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FINAL REPORT

Report ID : 380452

Report Information

Submitting Organisation :	00109358 : Parchem Construction Supplies Pty Ltd
Account :	130335 : Parchem Construction Supplies Pty Ltd
AWQC Reference :	130335-2023-CSR-2 : Prod Test: Vandex Uni Mortar 1-Z
Project Reference :	PT-5428
Product Designation :	Vandex® Uni Mortar 1-Z
Composition of Product :	Quartz (SiO2), Cement, Portland and Chemicals (see SDS for further information).
Product Manufacturer :	Vandex, GERMANY.
Use of Product :	In-Line/Cement Based Reprofiling & Waterproofing Repair Mortar.
Sample Selection:	As provided by the submitting organisation.
Testing Requested :	**AS/NZS 4020:2018 TESTING OF PRODUCTS FOR USE IN CONTACT WITH DRINKING WATER**
Product Type :	Composite
Samples :	Samples were prepared and controlled as described in Appendix A of AS/NZS 4020:2018 (Incorporating Amendment No.1)
Extracts :	Extracts were prepared as described in Appendix/Clause C, D, E, F, H, 6.8.
Project Completion Date :	01-Apr-2024
Project Comment :	Sample received 19-Sep-2023, testing commenced 08-Jan-2024.

THE RESULTS STATED IN THIS REPORT RELATE TO THE SAMPLE OF THE PRODUCT SUBMITTED FOR TESTING TO ASNZS 4020:2018. ANY CHANGES IN THE MATERIAL FORMULATION, PROCESS OF MANUFACTURE, THE METHOD OF APPLICATION, OR THE SURFACE AREA-TO-VOLUME RATIO IN THE END USE, COULD AFFECT THE SUITABILITY OF THE PRODUCT FOR USE IN CONTACT WITH DRINKING WATER

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Notes

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Summary of Results

APPENDIX/CLAUSE	RESULTS
C – Taste	Passed at an exposure of 15000 mm² per Litre.
D – Appearance	Passed at an exposure of 15000 mm² per Litre.
E – Growth of Aquatic Micro-organisms	Passed at an exposure of 15000 mm² per Litre.
F – Cytotoxic Activity	Passed at an exposure of 15000 mm² per Litre.
H – Metals	Passed at an exposure of 15000 mm² per Litre.
6.8 – Organic Compounds	Passed at an exposure of 15000 mm² per Litre.

Test Methods

Test(s) in Appendix	AWQC Test Method	NATA Accredited
C	T0320-01	Y
D	TO029-01 & TO018-01	Y
E	TO014-03	Y
F	TM-001	Y
H	TIC-006	Y

Organic Test Methods

Test(s) in Clause	Test Method	NATA Accredited
Clause 6.8	TMZ-M36	Y
	EP239	Y
	EP132-LL	Y
	EP075C	Y
	EP075ASIM	Y

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Laboratory Information

Laboratory	NATA accreditation ID
Product Testing	1115
Australian Laboratory Services Pty Ltd - New South Wales	825,992
Inorganic Chemistry - Physical	1115
Protozoology	1115
Organic Chemistry	1115
Inorganic Chemistry - Metals	1115
Inorganic Chemistry - Waste Water	1115

Summary Comment : The product was applied (on glass slides) and cured for 7 days at 20°C prior to testing (r atio of 2500g powder to 300mL of water. Four sequential soakings performed to obtain a pH < 9.0. In accordance with section A8 (Cementitious Products).

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CLAUSE 6.2 Taste

Sample Description	The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of pre-conditoning water(AI 12.6).
Extraction Temperature	20°C ± 2°C.
Test Method	Taste (Appendix C)
Test Information	
Scaling Factor	Not applicable.
Results	Not detected (sample and controls).
Evaluation	The product passed the requirements of clause 6.2 when tested at an exposure of 15000 mm ² per Litre.
Number of Samples	2.
Test Comment	Not applicable.

Peter Christopoulos
APPROVED SIGNATORY

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CLAUSE 6.3 Appearance

Sample Description The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of pre-conditoning water(AI 12.6).

