



Ref : SUDwell tm PU STONE BINDER-1 3776/30DS

Issued : 5th January 2010

SUDwell tm PU STONE BINDER-1 PU STONE BINDER-1 (D3776/30) BINDER FOR FLOOR COATINGS AND TREE PITS

DESCRIPTION

PU STONE BINDER-1 (PU STONE BINDER-1 (D3776/30) is a 2 component PU stone encapsulation binder for use with for example SUDwellmix stone blend as a pebble effect floor coating or tree pit infill.

PU STONE BINDER-1 (D3776/30) can be used with any of the approved stone mixes tested in our laboratory. If alternative aggregates are required, we offer a UV strength testing service at our laboratory. We strongly urge our customers to make use of this service prior to installing with an unapproved aggregate.

*Note: The system will only be as strong as the weakest component. Therefore aggregate choice is important. The suitability in a given application of weaker aggregates such as crushed glass should be considered carefully.

PRODUCT APPLICATION

Installation of System – for detailed information please refer to our installer method statement

1. The system can be applied to concrete, asphalt, compacted MOT Type 1 or compacted soil.
2. The surface must be free from contamination or water prior to PU STONE BINDER-1 (D3776) application, as such cleaning/drying may be required.
3. The PU STONE BINDER-1 (D3776/30) A component resin should be mixed using a slow speed, high torque, helical blade mixer until uniform.
4. PU STONE BINDER-1 (D3776) B component resin is then added and mixed thoroughly at slow speed for 2 minutes until uniform. The best method for this would be a rotary cement type mixer.
5. The aggregate should then be added to PU STONE BINDER-1 (D3776/30) in the ratio stated in the technical specification.
6. The binder should be mixed at 7.5%-15% by weight (depending on the application) with SUDwellmix-1. The level of binder used will change for larger particles sizes and/or more irregular particle shapes.
7. The aggregate and the binder should be mixed together, using a rotary mixer or low speed paddle mixer, until all of the aggregate is covered with the binder.
8. The mixture is then applied to the surface using a trowel. Pressure must be applied to the PU STONE BINDER-1 (D3776/30) mix whilst towelling to ensure levelling and adequate compression for the required mechanical properties.
9. The surface should be installed at a thickness 3x the maximum stone grading used.
10. The surface should be allowed to cure for 4 hours at 20C, this will be longer if the temperature is lower.
11. During the cure period the surface should be protected from rain.

Treepits

The soil should be free draining but well compacted. The soil should be dry prior to application.

The sub base should be dug out to allow for the resin bound system to be applied.

The sub base should be covered with 50 - 100mm of base aggregate. This usually has a size distribution ranging from 5mm to 20mm. This should be well compacted and flat.

To allow for tree growth the base of the tree should be protected. This can be done using a split pipe section or by building aggregate up to a circle. Sufficient room should be left to allow for the trunk growth.

The aggregate and binder should then be poured out onto the loose aggregate covered sub base and leveled with a trowel. The aggregate should be compacted enough to ensure a sound surface but not too much as this will reduce the water drainage.

Surface Preparation - Concrete/ MOT Type 1

The concrete/ MOT Type 1 should be dry. A primer should be used when applying to concrete (please contact us to discuss suitable primers)

Guideline Installation Thicknesses

Use 18-24mm for driveways/paths. Using SUDwellmix-1 aggregate blend 44kg will cover approximately 1m² at 24mm thick.

Use 20-26mm for car parks. Using a SUDwellmix-1 aggregate blend 48Kg will cover approximately 1m² at 26mm thick.

Finishing

To create a non slip surface the top can be scattered with a fine quartz aggregate or silica sand. Application rates will vary depending on the aggregate used but is in the order of 50 – 100 grams per meter of resin bound surface.

TYPICAL SPECIFICATION

	PU STONE BINDER-1 (D3776/30) Part A Resin	<u>PU STONE BINDER-1 (D3776) Part B</u> Hardener
Colour:	Various	Brown liquid
Density:	1.04 g/cm ³	1.23 g/cm ³
Solids:	100%	100%
Mixing Ratio	2.3	1
Viscosity @ 23°C:	4000 ± 1000 mPa.s	200 ± 125 mPa.s
Mix Viscosity:	1,500 ± 500 mPa.s	

SUDwellmix-1 aggregate

Mixing Ratio	92.5% agg: 7.5% binder
Relative Density	1.8 g/cm ³
Coating thickness	18-50mm typical (depending on application)

POLYMER TECHNICAL SPECIFICATION

Parameters	Range	Standard
Potlife	30 ± 3 mins	LPU STM 6
Binder Tensile Strength (24hrs)	7 ± 2 Mpa	BS2782 part 3 methods 320A-320F
Binder Tensile Strength (72Hrs)	10 ± 2 Mpa	BS2782 part 3 methods 320A-320F
Binder Elongation (24hrs)	100 ± 10 %	BS2782 part 3 methods 320A-320F
Binder Elongation (72 hrs)	80 ± 10 %	BS2782 part 3 methods 320A-320F
Binder Hardness (48 hrs)	95 ± 2 (Shore A)	LPU STM 9
Tensile Adhesion (with primer)	Concrete > 3 N/mm ²	LPU STM 80
Shelf (storage) life	12 months	Stored as supplied
Skid Resistance	Dry (SUDwellmix-1)	84 ± 10
	Wet (SUDwellmix-1)	57 ± 5
		LPU STM 91

Chemical Resistance Data**Immersion method (LPU STM 73)**

Test Reagent	Surface and Structural damage after 7 days	Surface and Structural damage after 30 days
Acetone	4	5
Acetic Acid*	2	4
Citric Acid*	0	2
Hydrochloric Acid*	0	2
Sulphuric Acid*	0	1
Methanol	2	3
Ethanol	1	2
Propan-2-ol (IPA)	1	2
Butan-1-ol	1	3
Butan-2-ol	1	3
Petrol	3	5
Diesel	2	3
Sodium Hydroxide	0	1
Methylene Chloride	5	5

*All acids are at 2.0 Molar concentrations

Results are subject to the method of test. Different test conditions will give different results.
(0 = No effect and 5 = maximum effect)

PACKAGING

7.5kg kit- Part A: 10lt plastic pail, Part B: 2lt plastic jerry can

HEALTH AND SAFETY

PU STONE BINDER-1 (D3776/30) Part A (Resin) is not classified as a dangerous substance; however, the wearing of goggles is to be recommended.

PU STONE BINDER-1 (D3776) Part B (Hardener) contains a non-volatile isocyanate. Avoid prolonged contact with skin. In cases of contact with eyes, flush out with excess water and seek medical attention. Wear goggles.

Additional Precautions

1. Use industrial safety gloves.
2. Use suitable eye protection.
3. Before use, ensure that you read the relevant Health and Safety Data Sheets for this product.

The company will supply, upon request, individual advice in writing in connection with the use and application of its products in all appropriate cases. Customers are urged to make use of this service. This leaflet is provided for general guidance only. All recommendations and suggestions are made in good faith but without guarantee and are subject to the company's terms and conditions.