

How Concrete Gets Damaged

It's Porous

Concrete is, somewhat surprisingly, porous. While it is very hard, it also has millions of tiny pores and microscopic cracks. Under a microscope, concrete looks more like a sponge than a rock.

Salt, Water, and Other Chemicals Get in the Pores and Break it Down

Salts, chemicals, and freeze/thaw cycles compromise concrete. Salt and water get into the pores of the concrete and attack the bonds. Water gets into the pores and expands up to 18% when it freezes. This pressure pops the surface of concrete off, exposing the rocks, and creating an unattractive look and a potential safety issue.

Salt Is Acidic, Concrete Is Alkaline

Salt is especially bad for concrete because it is slightly acidic, and reacts with a highly alkaline concrete. This reaction breaks the bonds holding the concrete together and, given enough time, will reduce the concrete to sand and rocks. You can tell when this damage is occurring by measuring the pH of the concrete. Healthy concrete has a pH of 10 to 11. Lower pH levels indicate the deterioration is under way.



Salt's acidity reacts with highly alkaline concrete to cause damage.



Poor Installation Makes Concrete Vulnerable to Damage

Engineering concrete is a lot more complicated than one might think. A lot of attention is paid to curing conditions, but most of the damage to concrete is started when the mixture is made. Concrete contains 4 basic ingredients: Portland cement, sand, rocks, and water. The proportions of these ingredients are critical to the strength and performance of concrete. If these proportions are off, even a little bit, concrete is compromised. The most common issue is adding too much water to the mix to make it easier to work. Too much water weakens the concrete and creates a pore structure that invites damage. Even concrete that is installed correctly can be compromised by salt, chemicals, and freeze/thaw cycles.

The key to protecting your concrete is to first have properly mixed and placed concrete, and then to prevent salts and water from entering the concrete. CreteDefender™ permanently prevents salts and water from entering the concrete.



CRETE DEFENDER™
Permanent Concrete Protection.

For Order Information Contact:

CreteDefender, Inc.

3090 Helmsdale Place, Suite 220-703

Lexington, KY 40509

How CreteDefender™ Works

CreteDefender addresses the problems that cause concrete damage. It prevents salts, water, and other damaging chemicals from entering the concrete by filling the pores and controlling the pH.

It Fills the Pores to Keep Salt and Water Out

CreteDefender is unlike any other sealer or protectant. It is a chemical that reacts to elements in concrete. This reaction creates a gel that fills the pores and tiny cracks in the concrete. The gel hardens and restores concrete's natural pH and renders it impervious to water, salt, and other chemicals.



It Is Not a Coating or Sealer

CreteDefender is not a coating. Unlike coatings, CreteDefender doesn't sit on top of your concrete. Its reaction penetrates deep into the slab...up to 5 inches deep.

It Can't Wear Off – It's Permanent!

CreteDefender can't wear off, and can't wear out. CreteDefender becomes a permanent part of the concrete matrix. While air molecules can pass through concrete, liquid, chlorides (salts), and other chemicals can't get past CreteDefender's impenetrable defenses.

It Prevents Further Deterioration

CreteDefender will actually arrest the damage occurring in your concrete, and prevent it from deteriorating.

It's Safe

CreteDefender is environmentally safe. It won't harm plants or grasses, has no VOC's, and the EPA says that any spill can be washed directly into the storm sewer.

What CreteDefender Will Do:

- Make concrete impervious to salt and water
- Prevent freeze/thaw damage
- Restore the pH of concrete
- Harden and increase the abrasion resistance of concrete
- Eliminate dusting and flaking
- Work inside or outside
- Stop the deterioration caused by salts and other chemicals

What CreteDefender Will Not Do:

- Prevent or stop cracking
- Make good concrete out of bad
- Stop spalling, flaking, or popping due to improper concrete proportions or improper finishing
- Seal large cracks
- "Resurface" the concrete
- Concrete block (CMUs), brick, and similar cement products are too porous for CreteDefender to be effective.



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