Extraction Temperature 20°C ± 2°C.

Test Method Appearance (Appendix D)

Scaling Factor Not applicable.

Results

	Test (- Blank)	Maximum Allowed	Units
Colour	1	5	HU
Turbidity	<0.1	0.5	NTU

Evaluation The product passed the requirements of clause 6.3 when tested at an exposure of 15000 mm ² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Andrew Ford
APPROVED SIGNATORY

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CLAUSE 6.4 Growth of Aquatic Micro-organisms

Sample Description The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of test water.

Test Method Growth of Aquatic Micro-organisms (Appendix E)

Inoculum The volume of the inoculum was 100 mL

Scaling Factor Not applicable.

Results

Mean Dissolved Oxygen	Control	7.4	mg/L
Mean Dissolved Oxygen Difference	Positive Reference	4.8	mg/L
	Negative Reference	<0.1	mg/L
	Test	<0.10	mg/L

Evaluation The product passed the requirements of clause 6.4 when tested at an exposure of 15000 mm ² per Litre.

Number of Samples 1.

Test Comment The positive reference value is outside the specified range in E10.2, however, the value indicates the organic substance(paraffin) still supported microbial growth, therefore is positive and the test value is well below the positive reference value.

Thuy Diep
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CLAUSE 6.5 Cytotoxic Activity

Sample Description The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of pre-conditoning water(AI 12.6).

Extraction Temperature 20°C ± 2°C.

Test Method Cytotoxic Activity (Appendix F)

Scaling Factor Not applicable.

Results

24 HR	Non-cytotoxic response, healthy cell morphology with <30% cell death
48 HR	Non-cytotoxic response, healthy cell morphology with <30% cell death
72 HR	Non-cytotoxic response, healthy cell morphology with <30% cell death

Blank Control Results Blank; non-cytotoxic response, healthy cell morphology with <30% cell death

Positive Control Results Positive control; Cytotoxic response, unhealthy cell morphology with >70% cell death

The test extracts and blank extracts were used to prepare nutrient growth medium and subsequently used to grow a cell line (ATCC Number CCL 81) in the analysis. In addition zinc sulphate (0.4 mmol) was used for the positive control in the analysis.

Evaluation The product passed the requirements of clause 6.5 when tested at an exposure of 15000 mm ² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Mira Maric
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CLAUSE 6.7 Metals

Sample Description The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of pre-conditoning water(AI 12.6).

Extraction Temperature 20°C ± 2°C.

Test Method Metals (Appendix H)

Scaling Factor Not applicable.

Method of Analysis Concentration of the metals described in Table 2 of the AS/NZS 4020:2018 are determined as follows:
Aluminium, Antimony, Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium and Silver by Inductively Coupled Plasma Mass Spectrometry.

Results

	Limit of Reporting mg/L	Blank mg/L	Test 1 mg/L	Test 2 mg/L	Max Allowed mg/L
Final Extract					
Aluminium	0.001	0.027	0.028	0.027	0.2
Antimony	0.0003	<0.0003	<0.0003	<0.0003	0.003
Arsenic	0.00006	0.00040	0.00039	0.00039	0.01
Barium	0.0003	0.0287	0.0323	0.0320	0.7
Boron	0.020	0.104	0.048	0.045	1.4
Cadmium	0.0001	<0.0001	<0.0001	<0.0001	0.002
Chromium	0.0001	0.0002	0.0002	0.0002	0.05
Copper	0.0001	0.1835	0.1693	0.1665	2.0
Iron	0.0005	0.0051	0.0042	0.0044	0.3
Lead	0.0001	0.0007	0.0007	0.0007	0.01
Manganese	0.0001	0.0011	0.0009	0.0009	0.1
Mercury	0.00003	<0.00003	<0.00003	<0.00003	0.001
Molybdenum	0.0001	0.0003	0.0003	0.0003	0.05
Nickel	0.0002	0.0020	0.0018	0.0017	0.02
Selenium	0.0001	<0.0001	<0.0001	<0.0001	0.01
Silver	0.00002	<0.00002	<0.00002	<0.00002	0.1

Evaluation The product passed the requirements of clause 6.7 when tested at an exposure of 42000 mm ² per Litre.

