

# DEKO BETON

*Ready-to-use, penetrating, reactive stain that chemically combines with cured concrete to produce permanent, variegated or translucent color effects.*

## Product Description:

Formulated to add color to uncolored concrete or to change the color of colored concrete, DEKO BETON chemically reacts with the surface of cured concrete to produce unique and permanent color effects.

DEKO BETON typically creates uneven, variegated or translucent color effects much like the shadings of natural stone or the aged appearance of a timeworn patina. Distinctive and lasting, the look obtained is ideal for exterior hardscapes, interior floors, walls, and artificial rock features. The result is unique to each concrete surface and cannot be duplicated with other coloring materials.

Chemically stained floors mimic the aged appearance of those from ancient civilizations or assume the understated aspect of modern sculpture. Walkways and eye-stopping features, such as concrete walls, blend aesthetically into the landscape. Concrete rock features lose their commonplace appearance and assume a rich, natural beauty. Commercial installations gleam with colored, easy-to-maintain floors. Many distinct, one-of-a-kind design effects are possible. Experimentation with stain colors and application methods is required, and the production of test sections is a necessity.

The color of chemically stained concrete is superior in durability and abrasion resistance to that of concrete surfaces coated with acrylic stains or other types of paint which can wear or weather off quickly and may delaminate. Due to their chemical reaction with concrete, colors become part of the surface without developing a film. They will not fade, chip, crack, or peel and wear only as the concrete wears.

## Surface preparation:

Prior to stain application, a representative lobsite test section must be produced. Concrete flatwork must have a uniformly surface.

Surrounding areas, landscaping, and adjacent surfaces should be protected. Prior to making DEKO BETON applications, precautions should be taken to prevent water penetration into the concrete from any source. Sprinklers and fountains should be adjusted to avoid wetting the surface.

Though the effect achieved is primarily dependent on the surface of the concrete to which it is applied, weather conditions should also be considered when planning DEKO BETON applications. The chemical stain will dry faster and may require more material or additional applications to produce the desired results in hot, dry, and windy weather. Applications made at low temperatures may not achieve the desired color effects. Rain will wash the chemical stain from the surface prematurely and runoff may stain adjacent areas or damage landscaping.

All surfaces must be sufficiently cured and completely clean, sound, and free of any debris, contamination or weakly bonded surface material. Immediately prior to chemically staining, the concrete must be thoroughly cleaned. The surface should be swept and then pressure washed or scrubbed using a rotary floor machine. Use of a suitable, high-quality commercial detergent will facilitate cleaning. The surface must be rinsed after cleaning until the rinse water is completely clean.

Coatings, water repellents, previously applied adhesives, and curing membranes must be removed by sandblasting, though small spots of paint may be removed with a scraper and a commercial paint stripper. Acid washing should normally not be used as a cleaning procedure, since it removes necessary reactants from the surface.

An indication of whether the concrete is penetrable can be obtained by spotting the surface with water. The water should immediately darken the substrate and be readily absorbed. If the water beads and does not penetrate or only penetrates in some areas, additional surface preparation and testing must be performed.

In some instances, on dense concrete surfaces, mechanical means to open the concrete surface such as light sandblasting or shot-blasting, high-pressure water-blasting, or use of a rotary floor machine with a nylon grit attachment may be needed and are preferable to acid washing to make the surface sufficiently penetrable for the chemical stain to react. Newly placed concrete must be sufficiently cured, a minimum of 14 days.

Liquid curing materials must not be used.

## Application:

All surfaces must be dry and properly prepared as described in section Preparation. Surrounding areas, landscaping, and adjacent surfaces must be masked or protected from spills, overspray, tracking, equipment contact, and runoff. Adjoining walls of porous material, such as masonry, should be masked. For safety and appearance, application procedures should be planned so that the wet surface is not stepped on. Safety precautions must be followed and full protective gear must be worn.

The color of the liquid DEKO BETON will have no resemblance to the final color produced on the concrete surface. The solution will appear transparent when first applied but will assume a cloudy or muddy appearance as the chemical reaction occurs.

DEKO BETON normally fizzes while reacting on concrete. The DEKO BETON solution should be transferred to the surface by brush or spray and immediately scrubbed in as soon as it touches the concrete, using a circular or figure eight motion. For most applications the solution should be poured into a wide-mouthed container and then lifted from the container to the concrete surface with the brush, keeping bristles upward to reduce splashing. In larger areas or on vertical surfaces, spray equipment may be used to transfer the solution to the concrete. Working as a team, one workman should spray the DEKO BETON solution evenly a few inches ahead of the brush while a second workman scrubs it into the surface.

