

### NB 1 GREY

## POSITIVE AND NEGATIVE SIDE CEMENTITIOUS WATERPROOFING

### Uses and Components

The KOSTER NB1 Waterproofing System has been developed to waterproof cement-based substrates through the process of crystallization. KOSTER NB1 contains chemicals which react with moisture and ingredients in the substrate to form crystals which penetrate deep to fill the voids and capillaries to produce the waterproofing effect. KOSTER NB1 becomes an integral part with the substrate itself.

KOSTER NB1 may be used on the positive as well as negative side of structures. It resists water pressures in excess of 400 feet and may be considered a permanent waterproofing system as long as the substrate remains sound. Even freezing and thawing cycles will not negatively affect the material.

It has excellent abrasion resistance and does not require protection board for backfill.

KOSTER NB1 is supplied in powder form. It is mixed with a solution of KOSTER SB Bonding Emulsion and water. The SB Bonding Emulsion is added to improve the curing and adhesion to steel when waterproofing between steel and concrete takes place. The SB Bonding Emulsion also improves the abrasion resistance and elastic (lower modulus) properties of the material.

### Surface Preparation

Surfaces to be waterproofed with KOSTER NB1 must be sound, clean, free of dust, paint, curing agents, form release agents, efflorescence, etc.

Surface honeycombs must be opened up to ensure an uninterrupted, even coating application. Dampen areas to be coated with clean water just prior to the application of NB1.

Static cracks wider than 1/32" must be opened to a minimum of 1/2" x 1/2" and repaired with a mix of cement, KOSTER SB Bonding Emulsion and water at least 24 hours prior to application of NB1. (Cement/Sand ratio 1:3, SB/Water ratio 1:3).

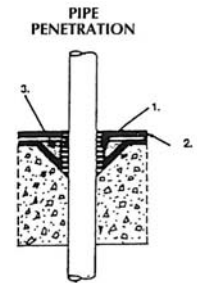
Moving cracks must be treated as expansion joints (see detail).

Never apply NB1 over standing or running water.

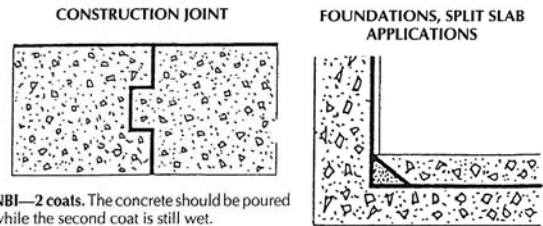
### Preparation

Cut back around pipes to give sufficient depth and clean off thoroughly.

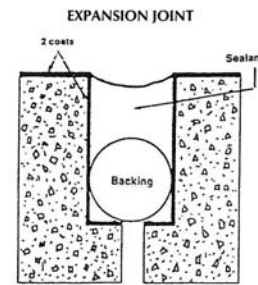
1. Apply key coat of SB BONDING EMULSION (mixed 1:1 with water and gauged with a 1:1 sand/cement mix) Let cure for 24 hours.
2. Apply standard application of NB1.
3. SB Mortar (1:3 cement:sand, (1:3 SB BONDING EMULSION/Water).



For additional information see NB1 – CSI Spec.



NB1—2 coats. The concrete should be poured while the second coat is still wet.



NB1—2 coats. Allow NB1 to cure a minimum period of 72 hours before applying backing and sealant.

### Technical Data

TEST PROPERTIES: Results of Law Engineering Testing Comp. No. 5820472101

TEST METHOD	CURE TIME	RESULTS
Permeability ARMY C-E Positive side CRD-C-48-73	28 days	200 psi (461.1 ft. of water head) no signs of leakage, softening or discoloration
Negative side CRD-C-48-73 mod.	28 days	200 psi (461.1 ft. of water head) no signs of leakage
Tensile strength ASTM C-190	28 days	340 psi average
Compressive strength ASTM C-109	28 days	3330 psi average
Abrasion Resistance	28 days	2.7 x 10 <sup>-4</sup> gram per cycle/47 cycles per mil

## Mixing and Application

When mixing KOSTER NB1 to a slurry consistency, add one 50 pound bag of NB1 Powder to two gallons of mixing liquid while mixer is operating. The Mixing Liquid shall consist of one part SB Bonding Emulsion to five parts water for positive side, and 1:3 for negative side applications. Allow NB1 to cure for a minimum period of 48 hours on positive side and 4 days on negative side before exposing it to water pressure.

## Coverage

A total of 0.5 lb/ft<sup>2</sup> will be required for most applications. However, on dense, smooth formed concrete (positive side only) a 0.25 lb/ft<sup>2</sup> application may be adequate (consult with manufacturer).

If brush applied at 0.5 lb/ft<sup>2</sup>, 2 coats will be necessary (0.25 pounds each). One 50 pound bag will cover approximately 100 ft<sup>2</sup> based on 0.5 lb/ft<sup>2</sup>. Make sure KOSTER NB1 is applied evenly, leaving no areas void. Allow a minimum of 12 hours curing time between coats. Dampen first coat before application of second coat.

## Limitations

KOSTER NB1 cannot be applied when temperatures are below 40°F or expected to drop below 40°F within a 24-hour period from the time of application.

Never apply KOSTER NB1 over active leaks. Protect from precipitation for a minimum period of 24 hours. Do not apply onto frozen substrates. Allow KOSTER NB1 to cure at least 7 days before exposing it to water pressures in water retaining structures.

Allow 24 hours cure before backfilling. Unless Broadcast and Trowel method is used, KOSTER NB1 should not be used as a wearing surface for heavy and continuous traffic.

For details on Broadcast and Trowel application, contact manufacturer.

Protect KOSTER NB1 from contact with acid and/or sulphurous attack in concentration exceeding limits for Portland Cement Type I/II.

## Warning

For water pressures in excess of 20 foot heads, use the entire KOSTER KD SYSTEM.

## Safety Precautions

Do not take internally.

Always wear protective gloves and goggles.

Use dust respirator when mixing dry powders.

Avoid splashing into eyes and skin.

Wear protective equipment.

Use only with adequate ventilation.

Wash hands immediately after use.

Consult Material Safety Data Sheet before using the product.

## Cleaning

Clean all mixing and application equipment with water immediately after use.

## For Best Results

Protect all KOSTER applications from contact with acid (below pH 7) and/or sulfurous attack (sulfates) in concentrations exceeding limits for Portland cement type I/II.

Never apply the KOSTER KD SYSTEM onto smooth substrates. This applies to the alternative method too. Substrates to receive these applications must be sound, rough and clean. Any residual material such as paint, efflorescence, etc. will prevent these KOSTER systems from performing and must be removed.

Applications on concrete block or other very porous substrates with active leaks may require additional application considerations not covered by this specification. Please contact KOSTER AMERICAN CORP. before application.

## Limited Warranty

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