Number of Samples 1.

Test Comment Not applicable.

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CLAUSE 6.8 Organic Compounds

Sample Description The sample consisted of two coated panels (each coated to one side) with dimensions 75 mm x 100 mm and providing a total surface area of approximately 15000 mm²/L. Extracts were prepared using 1000 mL volumes of pre-conditoning water(AI 12.6).

Extraction Temperature 20°C ± 2°C.

Test Method Organic Compounds (Clause 6.8). The maximum allowed (Max Allowed) values are taken from the Australian Drinking Water Guidelines and Drinking-water Standards for New Zealand. Please note, some reported compounds have no guideline value.

Scaling Factor Not applicable.

Results

Organic Compound Nitrosamines	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2402035	ES2402035	
N-Nitrosodimethylamine (NDMA)	<0.003	<0.003	0.1 µg/L

Organic Compound Phenols	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2402035	ES2402035	
2 4 5-trichlorophenol	<1.0	<1.0	
2 4 6-trichlorophenol	<1.0	<1.0	20 µg/L
2 4-dichlorophenol	<1.0	<1.0	200 µg/L
2 4-dimethylphenol	<1.0	<1.0	
2 6-dichlorophenol	<1.0	<1.0	
2-chlorophenol	<1.0	<1.0	300 µg/L
2-nitrophenol	<1.0	<1.0	
4-chloro-3-methylphenol	<1.0	<1.0	
m+p cresol	<2.0	<2.0	
o-cresol	<1.0	<1.0	
pentachlorophenol	<2.0	<2.0	9 µg/L
phenol	<1.0	<1.0	

Organic Compound Phthalate Esters	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2402035	ES2402035	
Bis(2-ethylhexyl) phthalate	<10	<10	10 µg/L
Butyl benzyl phthalate	<2	<2	
Di(2-ethylhexyl) adipate	<2	<2	
Diethyl phthalate	<2	<2	
Dimethyl phthalate	<2	<2	
Di-n-butyl phthalate	<2	<2	
Di-n-octyl phthalate	<2	<2	

Notes

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Organic Compound **Polycyclic Aromatic Hydrocarbons**	Blank µg/L	Test µg/L	Max Allowed
!External Lab Report No.	ES2402035	ES2402035	
Acenaphthene	<0.02	<0.02	
Acenaphthylene	<0.02	<0.02	
Anthracene	<0.02	<0.02	
Benzo(a)anthracene	<0.02	<0.02	
Benzo(a)pyrene	<0.005	<0.005	0.01 µg/L
Benzo(a)pyrene TEQ	<0.005	<0.005	
Benzo(b+j)fluoranthene	<0.02	<0.02	
Benzo(ghi)perylene	<0.02	<0.02	
Benzo(k)fluoranthene	<0.02	<0.02	
Chrysene	<0.02	<0.02	
Dibenzo(a-h)anthracene	<0.02	<0.02	
Fluoranthene	<0.02	<0.02	
Fluorene	<0.02	<0.02	
Indeno(123-cd)pyrene	<0.02	<0.02	
Naphthalene	<0.02	<0.02	
PAH - Total	<0.005	<0.005	
Phenanthrene	<0.02	<0.02	
Pyrene	<0.02	<0.02	