Work in small sections, keeping the brush in constant contact with the surface and in continuous motion. The DEKO BETON solution should be gradually spread until all fizzing action ceases. To avoid lap marks, reacted solution should not be spread to new work sections, but should be brushed back over the section just treated. New applications of chemical stain should be overlapped with and worked into the edges of adjacent, still-wet, previously treated areas. A wet edge must be maintained.

During brushing the surface should be thoroughly and uniformly saturated with the liquid DEKO BETON solution, but it should not be splashed, dripped or allowed to puddle in joint indentations and depressions unless desired for the color effect. Stepping on wet surfaces must also be avoided. Such irregularities or footprints will remain apparent in the surrounding surface and should be brushed out immediately and permitted to dry evenly.

The DEKO BETON solution should be applied to vertical surfaces in the same manner, starting at the bottom and proceeding upward. Over application leading to rundown must be avoided.

Reaction time depends on wind conditions, temperature, and humidity. Whether the DEKO BETON solution remains wet or dries on the surface, it should be allowed to remain in contact with the concrete until the desired effect is obtained, a minimum of 4 hours. Proper safety precautions must be taken to prevent contact with the surface until the stain residue is removed and the surface rinsed.

For one-color or mixed-color applications, the chemically stained surface should be washed between applications so that the color effect can be evaluated before another coat or color is applied.

## Rinsing:

After the final application of DEKO BETON has remained on the surface for a minimum of 4 hours, all unreacted residue must be neutralized and then removed completely prior to sealing. A solution of baking soda (sodium bicarbonate) and water, using 0,5 kg. of baking soda per 20 L of water, can be used to neutralize the residual. Apply the solution until it stops fizzing. After neutralization, the surface must be rinsed thoroughly with clean water several times to remove soluble salts. While rinsing, lightly abrade the surface using a low-speed floor machine equipped with a white pad to remove any residue and/or weakened surface material. Runoff may stain adjacent areas or harm plants. It should be collected by wet-vacuuming or absorbing with an inert material.

After rinsing is complete, a pH test using litmus paper, pH paper or a properly calibrated surface pH meter must be performed to verify that no residual acid is present. A pH value of 7 or higher indicates that all acid has been neutralized. If the tested pH value is below 7 the neutralization step outlined above must be repeated until a pH value of 7 or more is obtained. After completion of neutralization, rinsing, and verification that no acid is present, the stained surface must be tested for cleanliness by wiping the surface with a white cloth. If residue appears on the cloth, additional surface cleaning must be performed.

Failure to completely remove all residue prior to sealing the surface will cause appearance defects, adhesion loss or peeling, reduced durability, and possible bonding failure and delamination of the sealer.

All stain residue, runoff liquid, rinse water, absorbent materials used during application, and discarded equipment must be collected and disposed of in accordance with local, state, and federal regulations. All chemically stained surfaces must be protected from traffic until they are sealed.

## Sealing:

As soon as possible after the procedures of Rinsing have been completed, the surface should be sealed with DEKO SIL.

## Coverage:

Coverage will vary widely depending on the porosity and texture of the surface, composition and age of the concrete, preparation and application techniques, number of applications, and other factors. The coverage rate is approximately (0,2-0,3 kg/m<sup>2</sup>) per application. A more exact coverage rate can be determined by producing representative jobsite test sections as described in section

## Color Effects:

DEKO BETON is available in four standard colors approximated on DEKO BETON Color Chart. The color effect produced is unique to each concrete surface, and may differ significantly from that shown on the color chart. Experimentation with stain colors and application methods is required. A representative test section must be prepared on the jobsite concrete to verify and approve suitability and color.

Wide color variations, mottling, and unevenness of color are normal and usually desired. These variations will be heightened when DEKO BETON flatwork is sealed with DEKO SIL.

To produce satisfactory color effects more than one DEKO BETON application may be required. On older or weathered concrete, the color may not fully develop. Depending on the composition of the aggregate, DEKO BETON may color the aggregate as well as the concrete matrix when applied to exposed- aggregate concrete.

## Packing:

DEKO BETON is available in 5, 10 & 20 plastic containers.

## Storage:

Under normal conditions when properly stored, the shelf life of DEKO BETON is at least 1 year. Containers should be tightly closed and stored upright, away from direct sunlight, combustible materials and sources of heat. Inventory must be rotated to maintain product that is within shelf life limits.

### Health hazard:

The products contain reactive constituents which in unbound condition partially harmfully affect the health. Use appropriate protective equipment. If the material has been splashed on the skin or into the eyes, they should be immediately rinsed with pure flowing water. In case it has been swallowed, it is necessary to ask for medical assistance.

### Cleaning and discarding:

Cleaning of loose residues of DEKO BETON is performed with water. The old and used packing should be discarded in accordance with the local relevant regulations for that kind of waste.

We recommend for the way of application and required quantities to be adjusted to the conditions of works, as well as use of appropriate equipment.