SpecChem
Solution to Service

DRY-SHAKE FLOOR HARDENERS APPLICATION GUIDELINES

Introduction

The following guidelines outline the general installation of SpecChem manufactured non-metallic/metallic natural and colored dry shake floor hardeners. A thorough review of the project concrete mix design must be completed prior to assure compatibility and to better anticipate any potential timing or finishing issues. The contractor and engineer are encouraged to consult the product's technical data sheet regarding possible additional suggestions for a successful installation.

The following recommendations of ACI 302 and the following topics should be carefully reviewed prior to the pre-slab meeting.

Application Guidelines

1. "Dry Shake Floor Hardeners" are formulated to be applied to properly designed, non air-entrained concrete. Conditions such as high winds, low humidity or hot or cold weather require mix design changes and adjustments in application and/or finishing procedures. Use SpecFilm, evaporation retarder, in dry, windy conditions, to help retain critical moisture and prevent plastic shrinkage cracking. The use of SpecChem's IntraFilm as a finishing aid to lubricate the concrete surface for improved workability and improved finish.
2. A well compacted, leveled sub-grade is required. The recommendations of ACI 360, "Design of Slabs on Grade", should be followed.
3. Pozzolons such as fly ash and slag should be avoided since they can decrease bleed water and delay overall bleed. Up to a maximum of 12% by weight of cement is allowed provide the complete mix design is reviewed and approved
4. Calcium chloride or admixtures containing more than 0.05% chloride ions are not permitted dry shakes. Total air content must be below 3% for all dry shakes.
5. The proper number of bags shall be positioned on both sides of the slab placement prior to the start of each days concreting operation.
6. Note: Colored (pigmented) dry shakes require special attention to achieve a uniform color. Usually a minimum of 1.5 lbs per sq-ft is required to achieve a bold, uniform color. If the job involves placement of a colored dry shake, care should be taken with regards to the following:
    a. Delay application of the shake as long as possible to get the maximum color saturation on the slab surface.
    b. Apply the shake as evenly as possible and in two applications for maximum uniformity.
    c. Do not burnish the final trowel. Best appearance is achieved by hand troweling the final finish.

SpecChem
Solution to Service

DRY-SHAKE FLOOR HARDENERS MIX DESIGN GUIDELINES

Concrete Design Requirements

Minimum Compressive Strength = 4000 psi
Minimum Portland Cement = 5.5 sack (or 517 lbs)
Water/cement ratio = .50
Total Air Content = 3% (no air entrainment agent should be used)
Maximum Slump (without plasticizer) should not exceed 4"
Maximum Fly Ash/Slag Content not to exceed 12% of cement weight
Aggregate Ratio = Fine Aggregate (wt)/Total Aggregate (wt) = .40-.45 approx (avoid gap graded aggregates)

A 10′ x 10′ mock-up is recommended to verify consistency, bleed, and finishability.

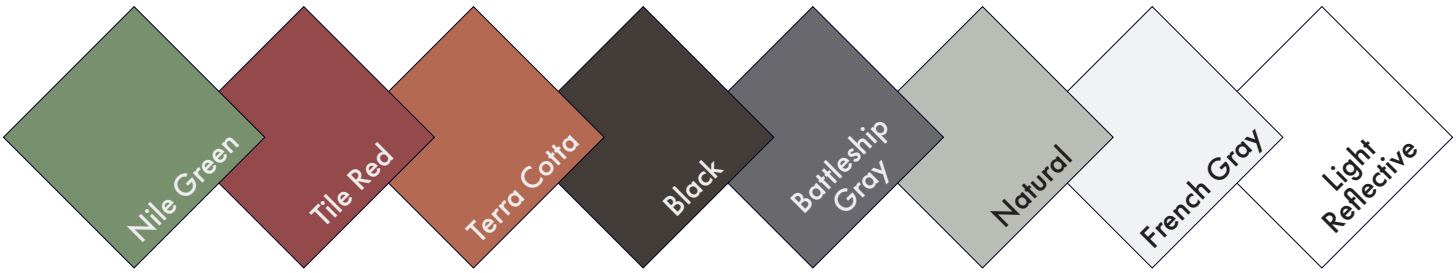
Mix Designs for Metallic Hardeners shall not contain any calcium chloride or chloride-based admixtures.

In general, admixtures will not effect the dry-shake but will effect the amount of bleed water therefore the timing of dry shake application and proper finishing of the treated surface.

The dry shake contractor is responsible for judging the proper timing for application and finishing.

Although bleed water is critical for the dry-shake to properly bond to the concrete, premature finishing and entrapment of bleed water can cause delaminations and blistering.

Color Chart



The SpecChem Quartz Hardeners System offers proven durability in manufacturing plants, institutional facilities, high-traffic warehousing and aircraft hangars. Improved abrasion and impact resistance coupled with available colors make retail applications are *attractive, durable* and *cost-effective*.

The SpecChem Metallic Hardeners system produces concrete floors with the ultimate in resistance to abuse from heavy industrial equipment, and in waste transfer and recycling stations. Increased abrasion and impact resistance up to 800% over normal 4000 psi concrete makes the SpecChem System the preferred choice for today's heavy industrial floors.