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Agrément Certificate
17/5413
Product Sheet 1 Issue 3

LEESON RESIN BOUND DECORATIVE SURFACING

LEESONBOUND UVR

This Agrément Certificate Product Sheet(1) relates to LeesonBound UVR, a resin-bound aggregate surface course, for use on new or maintenance pavement construction, in domestic driveways, patios, pedestrian areas, lightly trafficked car parks, low-speed access roads and lightly trafficked areas.

(1) Hereinafter referred to as 'Certificate'.

The assessment includes

Product factors:

- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review

KEY FACTORS ASSESSED

Section 1. Mechanical resistance and stability
Section 2. Safety in case of fire
Section 3. Hygiene, health and the environment
Section 4. Safety and accessibility in use
Section 5. Protection against noise
Section 6. Energy economy and heat retention
Section 7. Sustainable use of natural resources
Section 8. Durability

The BBA has awarded this Certificate to the company named above for the product described herein. This product has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of Third issue: 27 February 2025
Originally certified on 31 March 2017

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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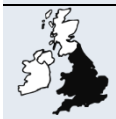
SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that LeesonBound UVR, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations:



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	**H3(2)**	**Rainwater drainage**
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	**M1**	**Access to and use of buildings other than dwellings**
Requirement:	**M2**	**Access to extensions to buildings other than dwellings**
Requirement:	**M4(1)**	**Visitable dwellings**
Requirement:	**M4(2)**	**Accessible and adaptable dwellings**
Requirement:	**M4(3)**	**Wheelchair user dwellings**
Comment:		The product can contribute to satisfying these Requirements. See section 1 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	**8(1)(2)**	**Fitness and durability of materials and workmanship**
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards – construction**
Standard:	2.12	Fire and rescue service access
Comment:		The product will contribute to satisfying this Standard, with reference to clauses 2.12.0$^{(1)(2)}$, 2.12.2$^{(1)(2)}$ and 2.12.3$^{(1)(2)}$. See section 1 of this Certificate.
Standard:	3.6	Surface water drainage
Comment:		The product will contribute to satisfying this Standard, with reference to clauses 3.6.2$^{(1)(2)}$ and 3.6.6$^{(1)(2)}$. See section 3 of this Certificate.
Standard:	4.1	Access to buildings
Comment:		The product will contribute to satisfying this Standard, with reference to clause 4.1.4$^{(1)(2)}$. See section 4 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation:	**12**	**Building standards – conversion**
Comment:		All comments given for the product under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)]. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation:	**23(a)(i)(ii)**	**Fitness of materials and workmanship**
Comment:	**(iii)(b)(i)**	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**37**	**Facilities and access for the fire and rescue service**
Regulation:	**79**	**Drainage systems**
Regulation:	**91**	**Access and use**
Regulation:	**92**	**Access to extensions**
Comment:		The product will contribute to satisfying these Regulations. See section 1 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, LeesonBound UVR, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 10.2 *Drives, paths and landscaping*.

Fulfilment of Requirements

The BBA has judged LeesonBound UVR to be satisfactory for use as described in this Certificate. The product has been assessed as a resin-bound aggregate surface course, for new or maintenance pavement construction, in domestic driveways, patios, pedestrian areas, lightly trafficked car parks, low-speed access roads and lightly trafficked areas.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. LeesonBound UVR consists of two components:

- solvent-free cold-applied polyurethane binder
- fine and coarse 3 mm and 5 mm sized aggregate blends.

Ancillary Items

The Certificate holder recommends the following ancillary items for use with the product, but these materials have not been assessed by the BBA and are outside the scope of this Certificate:

- glass grit D4937 – may be scattered on top of the binder to provide safe additional slip resistance
- catalyst – may be mixed with the binder to reduce curing times, if necessary.

Applications

The product can be applied to a bituminous or concrete substrate, provided the underlying layers of the pavement are stable and have sufficient load-spreading capabilities to support the imposed loading of the surfacing during installation and in service.

