

GENERAL APPLICATION INSTRUCTIONS FOR VANDEX CONCRETE WATERPROOFING, REPAIR AND PROTECTIVE PRODUCTS

1. Introduction

The following are **general** instructions for concrete waterproofing, repair and protection using Vandex capillary active, membrane type and mortar products. For detailed information concerning the products and their application please refer to the specific Technical Data Sheet and **Application Guidelines** under **www.vandex.com**. For details concerning specific problem solutions please contact your local Vandex distributor or Vandex International Ltd.

2. Preparation of Substrate

Concrete to receive Vandex treatment must have a clean surface and open capillary system to ensure maximum bonding. Surfaces to be waterproofed should be examined for structural defects, and unacceptable conditions reported and remedied.

Remove all cement laitance, shutter release agent, curing compound, loose particles, etc. by means of light, wet or dry sandblasting, high pressure water jetting or wire brushing. Water leaks must be stopped in accordance with the VANDEX PLUG Application Guidelines.

Remove all protrusions and cut back to sound concrete, chasing out any honeycombed or damaged areas where appropriate. Construction joints and shrinkage cracks exceeding 0.3 mm should be routed out to a minimum depth of 20 mm. Shutter tie holes should be roughened.

Clean all chased out areas, shutter-tie holes, etc. and pre-water until the concrete is saturated.

Following this, fill the areas with appropriate Vandex reprofiling and repair mortar in layers, the number depending on the total layer thickness.

Brick- and blockwork substrates

Any remaining plaster, render or other substances that could inhibit bonding must be removed back to the substrate. Gypsum, remains of wood or other foreign material should be removed by appropriate means. Loose pointing should be routed out and the substrate cleaned thoroughly.

3. Pre-Watering

Prior to applying Vandex, carefully rinse all the surfaces to be waterproofed and pre-water with clean water. Pre-water several times so that the concrete is thoroughly saturated. When Vandex products are applied, the surface should be damp but not wet. Any surface water on horizontal surfaces must be removed.

For polymer-modified two component products observe product specific information on Technical Data Sheet and Application Guidelines.

4. Mixing

Place Vandex powder in a clean container, add the indicated amount of clean water or polymer dispersion for two component products and stir for at least 3 minutes with a mechanical mixer until the mixture is completely free from lumps. To maintain workability do not add water, simply re-stir the mixture.

Once mixed, Vandex materials have a limited pot life. Refer to Technical Data Sheet for details. Do not mix more material than can be used within pot life.

5. Climatic Conditions

Do not apply Vandex at temperatures below +5 °C (40 °F) or to a frozen substrate unless otherwise indicated for specific products.

6. Application

Brush application

Specific Vandex products (refer to product's Application Guidelines) can be applied using a suitable brush (mason's brush). Ensure that all cavities in the substrate are filled in order to exclude any trapped air.

If several layers are applied it is recommended that the following layer is applied whilst the previous layer is still damp. The waiting time before applying the following layer depends on the specific product and on local climatic conditions such as humidity, temperature, etc. The previous layer must not be damaged during application of the following layer.

Trowel application

A scrape coat of Vandex is applied with a steel trowel for maximum adhesion to the substrate, working from the bottom up. Ensure that all cavities in the concrete are filled in order to exclude any trapped air.

Vandex products are applied in one or several layers as specified. If several layers are applied it is recommended that the following layer is applied whilst the previous layer is still damp. The waiting time before applying the following layer depends on the specific product and local climatic conditions such as humidity, temperature, etc. The previous layer must not be damaged during application of the following layer. In addition, it is recommended that the previous layer is textured by suitable means whilst still plastic. This ensures maximum adhesion between the layers.

Spray application

Vandex may be applied using appropriate fine mortar spraying device. The air pressure, air volume and nozzle size required will depend on the type of Vandex material to be sprayed.

The compressor performance must be at least 5 bar pressure, delivering 500 l/min.

The first layer of Vandex is applied in circular motion with the spray nozzle held at a 90° angle to the substrate. The distance between the spray nozzle and the surface will depend on the spray gun/compressed air used. The material is then flattened with a suitable trowel. This operation levels the surface and increases adhesion to the substrate.

