NEWS ALERT



Tips for Dealing with Rusty Rebar at the Construction Site





Are you tired of dealing with rusted rebar on the construction site and not sure where to turn for help? While rusted rebar can lead to serious problems with concrete adhesion and early corrosion, knowing when and how to address varying degrees of rust can make life on the construction site much easier. The tips below will give you and your colleagues a better understanding of rusty rebar problems and how to solve them.

Why So Much Rusted Rebar?

Fresh new metal surfaces are a magnet for corrosion and will continue to be so as long as they are exposed to moisture and oxygen. That is why rebar often reaches the construction site with at least a thin layer of flash rust. The situation only gets worse the longer the rebar sits outside in the construction yard, whether in a pile of raw materials or protruding from concrete where it was partially embedded before the construction project was put on hold.

How to Determine the Level of Flash Rust

Before deciding what to do about rebar rust, it is helpful to evaluate its severity. "A Guide to Flash Rust Prevention and Protection," <u>available for</u> <u>download</u> from *Corrosionpedia*, offers some helpful tips for categorizing flash rust as light, moderate, and heavy. In addition to offering basic visual guidelines, the publication notes three tests that can be used for more detailed identification of the level of rust: the Brush Cloth Test, the Ten Tape Test, and the Tape Transmittance Test.

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.



Decide which Mitigation Path to Take

Once the degree of rust has been identified, workers can decide which corrosion control method to adopt. The following options can be used as general guidelines, but the ultimate decision must be based on personal experience and good judgment.

Option 1: Do nothing. If the rebar only shows light rust, the *Corrosionpedia* flash rust guide says it may be possible to simply wipe it off with a cloth. At this stage, the cleaned rebar can go directly into a concrete mix enhanced with an MCI[®] admixture such as MCI[®]-2005.

Option 2: 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 <u>MCI® CorShield®</u>, 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.

Option 3: 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.

Option 4: Remove loose rust and apply CorrVerter[®] **MCI**[®]. If the rust is moderate to heavy and more than can be removed with a good pressure wash, <u>CorrVerter[®] MCI[®] Rust Primer</u> is another excellent option. After removing loose rust and cleaning the rebar, workers can apply this water-based coating directly onto the rusty rebar. CorrVerter[®] 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.

Contact Cortec[®] to learn more about dealing with flash rust on rebar: <u>https://www.cortecmci.com/contact-us/</u>

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