

Vandex Cemelast

Flexible, surface applied, cement based render, waterproofing barrier for positive and negative water pressure applications

USES

Waterproofing of concrete and masonry structures both new and old where live cracks are present. Vandex Cemelast is a flexible cementitious membrane and does not rely on crystal growth to achieve its waterproofing. As a result, Cemelast can be used on most masonry surfaces, including sandstone, provided that the surfaces are adequately prepared.

Vandex Cemelast has been formulated using sulphate resisting cement making it ideal for application in pH aggressive water. It can be applied to either the pressure or non-pressure faces of the concrete or masonry.

Vandex Cemelast is excellent for solving the problem of water seepage through concrete and masonry where live cracks are present in both new and old structures.

Vandex Cemelast is ideal for application in potable water structures.

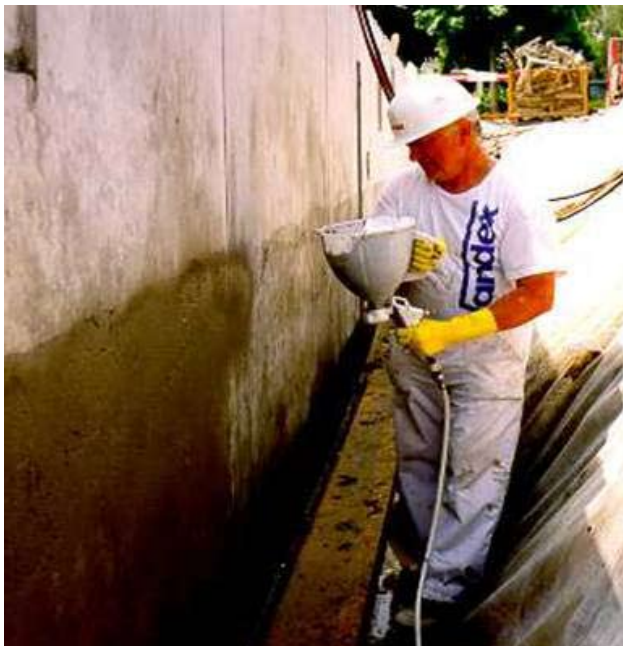
It can also be used in applications where live crack movement up to 0.3 mm exists.

ADVANTAGES

- Permanently flexible and accommodates dynamic crack movement up to 0.3 mm
- Applied to either the pressure or non pressure face of concrete
- Based on sulphate resisting cement making it suitable for use in tanks containing pH aggressive water
- Works on masonry, brick, stone and concrete blocks where crystal growth treatments are not effective
- Non-toxic
- Suitable for permanent sunlight exposure after curing
- Tested to withstand a water head of 15 metres
- Colour compatible with the host concrete
- Can be applied to damp concrete
- Suitable for use in potable water

DESCRIPTION

Vandex Cemelast is a ready-mixed, two component, polymer modified, cementitious, waterproofing membrane which is made by mixing Vandex BB75-Z with Vandex Cemelast liquid. The BB75-Z powder component consists of grey sulphate resistant cement, graded quartz sands and inorganic additives. The Cemelast liquid is the polymer component. Vandex Cemelast is waterproof and has been tested to a pressure of 1.5 bar (15m water head). The initial and final bonding capability of Cemelast is excellent, making it suitable for application to both vertical and horizontal surfaces. It is durable, resistant to frost and heat after setting and remains permeable to water vapour.



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PARCHEM	CONCRETE REPAIR	FLOORING	JOINTING SYSTEMS	WATERPROOFING
TECHNICAL DATA SHEET	SEPTEMBER 07			
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TEST REPORTS AND APPROVALS

HYGIENE INSTITUTE OF RUHRGEBIET, GERMANY

- Transmission of free chlorine

OFFICIAL MATERIALS TESTING INSTITUTE CLAUSTHAL-ZELLERFELD

- Examination of waterproofing slurry according to the Industry Federation for German Construction Chemistry

HYGIENE INSTITUTE OF RUHRGEBIET, GERMANY

- Testing of drinking water compatibility to DVGW, worksheet W347

OFFICIAL MATERIALS TESTING INSTITUTE CLAUSTHAL-ZELLERFELD

- Carbon dioxide diffusion

LABORATORIE D'HYGIENE ET DE RECHERCHE EN SANTE PUBLIQUE, FRANCE

- Range of tests confirming drinking water compatibility

AUSTRALIAN STANDARD AS/NZS 4020:1999

- Testing of drinking water compatibility

DESIGN CRITERIA

In most waterproofing applications, Vandex Cemelast is applied in 2 coats by trowel or spray at a total thickness of 2.5 mm.