If several layers are applied it is recommended that the following layer is applied whilst the previous layer is still damp. The waiting time before applying the following layer depends on the specific product and local climatic conditions such as humidity, temperature, etc. The previous layer must not be damaged during application of the following layer.

In addition, it is recommended that the previous layer is textured by suitable means whilst still plastic. This ensures maximum adhesion between the layers. The final layer can be left directly as a spray finish or treated to the specified finish.

VANDEX SUPER dry sprinkle and power trowel application

When the concrete to be treated starts to reach initial set, the specified amount of Vandex is dry-distributed by hand using a sieve or garden type fertilizer spreader on to the concrete surface.

It is then trowelled in until coverage is uniform and the specific finish is achieved. Where specified VANDEX SUPER is dry distributed to blinding concrete or construction joints immediately prior to casting the structural slab or wall.

7. Curing and Protection

Vandex products are cement-based and will cure and harden in the same way as ordinary concrete. Setting and hardening will depend on the surrounding temperature and humidity.

For maximum effectiveness from your Vandex treatment, it is essential that the layers are kept damp for at least 5 days and protected against evaporation by sun and wind.

Careful post-watering should be carried out at intervals, starting the day following the application. Alternatively, the surfaces can be covered with plastic sheeting, wet mats or moist sand. The use of curing compounds is not recommended. In closed spaces and deep pits, air circulation should be provided for 24 hours following the Vandex application.

For polymer-modified two component products observe product specific information on Technical Data Sheet and Application Guidelines.

The freshly treated surfaces should be protected from rain for a minimum period of 24 h. Surfaces treated with Vandex should be protected from frost for at least 5 days. If necessary, cover with insulation mats.

8. Backfilling

Backfilling can be carried out 3 days after completion of the Vandex treatment. If there is a risk that the layer of Vandex will be damaged during back-filling (sharp-edged material) it must be protected by suitable means.

9. Decoration, Coating, Tiling

All surfaces treated with Vandex products, which are to be coated or painted, must be left to cure for at least 4 weeks.

When a plaster or render finish is required on top of the Vandex treatment, it is essential to apply a thin rough cast of sand and cement on the final Vandex layer while this is still tacky. If this is not practical, carefully clean the hardened Vandex surface and apply an appropriate bonding agent prior to rendering.

Coatings on top of a Vandex treatment have to be alkali resistant. Decorative coatings applied on the passive water pressure side are recommended to be water vapour permeable. When applying a paint on an elasticized polymer-modified Vandex product, it must have equivalent elastic properties.

Capillary active products

At the end of the curing period, prior to the application of coatings or paints, the surfaces should be saturated with water and neutralised with 1:8 solution of hydrochloric (muriatic) acid. Following this, the area must be thoroughly rinsed with water.

Precautions: When spraying with hydrochloric (muriatic) acid solution, use protective rubber clothing and goggles.

10. Filling of Water Retaining Structures

In accordance with standard water industry practice, particular note needs to be taken of the following points:

- Clean all surfaces (ceiling, walls, slab, columns, stairs, etc.) with drinking water (do not use high pressure)
- Remove all cleaning water
- Disinfect all internal surfaces with approved disinfectants
- Remove all disinfectant

Filling can take place when the surface treatment has hardened sufficiently, usually not less than 14 days after application.

However, if earlier filling is specifically required, filling may be considered after not less than 7 days, provided the surface is thoroughly checked for hardness.

11. Additional Information

Vandex treatments are waterproofing and protective, not decorative finishes. Discolouration of the treated surface may occur. Such discolouration in no way detracts from the waterproofing effect.

12. Health and Safety

Cementitious Vandex products are irritating to skin. Risk of serious damage to eyes. Keep out of reach of children. Do not breathe dust. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves.

For further information please refer to Material Safety Data Sheet.

The information contained herein is based on our longterm experience and the best of our knowledge. We can, however, make no guarantee since for a successful outcome, all circumstances in an individual case must be taken into consideration.