water-based, MCI® Peel-Off Coating will not be softened or penetrated by most solvent-based paints.

There is more than one way to approach in-process damage on sensitive fixtures at the construction site. Rather than opting for damage control after scratches or corrosion has been inflicted, make life easier for yourself, construction workers, and facility owners by applying preventative measures from the start.

Visit [www.cortecmci.com/contact-us/](http://www.cortecmci.com/contact-us/) for more information.

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Email your 150-200 word news to [editor@icri.org](mailto:editor@icri.org). Content for the September/October 2023 issue is due by August 1, 2023, and content for the November/December 2023 issue is due by October 1, 2023. One (1) high resolution product photo may be included. ICRI reserves the right to edit all submissions.



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