


Polymer modified cementitious protective coating for sewage treatment facilities

- suitable for use in an environment subject to hydrogen sulphide corrosion
- resistant against aqueous sulphate solutions and liquid manure
- resistant to high mechanical wear

Compressive strength	≥ 50 MPa	 0761 Vandex Isoliermittel-GmbH Industriestr. 19-23 DE-21493 Schwarzenbek 09 191/192 EN 1504-2:2004/ZA.1e Surface protection system for concrete
Water vapour permeability	class 1 $s_w < 5 \text{ m}$	
Capillary water absorption	$w < 0.1 \text{ kg/m}^2 \cdot \text{h}^{0.5}$	
Adhesion strength	≥ 2.0 MPa	
Reaction to fire	class E	
Dangerous substances	complies with 5.3	

PRODUCT DESCRIPTION

VANDEX POLYCEM Z is a two component, polymer modified, cementitious surface protection coating. It consists of VANDEX POLYCEM (powder component) and VANDEX POLYCEM LIQUID (polymer component).

AREAS OF APPLICATION

- substrates: concrete and masonry
- protective coating for horizontal and vertical application
- waterproofing surface protection coating
- e.g. liquid manure tanks, trafficable sewers, sewage tanks, manholes, etc.

PROPERTIES

Owing to its composition of cement, specially graded quartz sand, active chemical ingredients and a polymer additive, a chemical and abrasion resistant waterproofing layer is achieved. VANDEX POLYCEM Z has been proven to withstand water pressure of 1.5 bar upon full curing of the product.

VANDEX POLYCEM Z has excellent adhesion properties allowing the material to be applied onto horizontal and vertical surfaces. It exhibits long term durability against freeze/thaw cycles and de-icing salts. The material is also resistant against aggressive sewage and aggressive liquids from agricultural sources.

SURFACE PREPARATION

The substrate to be treated must be sound and even, open-pored, roughened and its surface free from voids, large cracks or ridges. Any adhesion reducing substances like bitumen, oil, grease, remains of paint or laitance must be removed by suitable means.

Water leaks must be stopped in accordance with the VANDEX PLUG specification.

Thoroughly moisten the substrate, it must be damp but not wet at the time of application. Any surface water on horizontal surfaces must be removed.

MIXING

Before use, shake the container of the polymer component well. Mix 25 kg of VANDEX POLYCEM with max. 4.5 kg (adjust for most suitable consistency) of VANDEX POLYCEM LIQUID in a clean container for at least 3 minutes to a lump-free, homogeneous consistency. Use a mechanical mixer.

APPLICATION

Do not apply at temperatures below +5 °C or to a frozen substrate.

VANDEX POLYCEM Z is applied with a trowel or suitable spray equipment.

Depending on the slurry consistency a maximum of 2 mm (approx. 4 kg/m²) can be applied in one working cycle. In most cases the application of more than one coat is recommended; please refer to relevant specification.

It is recommended to apply the next coat whilst the previous coat is still damp on the surface. The previous coat must not be damaged during application of the following coat. Do not disturb the curing process by mechanical impact. The waiting time before applying the following coat depends on local climatic conditions such as humidity, temperature, etc. The previous coat must be textured by suitable means whilst still plastic so as to form a key.

Trowel application

First a scratch coat is applied for maximum adhesion to the substrate, working from the bottom up. Ensure that all cavities in the substrate are filled in order to exclude any trapped air.

Spray application

VANDEX POLYCEM Z can be applied with a suitable fine mortar spraying device.

For maximum spray pattern it should be possible to adjust volume of product as well as air pressure and volume. The nozzle diameter is approx. 6 mm.

The first layer of Vandex is applied in a circular motion with the spray nozzle held at a 90° angle to the substrate. The material is then flattened and keyed. The final layer can be left as a spray finish or treated to a specified finish.

CONSUMPTION

Approx. 2 kg/m² VANDEX POLYCEM Z is required to produce a layer thickness of 1 mm.

Recommended layer thickness: 3–5 mm

CURING

Keep surfaces exposed to weathering damp for at least 2 days and provide suitable protection against extreme weather conditions (e.g. sun, wind, frost) for a further 3 days. The freshly treated surfaces should be protected from rain for a minimum period of 24 h.

Following application provide a relative humidity of > 85% in enclosed areas for 2 days. Then ensure there is good air circulation for a further 5 days.

Important: The VANDEX POLYCEM Z coating must be fully cured before exposure to load.

PACKAGING

VANDEX POLYCEM 25 kg PE-lined paper bag

VANDEX POLYCEM LIQUID 10 kg PE-container

STORAGE

VANDEX POLYCEM: When stored in a dry place in unopened, undamaged original packaging, shelf life is 12 months.

VANDEX POLYCEM LIQUID: Store in a frost-free place. Shelf life in unopened, undamaged original packaging is 8 months.

HEALTH AND SAFETY

Please refer to the actual Safety Data Sheets VANDEX POLYCEM and VANDEX POLYCEM LIQUID on www.vandex.com.

TECHNICAL DATA		
	Dry component	Polymer component
Appearance	grey powder	milky white liquid
	Wet mix	Hardened
Colour	grey	grey VANDEX POLYCEM Z is not a decorative coating.
Density of wet mix [kg/l]	approx. 2.1	
Workability at 20 °C [min]	approx. 30	
Setting time at 20 °C [h]	approx. 4–6	
Bending tensile strength 28 d [MPa]		≥ 10
Dyn. modulus of elasticity 28 d [GPa]		≥ 25
Further data		Refer to CE marking.
All data is averaged from several tests under laboratory conditions. In practice, climatic variations such as temperature, humidity, and porosity of substrate may affect these values.		

The information contained herein is based on our long-term 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. Indications of quantities required are only averages which in certain cases might be greater.

An RPM Company

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