LEESON BOUND NON UVR (PU5384/60)

LEESON BOUND NON UVR (PU5384/60) is a high-performance polyurethane based, SUDS compliant porous aggregate bond system incorporating resin and a range of aggregate blends. LEESON BOUND NON UVR (PU5384/60), when cured, gives excellent strength and elongation performance and is therefore an exceedingly durable system.

Usability:	Its ease of spreading allows for rapid application, and the cure speed for the product allows for application sites to be opened to use in a timely fashion.
Site Safety:	LEESON BOUND NON UVR (PU5384/60) is a solvent free system and does not require heat lances or burners to apply, lowering the number of risks installers may be exposed to.
Versatile:	LEESON BOUND NON UVR (PU5384/60) can be used to produce a range of surfaces include roads, pedestrian bridges, cycle paths, driveways, walkways, stairs, car park decks, balconies, patios, and internal flooring. LEESON BOUND NON UVR (PU5384/60) can be used with a range of aggregates to provide varied aesthetic finishes.
Strong, resilient system:	The cured LEESON BOUND NON UVR (PU5384/60) exhibits excellent resistance to extreme temperatures (-20˚C to +120°C), moisture and chemical contact for extended periods without loss of strength.

Technical Specification

Parameter	Specification	
	LEESONBOUND NON UVR (PU5384/60) Part A Resin	LEESONBOUND NON UVR (PU5384) Part B Hardener
Colour:	Opaque Buff	Sem-transparent Brown
Specific gravity:	1.04 g/cm³	1.23 g/cm³
Solids Content:	100%	100%
Mixing Ratio by Weight:	1.94	1
Mixing Ratio by Volume:	2.30	1
Viscosity at 23ºC:	2,800 ± 300 mPa.s	60 ± 40 mPa.s
Mix Viscosity at 23ºC:	1,500 ± 200 mPa.s	
Pot life at 19ºC:	40 ± 5 minutes	

Parameter	Specification
Binder Tensile Strength (28 Days)	9 ± 2 N/mm² to BS2782 part 3 methods 320A-320F
Binder Elongation (28 Days)	90 ± 10 %BS2782 part 3 methods 320A-320F
Binder Hardness, Shore A (48 hrs)	≥90

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Instructions For Use

Substrate preparation:

- The areas to which the System is to be applied shall be clearly defined and marked by the Purchaser on the existing surfacing prior to commencement of work on-site.
- All imperfections in the application surface not acceptable to the Installer shall be reinstated with a material approved by the Purchaser in consultation with the Installer.
- The application surface shall be clean, dry and free from ice, frost, loose aggregate, oil, grease, road salt and other loose matter which may impair the adhesion of the System. Where the application surface does not comply with this it shall either be cleaned by the Installer or others, by grit blasting, high pressure water jetting, low pressure water/abrasive blast cleaning, scarifying, scrabbling or other means approved by the Purchaser. To remove dust and other loose matter the road surface should be vigorously brushed or treated with hot compressed air. Any oil visible on the road surface shall be removed by washing and scrubbing with a suitable detergent solution followed by flushing with clean water or by other suitable means.
- Areas not to be treated shall be suitably masked.

Bituminous Surfaces:

- Asphalt should be at least 30 days old to ensure it is fully cured before installation.

Concrete Surfaces:

- Concrete is to be hot compressed air blasted then primed with a solvented one component polyurethane primer with the primer being allowed to cure following the manufactures recommendations. The LEESON BOUND NON UVR (PU5384/60) should be applied within the primer's overcoat window.

Weather Conditions:

- Installation of the System shall only be carried out at a temperature of 10ºC to 35ºC and relative humidity of 30 to 85%.
- The System shall be applied at least 3°C above the dew point measured for the application surface
- Ambient and road surface temperatures together with relative humidity shall be recorded at the start and if weather is variable during the installation process.
- Application surfaces shall be dry before and during the installation of the System.
- The Installer will notify the purchaser of the curing period of the system dependent upon the prevailing weather conditions.

Application:

1. Mix A component prior to addition of B component, mix the A & B for 1-2 minutes to a smooth consistency. It is recommended to use one batch on a project. If more than one batch is to be used, care should be taken to use the same batch in one area in case of small batch to batch variation, this equally applies to the aggregate.
2. D4860 Accelerator should be used with each mix to ensure uniformity of cure. Accelerator must be used for temperatures below 15ºC (especially note overnight temperatures), as this can lead to protracted cure times and contamination of the surfacing. Refer to the table below for addition levels.

