

## Resin Bonded Slab Company

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SUDwell™ Stone Binder-UVR (PU4844/80) Aliphatic binder for external areas, public places, walkways, cycle paths, internal areas and light trafficked areas.

## DESCRIPTION

SUDwell STONE BINDER-UVR (PU4844/60) is a 2 component PU stone encapsulation binder for use with for example Leesonmix stone blend as a pebble effect floor coating or tree pit infill. PU4844/60 is based on aliphatic polyurethane technology to give enhanced UV performance.

SUDwell STONE BINDER-UVR (PU4844/60) 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 STONE BINDER-UVR (PU4844/60) application, as such cleaning/drying may be required.
3. The STONE BINDER-UVR (PU4844/60) A component resin should be mixed using a slow speed, high torque, helical blade mixer until uniform.
4. STONE BINDER-UVR (PU4844/60) 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 STONE BINDER-UVR (PU4844/60) in the ratio stated in the technical specification.
6. The binder should be mixed at 6.5%-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 STONE BINDER-UVR (PU4844/60) mix whilst towelling to ensure levelling and adequate compression for the required mechanical properties.
9. The surface should be allowed to cure for 4 hours at 20°C, this will be longer if the temperature is lower. IF TEMPERATURE IS <15°C (OVERNIGHT), ACCELERATOR SHOULD BE USED. Accelerator should be used except for higher consistent temperatures 25°C+.
10. The surface should be installed at a thickness 3x the maximum stone grading used.
11. During the cure period the surface should be protected from rain.

### Cure Speed Modification

At low temperatures D4860 coating accelerator (2K) can be added to PU4844/60 to maintain cure speed. The table below gives approximate addition level guidance.

NOTE: D4860 coating accelerator (2K) additions should be added to the part A and pre-mixed to evenly distribute the catalyst prior to addition of the part B hardener.

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Air Temperature (°C)	D4860 Accelerator Addition Level
20	0% Accelerator
17.5	4.4g per 6.5Kg kit
15	9.8g per 6.5Kg kit
12.5	16.6g per 6.5Kg kit
10	29.3g per 6.5Kg kit

## 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)

## Finishing

To create a non-slip surface the top can be scattered with microfine glass particles available from SUDwell™. Application rates will vary depending on the aggregate used but is in the order of 50 – 100 grams per meter of resin bound surface.

We have a range of stone mixes available that have been approved on strength testing with this product. Please request the additional literature for any further information and note that we recommend these mixes alone and any alterations made may have a damaging effect on the overall strength of the stone binder system.

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### TYPICAL SPECIFICATION

	STONE BINDER-1 (PU4844/60) Part A Resin	STONE BINDER-1 (PU4844/60) Part B Hardener
Colour:	Yellow Liquid	Clear Liquid
Density:	1.01 g/cm <sup>3</sup>	1.16 g/cm <sup>3</sup>
Solids:	100%	100%
Mixing Ratio	1.04	1
Viscosity @ 23°C:	2500 ± 500 mPa.s	2800 ± 500 mPa.s
Mix Viscosity:	2,650 ± 200 mPa.s	
Pot life:	60 ± 3 minutes at 19°C	

### POLYMER TECHNICAL SPECIFICATION

Parameters	Range	Standard
Binder Tensile Strength (168 Hrs)	5.5 ± 1 N/mm <sup>2</sup>	BS2782 part 3 methods 320A-320F
Binder Elongation (168 hrs)	110 ± 10 %	BS2782 part 3 methods 320A-320F
Binder Hardness (48 hrs)	95 ± 2 (Shore A)	SUDwell STM 9
Tensile Adhesion (with primer)	Concrete > 3 N/mm <sup>2</sup>	SUDwell STM 80
Shelf (storage) life	6 months	Stored as supplied
Skid Resistance	Dry 90 ± 5 (SUDwellmix-1)	SUDwell STM 91
	Wet 51 ± 5 (SUDwellmix-1)	

#### Chemical Resistance Data

Immersion method (SUDwell 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)



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## PACKAGING

6.5kg kit- Part A: 10lt plastic pail, Part B: 5lt plastic pail

## HEALTH & SAFETY

STONE BINDER-UVR (PU4844/60) Part A (Resin) is not classified as a dangerous substance; however, the wearing of goggles is to be recommended.

STONE BINDER-UVR (PU4844/60) 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.