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Organic Compound **Volatile Organic Compounds GCMS**	Blank µg/L	Test µg/L	Max Allowed
1 1 1 2-Tetrachloroethane	<1	<1	
1 1 1-Trichloroethane	<1	<1	
1 1 2 2-Tetrachloroethane	<1	<1	
1 1 2-Trichloroethane	<1	<1	
1 1-Dichloropropene	<1	<1	
1 2 3-Trichlorobenzene	<1	<1	
1 2 3-Trichloropropane	<1	<1	
1 2 4-Trichlorobenzene	<1	<1	
1 2 4-Trimethylbenzene	<1	<1	
1 2-Dibromo-3-chloropropane	<1	<1	1 µg/L
1 2-Dibromoethane	<1	<1	1 µg/L
1 2-Dichlorobenzene	<1	<1	1500 µg/L
1 2-Dichloroethane	<1	<1	3 µg/L
1 2-Dichloropropane	<1	<1	
1 3 5-Trimethylbenzene	<1	<1	
1 3-Dichlorobenzene	<1	<1	
1 3-Dichloropropane	<1	<1	
1 4-Dichlorobenzene	<1	<1	40 µg/L
1,1-Dichloroethane	<1	<1	
1,1-Dichloroethene	<1	<1	30 µg/L
2,2-Dichloropropane	<1	<1	
2-Chlorotoluene	<1	<1	
4-Chlorotoluene	<1	<1	
4-Isopropyltoluene	<1	<1	
Benzene	<1	<1	1 µg/L
Bromobenzene	<1	<1	
Bromochloromethane	<1	<1	
Bromodichloromethane	44	41	60 µg/L
Bromoform	13	13	100 µg/L
Bromomethane	<4	<4	
Carbon tetrachloride	<1	<1	3 µg/L
Chlorobenzene	<1	<1	300 µg/L
Chloroethane	<4	<4	
Chloroform	28	27	400 µg/L
Chloromethane	<4	<4	
cis-1 3-Dichloropropene	<1	<1	
cis-1,2-Dichloroethene	<1	<1	
Dibromochloromethane	45	42	150 µg/L
Dibromomethane	<1	<1	
Dichlorodifluoromethane	<1	<1	
Dichloromethane	<4	<4	4 µg/L
Ethylbenzene	<1	<1	300 µg/L
Hexachlorobutadiene	<0.7	<0.7	0.7 µg/L
Isopropylbenzene	<1	<1	
m+p-Xylenes - Total	<2	<2	

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Organic Compound

Volatile Organic Compounds GCMS	Blank µg/L	Test µg/L	Max Allowed
Naphthalene	<1	<1	
n-Butylbenzene	<1	<1	
n-Propylbenzene	<1	<1	
o-Xylene	<1	<1	
sec-Butylbenzene	<1	<1	
Styrene	<1	<1	30 µg/L
tert-Butylbenzene	<1	<1	
Tetrachloroethene	<1	<1	50 µg/L
Toluene	<1	<1	800 µg/L
Total 1 2-dichloroethene	<2	<2	60 µg/L
Total 1 3-dichloropropene	<2	<2	20 µg/L
Total Trichlorobenzene	<2	<2	30 µg/L
Total Xylene	<3	<3	600 µg/L
trans-1 3-Dichloropropene	<1	<1	
trans-1,2-Dichloroethene	<1	<1	
Trichloroethene	<1	<1	
Trichlorofluoromethane	<1	<1	
Trihalomethanes - Total	130	123	250 µg/L
Vinyl chloride	<0.3	<0.3	0.3 µg/L

Evaluation The product passed the requirements of clause 6.8 when tested at an exposure of 15000 mm² per Litre.

Number of Samples 1.

Test Comment Not applicable.