Air Temperature (°C)	D4860 Accelerator Addition Level
20	0% Accelerator
17.5	0.6g per kit
15	1.3g per kit
12.5	2.0g per kit
10	2.7g per kit

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3. The mixed PU resin should then be introduced into the mixer containing the aggregate. The aggregate must be dry (<0.5% moisture) and free from dust. While the mixer is running with the dry aggregate, add the PU resin at a ratio of minimum 6.5% up to 15% depending on end user requirements and the size and particle distribution of the aggregate – smaller particles, or greater particle distribution will require relatively more PU resin as the overall surface area is increased. Resin additions at these levels will ensure a well bonded, durable and sound system. A rotary mixer or low speed paddle mixer are suitable for mixing. Mix for 5 minutes until all of the aggregate is uniformly coated.
4. The blend of PU and aggregate should then be immediately applied to the surface and compacted with a trowel. The surface temperature should be between +10°C and +35°C for application (note comments above regarding the accelerator use for lower temperatures). The system should be applied at least 3°C above the dew point measured for the application surface. Care should be taken to ensure that the correct, even coverage rate is applied across the application area. This is especially important at high temperatures where the PU can be thinner. The surface should be installed at a minimum thickness of 3x the maximum stone grading used. Once levelled and compacted the surface can be smoothed with a trowel coated in a release agent, this allows for the top facing stones to be knitted together, giving an even surface. Suitable release agents are organic solvents such as xylene and white spirit, water should not be used as a release agent as it may cause foaming in the system.
5. To create a non-slip surface the top can be scattered with microfine glass particles. Application rates will vary depending on the aggregate used but is in the order of 50 – 100 grams per meter of resin bound surface.

A LEESON BOUND Application Day Sheet is available to record site information and conditions as well as recording batch numbers and stone mixes used on the application site.

Packaging

LEESON BOUND NON UVR (PU5384/60) is supplied as a 6.85kg kit, with LEESON BOUND NON UVR (PU5384/60) Part A supplied as 4.52kg in a 10 litre plastic pail and LEESON BOUND NON UVR (PU5384) Part B supplied as 2.33kg in a 2 litre plastic jerry.

Storage

LEESON BOUND NON UVR (PU5384/60) Part A and LEESON BOUND NON UVR (PU5384) Part B should be stored in their original, unopened containers, in dry conditions at a temperature between 10ºC and 35ºC. Storage outside of these conditions will reduce the product's shelf life.

LEESON BOUND NON UVR (PU5384/60) Part A and LEESON BOUND NON UVR (PU5384) Part B have a shelf life of 6 months from point of manufacture.

Health and Safety

LEESON BOUND NON UVR (PU5384/60) Part A is not classified as a hazardous substance, however, the wearing of goggles and gloves is to be recommended.

LEESON BOUND NON UVR (PU5384) Part B contains a non-volatile isocyanate, when used in the European Union from 24 August 2023 adequate training is required before industrial or professional use. Before use, ensure that you have read the Safety Data Sheet for this product. Samples will be provided on request to enable customers to satisfy themselves as to the suitability of the product for any specific purpose and to assess the product under their own working conditions.

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- Ensure non-porous gloves and eye protection is worn when handling.
- Avoid prolonged contact with skin.
- In cases of contact with eyes, flush out with excess water and seek medical attention.

Additional Notes

The LEESON BOUND NON UVR (PU5384/60) system will only be as strong as the weakest component. A wide range of aggregate blends have been tested to determine suitability; assistance can be given in aggregate choice. Therefore, aggregate choice is important. The suitability in a given application of weaker aggregates such as crushed glass should be considered carefully. Movement in the sub-base will lead to reflective cracking in the LeesonBound system, therefore ensuring the application surface is suitable for use is integral to the longevity of the LEESON BOUND NON UVR (PU5384/60) system.

This information is for general guidance only and may contain inappropriate information under particular conditions of use. All recommendations and suggestions are therefore made without guarantee. Samples will be provided on request to enable customers to satisfy themselves as to the suitability of the product for any specific purpose and to assess the product under their own working conditions.

Every care has been taken to ensure that the information provided in the literature is correct and up to date. However, it is not intended to form any part of a contract or provide a guarantee. Purchasers/intending purchasers should contact Leeson Polyurethanes to check whether there have been any changes to the information since publication of the literature. Please ensure you have read the hazard labels and material safety data sheet before using this product.

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