


Waterproofing and repairing mortar for sewage treatment plants

- resistant against sulphates
- against active or passive water pressure
- for horizontal and vertical surfaces
- resistant to frost and deicing salts
- applicable by mortar gun

 0761 Vandex Isoliermittel-GmbH Industriestrasse 19-23 DE-21493 Schwarzenbek 09 0761-CPD-0111	EN 1504-3	
	CC repair mortar for structural repair (based on hydraulic cement)	
	Compressive strength	Class R3 ≥ 25 MPa
	Chloride ion content	≤ 0.05 %
	Adhesive bond	≥ 2.0 MPa
	Carbonation resistance	passed
	Modulus of elasticity	≥ 20 MPa
	Thermal compatibility	
	Part 1: Freeze thaw with de-icing salt immersion	≥ 2.0 MPa
	Part 4: Dry thermal cycling	≥ 2.0 MPa
	Capillary absorption	≤ 0.5 kg/m ² ·h ^{0.5}
	Reaction to fire	A1
	Dangerous substances	complies with 5.4

PRODUCT DESCRIPTION

VANDEX UNI MORTAR 1 Z is a cementitious, ready-mixed waterproofing and repairing mortar.

AREAS OF APPLICATION

- substrates: concrete and masonry
- protective coating for horizontal and vertical construction members against municipal sewage
- as reprofiling or levelling coat for VANDEX BB 75 Z
- thick coating mortar
- trafficable sewers, open sewage tanks/channels, man holes, etc.

PROPERTIES

VANDEX UNI MORTAR 1 Z is applied in layers of 6 to 12 mm thickness in one working cycle. The material is resistant to abrasion and deicing salts and thus capable to resist to strong mechanical wear.

Owing to its composition of cement, quartz with graded grain size distribution and selected additives, VANDEX UNI MORTAR 1 Z is waterproof. It is durable and resistant to frost and heat after setting, but all the same permeable to vapour. VANDEX UNI MORTAR 1 Z is resistant to domestic sewage. The product is tested for use in contact with drinking water.

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 e.g. with VANDEX PLUG.

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.

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 must be removed by appropriate means. Loose pointing must be routed out and the substrate cleaned thoroughly.

MIXING

Mix 25 kg of VANDEX UNI MORTAR 1 Z with 3–4 litres of tap water in a clean container for at least 3 minutes to lump-free, homogeneous consistency. Use a mechanical mixer.

APPLICATION

VANDEX UNI MORTAR 1 Z is applied with trowel or suitable spray equipment.

Apply a minimum of 6 mm (approx. 12 kg/m²) and a maximum of 12 mm (approx. 24 kg/m²) in one working cycle.

For small areas such as coves, fillets, local repairs and shutter tie holes VANDEX UNI MORTAR 1 Z may be applied in layer thicknesses exceeding the above value.

Pour VANDEX UNI MORTAR 1 Z over horizontal surface, then compact and strike off. After initial hardening it can be trowelled or provided with a broom finish to increase the non-skid quality. Apply VANDEX UNI MORTAR 1 Z to vertical surfaces like normal render. If several coats are required it is recommended to apply the next coat whilst the previous coat is still damp at the surface.

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 to form a key.

To maintain workability of the material do not add water, simply re-stir the mixture.

Trowel application

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

Spray application

VANDEX UNI MORTAR 1 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. 10 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 trowelled or keyed for a further layer.

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

CONSUMPTION

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

Type of water impact	Recommended overall application rate	Total layer thickness (approx.)
Pressureless water	12–16 kg/m ²	6–8 mm
Water under pressure	16–24 kg/m ²	8–12 mm

CURING

Keep damp for at least 5 days and provide suitable protection against extreme weather conditions (e.g. sun, wind, frost) while setting. The freshly treated surfaces should be protected from rain for a minimum period of 24 h.

PLASTERING/COATING

Surfaces treated with Vandex products which are to be coated or painted should be left to cure for at least 28 days. When a plaster or render finish is required on top of a Vandex treatment it is essential to apply a rough cast of sand and cement on the final Vandex coat while it is still

tacky. On hardened Vandex surfaces apply an appropriate bonding agent before 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.

PACKAGING

25 kg PE-lined paper bag

STORAGE

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

HEALTH AND SAFETY

VANDEX UNI MORTAR 1 Z contains cement. 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 and eye/face protection.

For further information please refer to actual Material Safety Data Sheet on www.vandex.com.

TECHNICAL DATA		
Appearance		grey powder
Aggregate size d _{max.}	[mm]	2
Density of wet mix	[kg/l]	2.1
Workability at 20 °C	[min.]	approx. 45
Setting time at 20 °C	[h]	approx. 3–6
Compressive strength 28 d	[MPa]	approx. 45
Bending tensile strength 28 d	[MPa]	approx. 7
Static modulus of elasticity 28 d	[GPa]	approx. 32
Capillary absorption	[kg/m ² h ^{0.5}]	0.05
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.

Vandex®

CONCRETE PROTECTION AND WATERPROOFING

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