Note: The maximum total thickness of all coats of the Vandex Cemelast system must not exceed 4 mm.

PROPERTIES

Form:	2 Components - cementitious powder + milky white liquid
Colour:	Cement grey (after curing)
Density (wet mix):	1.65
Crack movement:	0.3 mm dynamic crack movement
Elongation at break:	13% (20°C)
Initial setting time:	2 - 4 hours
Full cure time at 20°C 50% RH:	5 days
Physical or chemical change:	Chemical cure
Application temperature:	5 - 30°C

CHEMICAL RESISTANCE

Vandex Cemelast protects concrete against aggressive water, sea water, aggressive ground water and a range of chemical solutions.

MAINTENANCE

No special requirements, any damage identified during normal inspections should be water blasted clean, repaired and recoated as appropriate.

SPECIFICATION CLAUSES

Where so designated on the drawings, surfaces to be waterproofed shall have a surface applied, flexible cementitious waterproofing membrane installed. The waterproofing product will be produced by mixing a cementitious powder component with a liquid polymer component. The waterproofing must form an impermeable layer on the surface of the substrate and must not rely on crystal growth within the substrate in order to be effective. The waterproofing treatment must be flexible and be capable of accommodating long term cyclic crack movement up to 0.3 mm without any loss of waterproofing integrity. It must have a proven capability of sustaining pressures of 1.5 bar (15 metre water head) even after sustaining 0.3 mm cyclic crack movement. The setting time for the waterproofing must be in the range 2 - 4 hours.

The cementitious waterproofing membrane must be non toxic and be capable of being applied to concrete and masonry surfaces by trowel or by spray application through a hopper gun.

The waterproofing must be installed by a prequalified contractor nominated by the supplier and both the manufacturer and supplier must be accredited to ISO9001.

Vandex Cemelast supplied by Parchem is such a product.

SURFACE PREPARATION

When applying Vandex Cemelast to existing concrete or masonry, all surfaces to be waterproofed should be clean, sound and free of concrete curing compounds, form release agents, paints and all other coatings, dirt and contamination.

Concrete surfaces should be prepared by water blasting, grit blasting or wire brushing in order to remove the laitance and open the pore structure of the concrete in preparation to receive the Vandex Cemelast.

Concrete surfaces should be free from major imperfections. All major imperfections must be repaired with a suitable cementitious reprofiling mortar such as Vandex Uni Mortar 1-Z which is suitable for reprofiling depths of 6 mm to 12 mm. Larger repairs may be carried out using a suitable cementitious repair mortar.

PRIMING

Priming is not required on good quality concrete substrates, however all surfaces must be pre-watered before applying Vandex Cemelast.

MOVEMENT JOINTS

All expansion and movement joints should be sealed with a suitable joint sealant after application of the Vandex Cemelast. Consult the local Parchem sales office for advice on the joint sealing method best suited to your application.

CRACKS

All shrinkage and non-moving structural cracks having a width equal to or less than 0.3 mm can be waterproofed by applying Vandex Cemelast directly bridging over the crack. Live cracks can be waterproofed with Vandex Cemelast provided that the maximum crack movement does not exceed 0.3 mm. In the event of larger crack movement, consult your local Parchem sales office for advice regarding the most appropriate waterproofing system.

WATER SEEPAGE

All water seepage must be stopped using Vandex Plug prior to the application of Vandex Cemelast. Do not attempt to apply Cemelast over weeping or seeping substrates no matter how slow the seepage, as the Vandex Cemelast will be damaged by the seepage water before it has a chance to cure.

APPLICATION INSTRUCTIONS

Vandex Cemelast is supplied as 2 components. The powder component BB75-Z is mixed with a milky white liquid component, Cemelast liquid to produce a slurry which can be applied by trowel, brush or spray.

To mix, place 25 kg of Vandex BB75-Z into a clean container and add 9 kg of Cemelast liquid.

