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PRESS RELEASE**



Five Questions to Optimize MCI® / Water Repellent Selection!

Planning makes a significant difference in practically any area of life—not less so in concrete construction and repair. Engineers and project owners setting out on a new job can benefit by asking the right questions about their project goals, conditions, and current specifications. When it comes to selecting water repellents and corrosion inhibitors for construction and repair projects, Cortec® [MCI®](#) suggests asking the following questions to guide the decision-making process and optimize results.



Is the Project New Construction or Concrete Repair?

The first obvious question to consider is whether the project involves a new or existing structure. Corrosion inhibiting admixtures followed by a waterproofing membrane on the concrete surface are more common for new structures; while water repellents, waterproofing membranes, and MCI® surface applied corrosion inhibitors (SACIs) are more commonly applied to existing structures.



What Is the Current State of the Structure?

For concrete structures in need of repair, examining current conditions will help engineers understand why the repair is needed and help guide their repair philosophy. For instance, if the concrete has cracking and leakage, the engineer will need to determine how to correct the underlying problem. Engineers may also evaluate the depth of carbonation, the concentration of chlorides present, and the degree of metal loss on the rebar. The presence of carbonation or chlorides could signal the need to cut out as much of the old concrete

as possible and use an SACI such as [MCI®-2020](#) before applying a waterproofing membrane. Otherwise, the “disease” will be trapped underneath the membrane, allowing the corrosion process to continue, and deteriorating the structure from the inside out. If reinforcement bars have been substantially eaten away by corrosion, engineers may recommend replacing them. If enough metal remains, they may either mechanically clean and remove the corrosion products or chemically treat them with [CorrVerter® MCI®](#) to passivate the rebars.

What Kind of Water Exposure Is Expected?

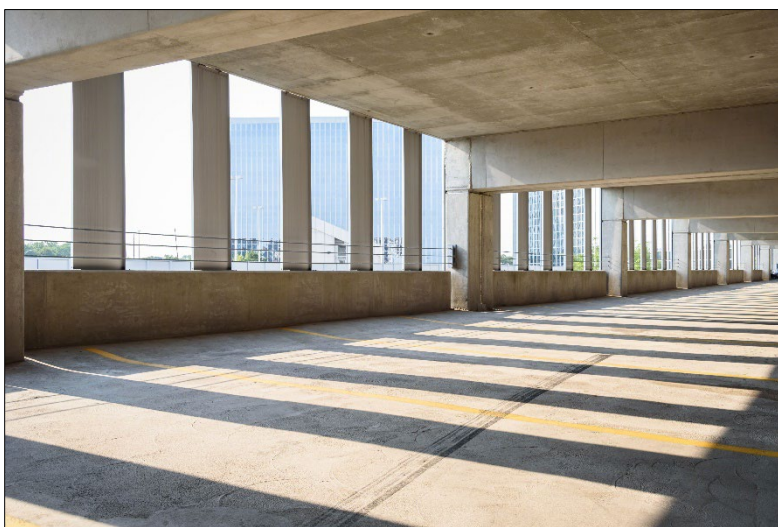
A concrete floor in the middle of a residential building is likely to have little or no exposure to damaging water or corrosives and therefore may require no corrosion inhibitors, water repellents, or waterproofing. In contrast, concrete structures that will be in direct contact with water, as in the case of a concrete substructure exposed to a high water table, may require an MCI® admixture or SACI in addition to a waterproofing membrane. Other structures may only need a dual water repellent / SACI such as [MCI®-](#)



[2018](#) or [MCI®-2019](#) to provide adequate protection where there is exposure to moisture but not constant hydrostatic pressure.

What Is the Desired Service Life and Maintenance Schedule?

Another important factor to consider is the desired service life and maintenance intervals. MCI® admixtures such as MCI®-2005 can greatly extend service life predictions in new structures at a lower cost compared to other strategies such as the use of epoxy coated rebar. The use of corrosion inhibitors in conjunction with water protection systems can further enhance the service life. When it comes to existing structures, project owners who want repairs to last 20 years without maintenance can use an SACI such as MCI®-2020 followed by a waterproofing membrane, since membrane systems typically carry 20+ year warranties. However, some DOTs reapply water repellents every five years as part of their routine maintenance and will be very satisfied with the 7-10 year reapplication recommendation for MCI®-2018 or MCI®-2019 two-in-one SACI water repellents.



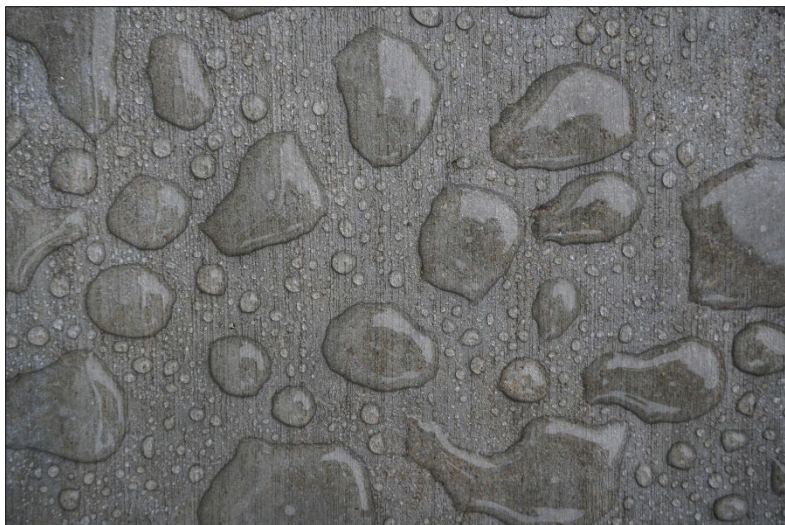
What Is the Current Specification?

One other question that could seem irrelevant but can actually be very helpful to ask is what products have been previously used or are currently specified. For instance, if a water repellent has already been applied, a water-based SACI such as MCI®-2020 will not be able to penetrate the concrete pores and should be replaced by MCI®-2019, which can be applied on top of other partially remaining silane water repellents. Talking with engineers about what products are typically used can also make it easier to identify areas

of potential waste—sometimes MCI®-2018 is really all that is needed instead of both MCI®-2020 and a waterproofing membrane!

Make the Most of Your Concrete Project

There are many considerations that go into the choice of water repellents and corrosion inhibitors for new structures and concrete repairs. Asking the questions above can be a simple way to make the most of a concrete repair or new construction project by selecting the most helpful products and eliminating unnecessary or inappropriate ones. [Contact Cortec® MCI® for further help choosing a tailored combination of MCI® and water repelling materials.](#)



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