Rashed Hoque

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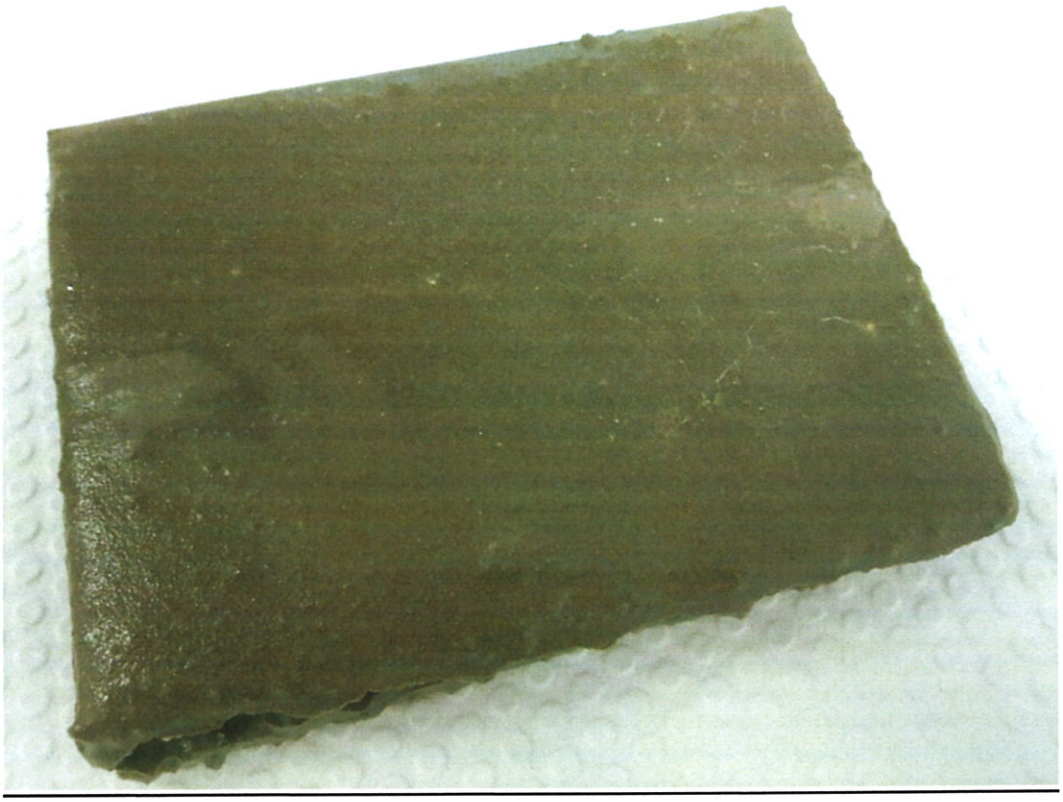
REPORT ATTACHMENT 1.

REPORT ID	380452
PROJECT REFERENCE	PT-5428
DATE	01-04-2024



Vandex® Uni Mortar 1-Z

Technical Data Sheet

Cement based reprofiling and waterproofing repair mortar

Uses

Primarily used for the reprofiling of new and old concrete and masonry surfaces prior to the application of Vandex BB75-Z. Uni Mortar 1-Z is also suitable for use on its own as a waterproofing layer.

Vandex Uni Mortar 1-Z is a surface applied, waterproof cementitious mortar for reprofiling concrete and masonry which does not rely on crystal growth to achieve its waterproofing. As a result, Uni Mortar 1-Z can be used on most masonry surfaces, including sandstone, provided that the surfaces are adequately prepared.

Vandex Uni Mortar 1Z is applied in layers between 6mm and 12mm.

Vandex Uni Mortar 1-Z has been formulated using sulphate resisting cement making it ideal for application in sewerage environments. It can be applied to either the positive pressure or negative pressure faces of the concrete or masonry.

Vandex Uni Mortar 1-Z is ideal for reprofiling the inside walls of sewerage processing tanks where acid attack has caused some loss of the original concrete.

Other applications include; swimming pools, water storage tanks, and any masonry surface requiring the reprofiling of surfaces with depths in the range of 6 -12 mm, prior to the application of Vandex BB75-Z.

Advantages

- Highly abrasion resistant
- Applied to either the positive pressure or negative pressure face of concrete
- Approved for potable water contact
- Based on sulphate resisting cement making it suitable for use in sewerage processing tanks
- Works on masonry, brick, stone and concrete blocks where crystal growth treatments are not effective
- Suitable for permanent sunlight exposure after curing
- Tested to withstand a water head pressure of 70 metres when applied at a thickness of 10 mm
- Colour compatible with the host concrete
- Can be applied to damp concrete

Test Reports and Approvals

Australian Standard AS/NZS 4020:1999

- Potable water compatibility

Official Materials Testing Institute Clausthal-Zellerfeld

- Mechanical properties
- Bend - tensile strength / compressive strength / adhesion / modulus of elasticity

LMP Baustoffprufinstitut, Beinwll am Bee

- Resistance against sewage
- Shrinkage and swelling behaviour / bend tensile and compressive strength / structural composition

Description

Vandex Uni Mortar 1-Z is a ready-mixed, cementitious, surface applied, waterproofing and repair mortar consisting of grey sulphate resistant cement, graded quartz sands and inorganic additives. Vandex Uni Mortar 1-Z is waterproof and has been tested to a pressure of 7.0 bar (70m water head) when applied at a thickness of 10mm. The initial and final bonding capability of Uni Mortar 1-Z 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.