The Vandex BB75-Z powder and Cemelast liquid must be thoroughly mixed using a slow speed electric drill (300 rpm) or Festo type mixer fitted with a grout mixing paddle (PC 770163) for 3 minutes immediately prior to use. Mix only as much material as can be used in 20 minutes and stir the mixture frequently. If the mixture starts to set, do NOT add water, simply stir the product to restore workability.

Ensure that all surfaces to which Vandex Cemelast will be applied are pre-watered. The correct amount of pre-watering is measured by the substrate taking on a greenish appearance, however there must be no free surface water. A simple check can be performed by placing a hand on the pre-watered substrate and removing the hand. If the hand is wet from contact with the substrate, then the substrate is too wet and must be allowed time for the excess surface water to evaporate. Surfaces that have been pre-watered and dry out before application of the Vandex Cemelast must be pre-watered again.

Apply the first coat from the base of the wall and work towards the top using a trowel or by spray with a hopper gun.

After 2-4 hours apply the second coat "green on green" so that a chemical bond is achieved between the two coats. Do not apply more first coat during a day's work session than can be overcoated with a 2nd coat during the same day.

When applying Vandex Cemelast by spray using a Vandex hopper gun, ensure that the gun is held directly perpendicular to the surface at a distance of about 500 mm to ensure that the maximum impact energy is applied to the surface and to prevent any shadowing across small surface imperfections. After application of the first coat by spray, brush or trowel the wet surface to remove any entrapped air.

When applied by hopper gun, Vandex Cemelast produces a rough textured finish which will need to be trowelled smooth with a steel trowel.

The cure time of Vandex Cemelast is affected by both temperature and humidity. Humidity has an influence on waiting times between coats and resistance to rain. Ensure that the freshly applied Cemelast is protected from rain for the first day, and the drying effects of the sun and wind during the first 5 days of cure.

In most waterproofing applications, Vandex Cemelast is applied in 2 coats by trowel or spray at a total film thickness of 2.5 mm.

CURING AND PROTECTION

Surfaces treated with Vandex Cemelast must be protected from rain, ponded water and the drying action of direct sunlight for a minimum period of 5 days after application.

Protect all treated surfaces from wind and frost by covering with plastic sheeting, tarpaulin or equivalent.

CLEANING

Tools and equipment should be cleaned with water immediately after use.

LIMITATIONS

Vandex Cemelast is suitable for use in open headed sewerage processing tanks. Consult Parchem for specific advice on the use of Vandex Cemelast in closed sewerage environments where sulphuric acid concentrations may be high. In negative side applications, do not apply Vandex Cemelast to substrates that are weeping. Use Vandex Plug to stop all water seepage before applying Cemelast.

ESTIMATING

PACKAGING

Vandex BB75-Z:	25 kg bag
Cemelast Liquid:	9 kg pail
Vandex Uni Mortar 1-Z:	25 kg bag
Vandex Plug:	15 kg plastic pail

COVERAGE

Vandex Cemelast:	3.0 - 6.0 kg / m ² 4.25 - 8.5 m ² / 34 kg mix
Vandex Uni Mortar 1-Z:	6 - 12 kg / m ²

STORAGE

12 months in original containers stored in cool, dry conditions ie; not exceeding 30°C. Storage above this temperature may reduce storage life.

EQUIPMENT

SLURRY APPLICATION - TROWEL.

Spray application - Use fine mortar spray equipment, recommended nozzle size is 6mm.

ADDITIONAL INFORMATION

Parchem provides a wide range of complementary products which include:

- concrete repair – cementitious and epoxy
- grouts and anchors – cementitious and epoxy
- waterproofing membranes – liquid applied, cementitious and bituminous sheet membranes
- waterstops – pvc and swellable
- joint sealants – building, civil and chemical resistant
- industrial flooring systems – cementitious and epoxy
- architectural coatings
- filler boards – swellable cork, bituminous and backing rod
- ancillary products

For further information on any of the above, please consult with your local Parchem sales office.

IMPORTANT NOTICE

A Material Safety Data Sheet (MSDS) and Technical Data Sheet (TDS) are available from the Parchem website or upon request from the nearest Parchem sales office. Read the MSDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

PRODUCT DISCLAIMER

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.