



# VANDEX SUPER/SUPER WHITE

NSF/ANSI 61 APPROVED CRYSTALLINE WATERPROOFING

EUCLID CHEMICAL

## DESCRIPTION

**VANDEX SUPER** and **VANDEX SUPER WHITE** are waterproof treatments that become an integral part of concrete through a crystallization process. Once the cementitious carrier is applied to either the positive or negative side of the substrate, crystal growth occurs, blocking the capillaries and minor shrinkage cracks within the concrete to prevent any further water ingress. In addition to waterproofing, VANDEX SUPER/SUPER WHITE protects concrete substrates against saltwater, wastewater, harsh ground water and certain chemical solutions.

## PRIMARY APPLICATIONS

- Sewage & water treatment plants
- Swimming pools
- Foundations & basements
- Secondary containment tanks
- Dams & water reservoirs
- Manholes
- Tunnels & subways
- Construction joints
- Spillways
- Structural slabs
- Underground vaults
- Retaining walls

## FEATURES/BENEFITS

- Positive or negative side to minimize excavation
- Allows vapor to pass through substrate
- Remains permanently active within concrete
- Resistant to hydrostatic pressure
- Provides resistance against chemical exposure
- No membrane to tear or puncture
- Monolithic, no seams to separate
- Can be applied to “green” concrete structures
- No special surface preparation or primers needed
- NSF/ANSI Standard 61 approved for potable water use

## TECHNICAL INFORMATION

### Typical Engineering Data

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

### Material Properties @ 75°F (24°C), 50% RH

#### Permeability Testing, CRD-C 48-92

At the completion of the test, the treated specimens (6”x6” [15.2cm x 15.2cm]) did not exhibit any water leakage. All specimens were tested for 14 days under 200 psi (462 feet of head pressure [13.8 bar]). An independent laboratory test report is available upon request.

#### Water Penetration, DIN 1048

Treated specimens (7.5”x 15.5” x 4” [19.1cm x 39.4cm x 10.2cm]) exhibited an average water penetration of 9mm when tested for 72 hours under 72 psi (166 feet of head pressure [5.0 bar]). An independent laboratory test report is available upon request.

#### Compressive Strength, psi (MPa) ASTM C109

7 days.....2,500 (17.2)  
28 days.....3,500 (24.1)

#### Freeze/Thaw Resistance, ASTM C666

300 cycles.....98% Relative Dynamic Modulus

#### Chemical Resistance, ASTM C267

Treated specimens and ASTM C 494 (5,450 psi [37.6 MPa]) untreated reference specimens were immersed in brake fluid, pool chlorine (5ppm), ethylene glycol (100%), mineral oil (100%), toluene (100%), sodium hydroxide (50%) and hydrochloric acid (10%). The compressive strength and weight change of each specimen was determined after 1, 7, 14, 28, 56, and 84 days. The treated specimens either outperformed or were the same as the reference specimens. An independent laboratory test report is available upon request.

#### Flexural Strength, psi (MPa) ASTM C348

7 days.....600 (4.1)  
28 days.....900 (6.2)

#### Scaling Resistance, ASTM C672

50 cycles.....0 Rating, No Scaling

## SPECIFICATIONS/COMPLIANCES

- VANDEX SUPER is NSF (ANSI Standard 61) certified for use with potable water

## PACKAGING

VANDEX SUPER and SUPER WHITE are packaged in 50 lb. (22.7 kg) bags and 50 lb. (22.7 kg) plastic pails.

## SHELF LIFE

1 year in original, unopened package

## COVERAGE

Coverages rates for VANDEX SUPER/SUPER WHITE vary depending on the application. Below are typical applications and their usage rate.

**Positive and negative side wall waterproofing:** 320 ft<sup>2</sup>/bag (29.7 m<sup>2</sup>/bag) per coat (approximately 5 to 7 wet mils). Two coats are required. (160 ft<sup>2</sup> of wall area can be completed with one bag of product).

**Water retaining structures:** 320 ft<sup>2</sup>/bag (29.7 m<sup>2</sup>/bag) per coat (approximately 5 to 7 wet mils). Two coats are required. (160 ft<sup>2</sup> of wall area can be completed with one bag of product).

**Freshly placed concrete slabs (including split slabs):** 205 ft<sup>2</sup>/bag (19.0 m<sup>2</sup>/bag).

**Construction joints:** 160 ft<sup>2</sup>/bag (14.8 m<sup>2</sup>/bag) (approximately 10 to 14 wet mils). Only one coat is required.

## DIRECTIONS FOR USE

**Surface Preparation:** The surface must be structurally sound, clean and free of dirt, oil and other contaminants including curing compounds, form release agents, old coatings, paint and efflorescence. New concrete and masonry must be cured well enough to support the application of VANDEX SUPER/SUPER WHITE without marring the surface. All concrete laitance must also be removed. Provide an absorptive surface (CSP 1-3 in accordance with ICRI Guideline 310.2) on all substrates including precast and formed concrete. The surface must have an open capillary system for adhesion and for optimum crystalline growth. Remove form marks and other protrusions. Concrete honeycombs, cavities, joints, cracks, voids, tie holes and other defects must be opened and routed to sound material. No active water leaks should be present at the time of application of VANDEX SUPER/SUPER WHITE. Use SPEED PLUG or VANDEX PLUG to stop all active leaks. Any surface defects need to be addressed with the application of EucoRepair V100. Once prepared, the substrate needs to be soaked with water to a saturated, surface-dry (SSD) condition just prior to the application of the material.