Design Criteria

In most waterproofing and repair applications, Vandex Uni Mortar 1-Z is applied in 1 application by trowel or spray at a layer thickness of 6 to12mm.

Specification Clause

Where so designated on the drawings, surfaces to be repaired and waterproofed shall have a surface applied, cementitious repair and waterproofing mortar applied. The mortar must form a water impermeable layer on the surface of the substrate and must not rely on crystal growth within the substrate in order to be effective. It must have a proven capability of sustaining pressures of 7.0 bar (70 metre water head) at a thickness of 10 mm while maintaining its waterproofing integrity. The waterproofing must be installed by an experienced contractor and both the manufacturer and supplier must be accredited to ISO9001.

Vandex Uni Mortar 1-Z is such a product.

Vandex® Uni Mortar 1-Z

Properties

Form:	Cementitious powder
Colour:	Cement grey
Fresh wet density:	2.1 kg / L
Max aggregate size:	2mm
Compressive strength:	45 MPa after 28 days
Capillary absorption:	0.05 kg/m^2.h$^{0.5}$
Bending tensile strength:	7 MPa after 28 days
Elastic modulus:	24 GPa
Initial setting time:	3 - 6 hours
Full cure time at 20°C 50% RH:	5 days
Workability @ 20°C:	Approx. 45 mins
Application temperature:	5°C - 30°C
Service temperature (continuous ambient):	Minus 40°C - 120°C

Chemical Resistance

Vandex Uni Mortar 1-Z protects concrete against sewerage water, sea water, aggressive ground water and a range of chemical solutions.

Application Instructions

Surface Preparation

When applying Vandex Uni Mortar 1-Z 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 weak laitance layer from the surface of the concrete in preparation to receive the Vandex Uni Mortar 1-Z.

Priming

Priming is not normally required on good quality concrete substrates, however all surfaces must be thoroughly pre-watered before applying Vandex Uni Mortar 1-Z.

Movement joints

All expansion and movement joints should be sealed with a suitable joint sealant after application of the Vandex Uni Mortar 1-Z.

Cracks

All shrinkage and non-moving structural cracks having a width equal to or less than 0.3 mm will be waterproofed by applying Vandex Uni Mortar 1-Z directly bridging over the crack. Static cracks wider than 0.3 mm must be routed out to form a 'V' shaped groove with a hand chisel or power chisel to a depth and width of approximately 25 mm.

Live cracks cannot be waterproofed with Vandex Uni Mortar 1-Z. If the structure contains live cracks, Vandex BB75E-Z, an elasticised cementitious waterproofing membrane should be considered.

Water seepage

All water seepage must be stopped using Vandex Plug prior to the application of Vandex Uni Mortar 1-Z. Do not attempt to apply Uni Mortar 1-Z over weeping or seeping substrates no matter how slow the seepage, as the Uni Mortar 1-Z will be damaged by the seepage water before it has a chance to cure.

Application

Vandex Uni Mortar 1-Z is supplied in the form of a dry powder and can be applied as a slurry by trowel. To mix, place 25 kg of Vandex Uni Mortar 1-Z into a clean container and add 3 to 4 litres of clean tap water for trowel application.

The Vandex Uni Mortar 1-Z powder and water must be thoroughly mixed using a slow speed heavy duty electric drill (300 rpm) or mixer fitted with a spiral mixing paddle 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 more water, simply stir the product to restore workability.

Ensure that all surfaces to which Vandex Uni Mortar 1-Z 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 Uni Mortar 1-Z must be pre-watered again.

