

PENETRATING CONCRETE SEALER

MOISTURE SOLUTIONS FOR CONCRETE

This Spec Data sheet conforms to the editorial style prescribed by the Construction Specifications Institute. Manufacturer is responsible for technical accuracy.

1. Bone Dry Penetrating Concrete Sealer (PCS)

Bone Dry PCS is a colorless, odorless, non-toxic, non-flammable, low viscosity, spray applied liquid formulation that provides a permanent internal moisture barrier for waterproofing and preserving new and old concrete.

Bone Dry PCS will also seal concrete block or cinder block that has been fortified with Bone Dry Primer.

2. **Manufacturer:** Bone Dry Products, Inc.
6520 67th Street
Kenosha, WI 53158

3. Product Description

Bone Dry provides a unique barrier for waterproofing concrete and dense cementitious masonry, plaster and patching materials products.

Whereas, most other waterproofing products develop a surface coating, Bone Dry is designed to penetrate deeply (up to 4 inches) where it becomes an integral part of the concrete. Bone Dry is a water based internal waterproofing system which contains the same inorganics present in concrete.

A proprietary wetting agent composed of sixteen enzymes remarkably reduces the liquid's surface tension, which enables the Bone Dry to penetrate deeply into the small pore diameters and hairline cracks.

Initially, the main constituents of the Bone Dry chemically react to form a semi-rigid gel within the concrete pores, fissures and interstitial spaces to prevent the passage of water and other liquids. As the chemical reaction continues, a crystalline structure develops within the concrete where the resultant chemical compound becomes an integral part of the concrete to permanently seal the concrete against the passage of water and other liquids. As the chemical reaction continues, Moisture Vapor Transmission is significantly reduced.

Basic Uses:

Bone Dry preserves new or old concrete. Bone Dry hardens new concrete and retards dusting without altering the surface appearance, texture, or bonding characteristics. The occlusive seal formed by Bone Dry limits deterioration of concrete and dense

cementitious masonry by resisting the penetration of acids, alkalis, oils and salts.

Bone Dry is formulated to perform against below grade hydrostatic pressure and is also excellent as an on grade moisture barrier.

Bone Dry will seal against hydrostatic pressure; however, flowing water must be stopped before application.

Advantages:

- hardens concrete, minimizing surface dusting, pitting, spalling and hairline cracking
- virtually stops moisture vapor transmission
- inhibits water seepage and saponification
- resists acid, alkali and salt and oil attack
- seals against seepage below grade (i.e. from hydrostatic pressure)
- stops capillary action
- aids in curing new concrete uniformly, resisting spot drying and hairline shrinkage cracking – can be applied immediately after finishing
- ejects contaminants which have penetrated concrete.
- prepares concrete surfaces for subsequent applications of paint, stains or adhesives specifically formulated for use on concrete surfaces – a test area should be tried before proceeding with any large areas of floor coatings or floor coverings – moisture testing is often used in this determination
- promotes greater paint durability by helping to resist peeling, cracking or crumbling – increases bonding strength of latex and poly-vinyl paints
- Before painting over Bone Dry treated areas, the surfaces should be flushed with clear water until the surface no longer exhibits leaching of alkali or foreign matter.

Limitations:

- Bone Dry is formulated primarily for concrete and other substrates containing calcium carbonate and lime and does not effectively seal asphalt, metal or wood, or clay products

COMPOSITION:

Bone Dry is a non-toxic, (water borne) blend of inorganics which react with the natural by-products created during the formation of concrete to form an internal system of suspended solids. These suspended solids extend throughout the concrete filling the capillaries and pores thereby creating a permanent moisture barrier. Bone Dry contains no organic materials or inorganic heavy metals. Bone Dry is neither flammable or explosive and does not emit any harmful fumes.

TYPES:

Bone Dry PCS for normal applications

Bone Dry Primer is required to 'fortify' concrete block or cinder block prior to applying the Bone Dry PCS

SIZES:

5 Gallon Plastic Pails

55 Gallon Steel or Plastic Drums

4 Gallons per Case

4. TECHNICAL DATAPhysical Properties

Appearance	Colorless
Odor	Negligible
Toxicity	None
Flash Point	None
Resistivity	50 Ohms
pH	12.1 pH Scale Units
Total Solids	10.1 %
Specific Gravity	1.075

Compressive Strength:

Bone Dry significantly increases the compressive strength of concrete because the silicate constituent of the material reacts with the calcium hydroxide (present in all concrete) to form calcium silicate hydrate.

Absorption:

The chemical reaction between Bone Dry and the free lime and alkali within the concrete seals the small pores and hairline cracks to impede the absorption of moisture.

ASTM-96 Moisture Vapor Transmission:

Significantly reduces moisture vapor transmission.

CTL tests results showed significant reductions when compared to control samples.

Stain Resistance:

Treated concrete is noticeably more resistant to staining and is more easily cleaned than untreated concrete.

Dusting Resistance:

Concrete treated with Bone Dry is significantly more resistant to dusting as compared to untreated control samples.

Freeze Thaw Resistance:

Bone Dry imparts an improved resistance to freeze-thaw damage under test conditions.

Resistance to Salt Attack:

Bone Dry application to concrete imparts resistance to salt attack (5% NaCl solution) under freeze-thaw conditions.

Resistance to Chemicals:

Concrete treated with Bone Dry develops a high resistance to chemical attack. This resistance is imparted by the highly chemical resistant inorganic solids which permeate the concrete and form a protective coating around the individual cement particles.

Concrete treated with Bone Dry is highly resistant to oils, grease, petroleum and non-petroleum based hydrocarbon solvents, caustic alkalis and most of the organic and inorganic acids.