**Mixing:** Approximate mixing ratio is 2 parts clean, potable water to 5 parts of VANDEX SUPER/SUPER WHITE powder by volume. Alternately, mix the entire 50 lb. (22.7 kg) bag or pail with 1.75 to 2.0 gal (6.6 to 7.6 L) of water. DO NOT MIX any more material than can be used within 20 minutes. Agitate the mixture frequently to restore workability.

**Application: Brush:** Apply VANDEX SUPER/SUPER WHITE to properly prepared concrete and masonry substrates with a masonry brush. Spread the material across the SSD surface and work into the surface at the specified coverage rate. If a second coat is required, apply the second coat while the coat is still "green" and can support the second coat being scrubbed over top of it. The setting time of VANDEX SUPER (gray) is approximately 60 minutes, while the setting time of VANDEX SUPER WHITE is approximately 150 minutes. Set times were determined under laboratory conditions at 72°F (22°C).

**Spray:** VANDEX SUPER/SUPER WHITE may be applied using appropriate spray equipment with compressed air (i.e. hopper gun). For spray equipment, the recommended air pressure is approx. 73 psi (0.5 MPa) with an air delivery rate of 18 ft<sup>3</sup> (500 L)/minute. If needed, spray apply a second coat while the first coat is still "green" and can support the second coat.

**New concrete slabs:** Place and screed concrete as usual. Once the concrete has reached initial set and the bleed water has disappeared, use a power trowel with float shoes to open the surface of the concrete. Broadcast VANDEX SUPER/SUPER WHITE over the surface at the specified amount with a mesh sieve or other mechanical means. The material must then be worked into the surface with float shoes prior to the start of final finishing procedures. Properly cure upon completion. This is the only application where the 7 day cure time on new concrete isn't required prior to material placement.

**Split slab construction:** Once the base slab has been placed (min. 4" [10 cm]), apply VANDEX SUPER/SUPER WHITE at the specified rate with a mesh sieve. Proceed to placing the topping slab as to not displace any of the material on the base slab.

**Construction joints:** Just prior to the placement of the adjoining slab, apply the specified amount of VANDEX SUPER/SUPER WHITE slurry to the prepared, exposed side of the slab in place. Take care to not displace the material as the adjacent slab is placed.

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**Curing and protection:** VANDEX SUPER/SUPER WHITE is cement based and will cure in the same fashion as ordinary concrete. For maximum effectiveness, it is essential that the material be wet cured for a minimum of 5 days. Once VANDEX SUPER/SUPER WHITE has hardened sufficiently, use standard wet curing processes such as wet or fog spraying, or covering with polyethylene sheeting, wet burlap or burlene. VANDEX SUPER/SUPER WHITE must be protected from rain during the first 24 hours and be protected from frost for at least 5 days. Use insulation blankets if necessary. Backfilling can occur 3 days after placement. VANDEX SUPER/SUPER WHITE treated surfaces need to be protected from gouging and scratching during the backfill process. **Application of topical treatments:** Prior to the application of aesthetic coatings over top of VANDEX SUPER/SUPER WHITE treated surfaces, the material needs to be cured and neutralized. Allow 28 days for the VANDEX SUPER/SUPER WHITE to fully cure. After that time, soak the treated surface with water and apply a diluted solution of hydrochloric (muriatic) acid (1:8, approximately 3.5%). Thoroughly rinse with clean water immediately after the application. DO NOT ALLOW the diluted acid solution to dry on the material. Use all necessary protective means (gloves, goggles, respirators and clothing) when working with the diluted acid solution.

**Filling of water retaining structures:** Filling of VANDEX SUPER/SUPER WHITE treated structures can occur once the material has had sufficient time to cure. Typically, 14 days would be required prior to filling. If the project is “fast-tracked” and the structure needs filled sooner, the material needs to be thoroughly inspected for hardness no sooner than 7 days after placement.

## CLEAN-UP

Clean mixing and application equipment with water immediately after use. Clean splatter and spills with water before material sets. If allowed to dry on the surface, removal becomes extremely difficult.

## PRECAUTIONS/LIMITATIONS

- Chemical resistance data is given as a reference. These products are NOT intended to be used on chemical containment structures.
- Do not retemper VANDEX SUPER/SUPER WHITE.
- Do not mix more material than can be placed in 20 minutes.
- Do not apply to frozen or frost filled surfaces or when temperature is below or expected to fall below 40°F (4°C) within 48 hours.
- When using in extreme conditions, follow the recommendations in ACI 305R “Guide to Hot Weather Concreting” or ACI 306R “Guide to Cold Weather Concreting”.
- Protect treated surfaces from frost for 5 days.
- Do not apply VANDEX SUPER/SUPER WHITE at temperatures above 90°F (32°C), unless the surface has been fully saturated with water at the time the application begins. Take protective measures to shade substrates in elevated temperatures.
- VANDEX SUPER/SUPER WHITE slurry is not designed as a wearing surface. Apply a protective topcoat before subjecting it to traffic.
- When applied to the inside of open cisterns, tanks, pools, etc., do not fill with water for at least 7 days after application. Inspect for hardness prior to filling.
- Allow minimum 3 days drying time before backfilling. Protection boards may be used to prevent gouging.
- Allow 28 days cure and neutralize the product before the application of coatings.
- Protect treated surfaces for 24 hours from rain.
- Apply a test patch to evaluate performance and appearance on substrates which have been subjected to contamination, efflorescence or chemical attack.
- In all cases, consult the Safety Data Sheet before use.

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