Apply the mixed Uni Mortar 1-Z from the base of the wall and work towards the top using a trowel or spray equipment. If a second application is required, allow the first layer to reach initial cure before applying a second layer. After 4 - 5 hours apply the second layer 'green on green' so that a chemical bond is achieved between the two layers.

Spray application - mortar slurry spray gun with an 8 - 16mm nozzle with air introduced at the nozzle. Air compressor capable of 5 bar pressure and an air capacity of 500 litres/minute with the regulator set to a pressure of 1.0 - 2.0 bar by means of a pressure reducer. Mortar pump capable of 12 to 20 bar max at the worm depending on the length of hose (60 metre max hose length).

When applying Vandex Uni Mortar 1-Z by spray ensure that the gun is held directly perpendicular to the surface to ensure that the maximum impact energy is applied to the surface and to prevent any shadowing across surface imperfections. After application of the first coat by spray, brush or trowel the wet surface to remove any entrapped air. If other products are to be applied over Vandex

Vandex® Uni Mortar 1-Z

Uni Mortar 1-Z, roughen the surface slightly by brushing or brooming the surface of the Uni Mortar 1-Z while it is still wet.

The cure time of Vandex Uni Mortar 1-Z is affected by both temperature and humidity. Humidity has an influence on waiting times between layers and resistance to rain. Ensure that the freshly applied Uni Mortar 1-Z 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 Uni Mortar 1-Z is applied in one application by trowel or spray. Apply one layer by trowel or spray at an application rate of 12 - 24 kg / m² (Minimum layer thickness must be 6.0 mm).

Curing and protection

Surfaces treated with Vandex Uni Mortar 1-Z must be kept damp and must be protected from 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 damp hessian / geotextile fabric, plastic sheeting or similar.

Potable water applications

Where potable water will be in contact with Vandex products, care must be taken to insure the surface has had adequate time to cure prior to filling. If the area is returned to service too soon 'water taint' may occur. Once adequate curing time has been left, it is good practice to complete a thorough washing down of the lining with clean water prior to the first filling. Variable atmospheric conditions will dictate how long to leave the surface prior to the wash down. As a guide please refer to the table below:

Temperature (°C)	Cure time (days)
5 - 10°C	14 days
10 - 15°C	10 days
15 - 25°C	7 days
25 - 30°C	5 days

Cleaning

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

Limitations

Vandex Uni Mortar 1-Z is suitable for use only in open headed sewerage processing tanks.

In negative side applications, do not apply Vandex Uni Mortar 1-Z to substrates that are weeping. Use Vandex Plug to stop all water seepage before applying Uni Mortar 1-Z.

Supply

Vandex Uni Mortar 1-Z Material Code:	25 kg bag FC051008-25KG
Vandex Plug Material Code:	5 kg plastic pail FC000557-5KG
Vandex Plug Material Code:	5 kg plastic pail FC051006-15KG

Coverage

Vandex Uni Mortar 1-Z:	12 - 24 kg / m² 1 - 2 m² / 25 kg bag

Storage

Vandex Uni Mortar 1-Z has a shelf life of 12 months in original packaging stored in cool, dry conditions i.e. not exceeding 30°C. Storage above this temperature may reduce storage life.

Parchem Construction Supplies Pty Ltd
7 Lucca Road, Wyong NSW 2259
Ph: 1800 812 864
www.fosroc.com.au ABN 80 069 961 968

Distributed in New Zealand by: Concrete Plus Ltd
150 Hutt Park Road Gracefield Ph: 0800 657 156
www.fosroc.co.nz NZBN 9429033691282

Safety Data Sheet

Hazardous, NON-Dangerous Goods

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: VANDEX UNI MORTAR 1-Z

Synonyms	**Product Code**	**Bar Code**
Vandex Uni Mortat 1-Z 25KG	FC051008-25KG	7612940000298

Recommended use: Cement based reprofiling and waterproofing repair mortar.