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessments is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Data were assessed for the following characteristics.

1.1 Strength and stability

1.1.1 The results of resistance to scuffing are given in Table 1 and resistance to permanent deformation tests are given in Table 2. The results of tensile adhesion tests are given in Table 3.

Table 1 Resistance to scuffing

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR, Trent Pea 3 mm	Scuffing at 45 °C to TRL Report 176 : 1997, Appendix G, Erosion Index	< 5	0.0
LeesonBound UVR, Autumn Gold 5 mm	Scuffing at 45 °C to TRL Report 176 : 1997, Appendix G, Erosion Index	< 5	0.0

Table 2 Resistance to permanent deformation

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR, Trent Pea 3 mm	WTS_{AIR} to BS EN 12697-22 : 2003 at 60°C	Value achieved	0.0053 mm·(1000 cycles)$^{-1}$
LeesonBound UVR, Autumn Gold 5 mm	WTS_{AIR} to BS EN 12697-22 : 2003 at 60°C	Value achieved	0.0293 mm·(1000 cycles)$^{-1}$

Table 3 Tensile adhesion

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR	Tensile adhesion to TRL Report 176 : 1997, Appendix J	Value achieved	
	Control on asphalt		0.29 N·mm^{-2}
	Control on concrete		1.12 N·mm^{-2}

1.1.2 On the basis of data assessed, the product has satisfactory resistance to the loads associated with the vehicle and pedestrian traffic conditions for which it is designed.

2 Safety in case of fire

Not applicable.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Water permeability

3.1.1 The results of water permeability tests are given in Table 3.

Table 3 Permeability

Product assessed	Assessment method	Requirement	Result[(1)]
LeesonBound UVR, Trent Pea 3 mm	Permeability (10^{-3}·m·s) to BS EN 12697-19 : 2004	Value achieved	
	Vertical		1.17
	Horizontal		1.36
LeesonBound UVR, Autumn Gold 5 mm	Permeability[(1)] (10^{-3}·m·s) to BS EN 12697-19 : 2004	Value achieved	
	Vertical		4.79
	Horizontal		5.11

(1) Mean of two results. Tests were carried out on 100 mm diameter cores.

3.1.2 On the basis of data assessed, water will drain through the surface course into the pavement substrate, thereby reducing or eliminating surface ponding.

3.1.3 The vertical and horizontal flow rates are affected by the aggregate size used in the mix.

4 Safety and accessibility in use

Data were assessed for the following characteristics.

4.1 Skid resistance

4.1.1 The results of skid resistance tests are given in Table 4.

Table 4 Skid resistance

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR, Trent Pea 3 mm	Skid resistance (initial) to TRL Report 176 : 1997	Value achieved	49[(1)]
			52[(2)]
LeesonBound UVR, Autumn Gold 5 mm	Skid resistance (initial) to TRL Report 176 : 1997	Value achieved	50[(1)]
			53[(2)]

(1) Mean skid resistance value for Slider 57, car.
(2) Mean skid resistance value for Slider 97.

4.1.2 On the basis of data assessed, the product has satisfactory initial skid resistance.

4.2 Surface Texture

4.2.1 The results of initial surface texture depth tests are given in Table 5.

Table 5 Initial surface texture depth

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR	Surface texture (mm) to BS EN 13036-1 : 2010[(1)]		
	Initial		
	3 mm aggregate	≥ 0.6	≥ 0.75 mm
	5 mm aggregate	≥ 0.6	≥ 1.48 mm

(1) Results obtained as part of resistance to scuffing testing.

4.2.2 On the basis of data assessed, the system has sufficient surface texture for the intended application.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Not applicable.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the product were assessed.

8.2 Specific tests were carried out as shown in Table 6.

Table 6 Retained surface texture depth

Product assessed	Assessment method	Requirement	Result
LeesonBound UVR	Surface texture (mm) to BS EN 13036-1 : 2010(1)	Value achieved	
	Retained		
	3 mm aggregate		0.69 mm
	5 mm aggregate		1.38 mm

(1) Results obtained as part of resistance to scuffing testing.

