



{ A bond for life }

REF: 4844.60DS  
Issued: 19<sup>th</sup> May 2021

## LEESONBOUND® (PU4844/60 UVR) BBA APPROVED ALIPHATIC BINDER FOR DRIVEWAYS, PATH & WALKWAYS

### DESCRIPTION

LEESONBOUND-UVR (PU4844/60) is a 2 component PU stone encapsulation binder for use with LeesonBound stone blends to create a bound aggregate surfacing. LEESONBOUND-UVR (PU4844/60) is the market leading system based on strength, sales and track record, and is based on aliphatic polyurethane technology to give enhanced UV performance.

LEESONBOUND-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.

The LeesonBound PU4844/60 system conforms to B<sub>ROOF(t4)</sub> external fire exposure to roofs using the test standard CEN/TS1187.

\*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

The system can be applied to concrete, asphalt, compacted MOT Type 1, full details of subbases are listed below. The sub-base must be sound and free from cracks. Movement in the sub-base will lead to reflective cracking in the LeesonBound system. Asphalt should be at least 30 days old to ensure it is fully cured before installation.

The surface must be free from contamination or water prior to application, as such cleaning/drying may be required. LeesonBound should be allied at 10°C-35°C ground temperature and 10°C-35°C ambient temperature, temperatures in the range of 15 to 18°C are optimum for ease of application. The relative humidity should be between RH 30-85%. The system should be applied at least 3°C above the dew point measured for the application surface.

#### **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 LEESONBOUND-UVR (PU4844/60) application, as such cleaning/drying may be required.
3. The LEESONBOUND-UVR (PU4844/60) Part A component resin should be mixed using a slow speed, high torque, helical blade mixer until uniform.
4. LEESONBOUND-UVR (PU4844/60) Part 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 LEESONBOUND-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 Leesonmix-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 a 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 LEESONBOUND-UVR (PU4844/60) mix whilst troweling to ensure levelling and adequate compression for the required mechanical properties.
9. The surface should be allowed to cure for 8 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 three times 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 LEESONBOUND-UVR (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.

Air Temperature (°C)	D4860 Accelerator Addition Level		
	6.5kg kit size	7.0kg kit size	7.5kg kit size
20	0.0ml per kit	0.0ml per kit	0.0ml per kit
17.5	4.4ml per kit	4.7ml per kit	5.1ml per kit
15	9.8ml per kit	10.6ml per kit	11.3ml per kit
12.5	16.6ml per kit	17.9ml per kit	19.2ml per kit
10	29.3ml per kit	31.6ml per kit	33.8ml per 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

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

Asphalt would be left to fully cure (minimum 30 days) before LEESONBOUND-UVR (PU4844/60) is installed.

#### Guideline Installation Thicknesses

Use 18-20mm for driveways/paths. Using Leesonmix-1 aggregate blend 30-33kg will cover approximately 1m<sup>2</sup> at 18-20mm thick.

Use 25mm for car parks. Using a Leesonmix-1 aggregate blend 46Kg will cover approximately 1m<sup>2</sup> at 25mm thick.

#### Finishing

To create a non-slip surface the top can be scattered with microfine glass particles available from Leeson Polyurethanes Ltd (D4937). 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.

### TYPICAL SPECIFICATION

	LEESONBOUND-UVR (PU4844/60) Part A Resin	LEESONBOUND-UVR (PU4844) 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)	LPU STM 9
Tensile Adhesion (with primer)	Concrete > 3 N/mm <sup>2</sup>	LPU STM 80
Skid Resistance	Dry 90 ± 5 (Leesonmix-1)	LPU STM 91
	Wet 51 ± 5 (Leesonmix-1)	

#### 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 & STORAGE

Standard Pack Size:

7.5kg kit - Part A: 3.82kg (10lt plastic pail), Part B: 3.68kg (5lt plastic pail)

Alternative Pack Sizes:

6.5kg kit - Part A: 3.31kg (10lt plastic pail), Part B: 3.19kg (5lt plastic pail)

7.0kg kit - Part A: 3.57kg (10lt plastic pail), Part B: 3.43kg (5lt plastic pail)

Store inside between +10°C and +35°C

PU4844/60 Part A and PU4844 Part B have a shelf life of 6 months if stored in their original sealed packaging and following the advised storage conditions

## HEALTH & SAFETY

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

LEESONBOUND-UVR (PU4844) 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 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.