Supplier: Parchem Construction Supplies Pty Ltd
ABN: 80 069 961 968
Street Address: 7 Lucca Road
Wyong NSW 2259
Australia
Telephone: (02) 4350 5000

Emergency Telephone number: **Australia – 1800 033 111** **New Zealand – 0800 734 607**

2. HAZARDS IDENTIFICATION

This material is hazardous according to health criteria of Safe Work Australia.

Signal Word
Danger

Hazard Classifications
Skin Corrosion/Irritation - Category 2
Serious Eye Damage/Irritation - Category 1
Carcinogenicity - Category 1A
Specific Target Organ Toxicity (Single Exposure) - Category 3 Respiratory Tract Irritation
Specific Target Organ Toxicity (Repeated Exposure) - Category 1

Hazard Statements

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H350	May cause cancer .
H372	Causes damage to organs through prolonged or repeated exposure.

Prevention Precautionary Statements

P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands, face and all exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.

P281	Use personal protective equipment as required.

Response Precautionary Statements

P101	If medical advice is needed, have product container or label at hand.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.

Storage Precautionary Statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal Precautionary Statement

P501	Dispose of contents/container in accordance with local, regional, national and international regulations.

Poison Schedule: Not Applicable

DANGEROUS GOOD CLASSIFICATION

Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Quartz (SiO2)	14808-60-7	50 - 75 % (w/w)
Cement, portland, chemicals	65997-15-1	30 - 60 % (w/w)
Ingredients determined to be non-hazardous or below reporting limits		Balance
		100%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact: If skin or hair contact occurs, immediately remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre or a Doctor; or for 15 minutes and transport to Doctor or Hospital.

Eye contact: Immediately irrigate with copious quantities of water for 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink.

Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advice.

PPE for First Aiders: Wear safety shoes, overalls, gloves, safety glasses, dust mask. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Hazchem Code: Not applicable.

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Fire fighting further advice: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS
Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS
Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid eye contact and skin contact. Avoid inhalation of dust.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Keep container standing upright. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	

Portland cement	-	10	-	-	-
Quartz (respirable dust)	-	0.1	-	-	-
Silica Crystalline - Quartz (respirable dust)	-	0.1	-	-	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing dust mask.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, SAFETY GLASSES, DUST MASK.

Wear safety shoes, overalls, gloves, safety glasses, dust mask. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of dust. Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Powder
Colour:	Grey
Odour:	Odourless

Solubility:	Slightly soluble in water
Density:	1.85 Kg/L (bulk density)
Relative Vapour Density (air=1):	N App
Vapour Pressure (20 °C):	N App
Flash Point (°C):	N App
Flammability Limits (%):	N App
Autoignition Temperature (°C):	N App
Melting Point/Range (°C):	N App
Boiling Point/Range (°C):	N App
pH:	11 - 13.5 (aqueous slurry)
Viscosity:	N App

Total VOC (g/Litre): N App

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Material is an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin will result in irritation.

Ingestion: Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

Eye contact: A severe eye irritant. Corrosive to eyes: contact can cause corneal burns. Contamination of eyes can result in permanent injury. Exposure to the dust may cause discomfort due to particulate nature. May cause physical irritation to the eyes.

Acute toxicity

Inhalation: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): LC50 > 5 mg/L

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg bw

Ingestion: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as a Category 1 Hazard (irreversible effects to eyes). Skin: this material has been classified as a Category 2 Hazard (reversible effects to skin).

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as a Category 3 Hazard. Exposure via inhalation may result in respiratory irritation.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as a Category 1A Hazard.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as a Category 1 Hazard.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K_{ow} < 4.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT
Not classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

MARINE TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

AIR TRANSPORT
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:
Montreal Protocol (Ozone depleting substances)
The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC).
- All components of this product are listed on or exempt from the New Zealand Inventory of Chemical (NZIoC).

HSNO Group Standard: HSR002545 - Construction Products (Toxic [6.7A]) Group Standard

16. OTHER INFORMATION

Reason for issue: Revised

This Safety Data Sheet has been prepared by Chemical Data Services Pty Ltd (chemdata.com.au) on behalf of its client.

Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since DuluxGroup (Australia) Pty Ltd and DuluxGroup (New Zealand) Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.