



Concrete Protector & Restorer

Concrete Sample—Carbonation (Dusting)

The Problem

Carbonation or dusting is chalking or powdering at the surface of a concrete slab.

The characteristic of surfaces that have dusting are: they powder under any kind of traffic and they can be easily scratched with a nail or even by seeping in severe cases.

Dusting results from a surface that is soft. This can be caused by premature finishing, excess bleed water (resulting from placing concrete directly on nonabsorptive material or high w/c ratio concrete in cold temperature), insufficient or no curing

Carbonation results from inadequate ventilation in closed quarters where carbon dioxide from open salamanders, gasoline engines or generators, power buggies or mixer engines may cause a chemical reaction with the concrete surface that greatly reduces the strength and hardness of the surface.

3M Concrete Protector & Restorer (CP&R) Solution

Since CP&R is a topical surface application with very low viscosity, it can penetrate the soft top layer of concrete that is dusting and consolidate the soft surface layer and give added strength and abrasion resistance that will help reduce or eliminate dusting.

CP&R can help improve the durability and strength of surfaces that have carbonation or dusting because of the high strength that CP&R develops once cured. CP&R high mod develops compressive and tensile strength exceeding that of normal concrete. CP&R low mod is an elastic product that can accommodate some movement and also help improve surface durability. Both products have excellent penetration ability.

Because CP&R is very low viscosity, it can penetrate into the very tiny pores and capillaries of concrete with carbonation and dusting. Once CP&R gets into poorly cured concrete, it actually becomes an integral part of the surface concrete. Once cured, the CP&R hardness and toughness contributes to the concrete surface hardness, strength and water repellency.

Many of the benefits of treating porous concrete (high w/c ratio) or poorly cured concrete with CP&R are the same as treating concrete that has carbonation or dusting. Concrete may have more than one cause for the problems. See other Concrete Sample sheets for related problems and information.

IMPORTANT NOTICE: This sheet was prepared as an introductory summary of the 3M product described herein. The information provided herein is based upon typical installation conditions and is believed to be reliable. However, due to the wide variety of possible intervening factors, 3M does not warrant that the expected result will necessarily be obtained. Details concerning product specifications and guarantee may be obtained from 3M. Specifications are subject to change. Sale of subject product(s) or system(s) is limited to 3M's and seller's conditions of sale INCLUDING THOSE LIMITING WARRANTIES AND REMEDIES.

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