Approvals:

USDA - chemically acceptable as a coating for application to structural surfaces where there is a possibility of incidental food contact in establishments operating under the Federal Meat and Poultry Products Inspection Program.

Approved by The Regulatory Enforcement and Animal Care (REAC) division of the U.S. Dept. of Agriculture for use in all animal clinics and in holding and shelter facilities.

W.H.O. approval for potable water storage tanks.

5. Installation

Preparatory Work:

No preparatory work is generally required. However, if the concrete surface is coated with heavy wax, thick grease, recently applied surface sealer, rubber or acrylic paint or other impervious material exists, remove such materials so that the Bone Dry will be allowed to penetrate through the surface of the concrete.

The surface of slick, hard troweled concrete should be opened up by acid etching or mechanical means to facilitate the proper penetration of the Bone Dry.

Method of Application:

- a) Dampen surface to be treated (do not saturate) using a fine mist water spray.
- b) Bone Dry must be applied at full strength to attain the desired results
- c) Saturate the surface thoroughly with Bone Dry at an approximate rate of 170 square feet per gallon, depending upon porosity of the concrete.

Low pressure spray equipment, such as a hand pumped garden type sprayer works well for medium sized areas. For large areas, airless spray equipment is very efficient. Small areas can be effectively treated using a spray bottle. Brushes or rollers are not recommended because of the low viscosity of the Bone Dry.

Do not allow the Bone Dry to pond or puddle, as a white residue will likely form on the surface of the concrete. Move the excess material from the low spots on the floor to the high spots with a squeegee, mop or broom. Any remaining material should be removed with a wet vac or mop.

The time for additional applications can be judged by observing the time it takes for the Bone Dry to soak into the concrete. If the Bone Dry soaks in quickly, generally less than fifteen minutes after application, additional material should be applied.

For vertical surfaces, such as basement and outside walls, follow standard procedures as described above. Multiple passes with the spray apparatus will be required to achieve the proper coverage rate.

- d) **IMPORTANT:**
Indoors - Approximately 2 to 3 hours after application of the Bone Dry, water dampen the treated surface using a fine water spray mist.

Outdoors – To prevent flash evaporation of the Bone Dry from the effects of wind or direct sun exposure, keep the surface damp for 24 hours. **CAUTION:** Do not flush with water as some of the Bone Dry still on the surface may be washed away by this action.

- e) If necessary, 24 hours after application, flush or mop the surface thoroughly with water to flush off any foreign material that may have been brought to the surface. This foreign material can create adhesion issues for floor coatings or adhesives. Repeated flushing may be required as the Bone Dry brings contaminants to the surface.
- f) **Curing new concrete:** Apply Bone Dry to the surface as soon as the concrete finishing operations have been completed and the when the surface can support foot traffic without being disfigured; or when the forms have been removed, saturating the surface thoroughly. Concrete will cure slowly, producing a hardened waterproof surface. Bone Dry is excellent in hot or windy weather, since it promotes uniform curing, increases density, resists hairline shrinkage cracking and stops surface dusting.

Precautions:

Bone Dry should not be allowed to remain on aluminum or glass, including eyeglasses. In the event of contact, wipe off immediately with a wet cloth or sponge.

Bone Dry will stiffen leather gloves or footwear.

Bone Dry should not be applied to glazed floor or wall tile, or glazed or hard fired brick where the glaze will prevent the penetration of the material.

However, Bone Dry may be applied over these materials if the intent is to seal the grout joints. In such cases, after the Bone Dry has sufficiently soaked into the grout, remove all excess material from the surface with a wet vac, squeegee or mop. Wipe the surface with a damp cloth or sponge to remove any remaining film. This will greatly minimize the possibility of a white deposit or film from forming on the tile or brick. When in doubt, apply Bone Dry to a small test area.

Bone Dry is not recommended for use on porous brick, pavers or tile as there is not sufficient alkali (lime) in these materials for the Bone Dry to react with. In most cases, white discoloration will occur on such surfaces.

Bone Dry should not be applied to masonry structures having a mortar or grout containing a latex binder.

Bone Dry should not be applied or stored at freezing temperatures. 45 degree minimum surface temperature recommended.

If freezing occurs during storage, agitate the thawed material thoroughly to assure uniform solution. During outside applications, care should be taken to protect vegetation and adjacent areas from direct spray or overspray.

6. Availability

Bone Dry PCS is available through local distributors and dealers, or may be ordered directly from the manufacturer if a supplier is not available in your area.

7. Warranty

The information and data contained herein are believed to be accurate and reliable; however, it is the user's responsibility to determine suitability of use. Since Bone Dry Products, Inc. cannot know all of the uses to which its products may be put, or the conditions of use, it makes no warranty concerning the fitness or suitability of its products for any particular purpose.

The user should thoroughly test any proposed use of our products and independently conclude satisfactory performance for the given application. Likewise, if the manner in which our products are used requires agency or government approval, user must obtain it.

Bone Dry Products, Inc. warrants only that its products will meet its current specifications. There is no warrant of merchantability of fitness for use, nor any other expressed or implied warranties. The user's exclusive remedy and the sole liability of Bone Dry Products, Inc. is limited to refund of the purchase price or replacement of any product shown to be otherwise than as warranted. Bone Dry Products, Inc. will not be liable for consequential or incidental damages of any kind.

Suggestions of previous users should not be taken as inducements to infringe on any patents.

8. Available Guarantees

Contact us for site specific guarantee options.

9. Technical Services

Bone Dry Products, Inc. maintains relationships with industry professionals available to assist with any application. Our Research and Development Engineering Department is continually working to improve existing products and methods as well as developing new products.

10. FILING SYSTEMS

Bone Dry Products, Inc.
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