8.2.1 On the basis of data assessed for colur stability after UV exposure (400 $mJ \cdot^{-2}$ at 50°C), the product has 10 years durablity equivallence.

8.2.2 A visual inspection was made of existing sites, which confirmed satisfactory performance in service.

8.3 Service life

8.3.1 Under normal service conditions, the product will retain its integrity and have a service life in excess of a traditional asphalt surfacing, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.3.2 The product has good resistance to most chemicals likely to be spilt on road surfaces or parking areas, such as diesel, engine oil, hydraulic fluid, antifreeze and battery acid. However, any spillages must be removed as soon as possible to avoid staining or potential contamination due to the porous nature of the surface.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA, and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 LeesonBound UVR incorporates a combination of aggregates, in fine and coarse 3 mm and 5 mm sized aggregate blends. The choice of approved aggregate blends specified by the Certificate holder must be used and made by a suitably experienced and competent individual on the basis of site-specific details, including location and contractual requirements for polished stone value (PSV), texture depth, colour, porosity and any other relevant properties. Any other aggregate blend would fall outside the scope of this Certificate.

9.1.3 The Certificate holder must be consulted on the structural design and suitability of the pavement structure, but such advice is outside the scope of this Certificate. The design of the base and binder course layers must take into account the anticipated rainfall, traffic loading and ground conditions and the key factors assessed and identified in this Certificate.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate and the Certificate holder's instructions.

9.2.3 To achieve the performance described in this Certificate, the product must be installed in accordance with the BBA Agreed Method Statement and this Certificate.

9.2.4 Ambient and pavement surface temperatures, along with relative humidity, must be recorded at the start and, if the weather is variable, during the installation process. Installation must not proceed if:

- the relative humidity is below of 30% or above 85%
- the surface temperature is less than 3°C above the dew point of the measured air temperature and relative humidity
- the operating temperature and road surface temperature and/or air temperature is outside the range of 10 to 35°C.

9.2.5 Rates of spread must be dictated by the required installed depths and the aggregate size. The minimum nominal installation depth for the 3 mm and 5 mm aggregate blends is 18 mm.

9.2.6 All imperfections in the substrate not acceptable to the installer must be reinstated with a material approved by the purchaser in consultation with the installer.

9.2.7 The road surface must be clean, dry and free from ice, frost, loose aggregate, oil, grease, road salt and other loose matter likely to impair adhesion of the product to the road surfacing.

9.2.8 The aggregates are mixed using a slow-speed, high-torque drill and paddle for a minimum of 60 seconds, until a homogeneous mix is achieved.

9.2.9 The binder components and catalyst are supplied in pre-weighed packs. The catalyst may be added depending on the weather conditions. The Certificate holder's installation method statement provides details of appropriate quantities relative to temperature.

9.2.10 The binder components must then be added immediately to the pre-mixed aggregate and placed in a mechanical mixer and mixed together until homogenous (typically 1 to 2 minutes).

9.2.11 Pot life must never be exceeded.

9.2.12 Once the activator has been totally mixed into the base resin component, the curing process will start and no delays prior to and during the laying of the product must be allowed.

9.2.13 The mixed material is immediately transferred to the prepared lay area and is spread evenly to the correct required minimum depth, using either a hand trowel or screed box.

9.2.14 The surface is finished with a hand trowel or lightweight finishing tool.

9.2.15 The product must be allowed to cure. During the curing period, no disturbance or trafficking is permitted.

9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information. To achieve the performance described in this Certificate, installation of the product must be carried out by individuals trained and approved by the Certificate holder.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the product in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed by the BBA and found to be appropriate and adequate.

9.4.2 The following requirements apply in order to satisfy the performance assessed in this Certificate:

9.4.2.1 Localised damage must be repaired by cutting out and replacing, as described in section 9.2, using the same batched materials as originally supplied.

9.4.2.2 Regular cleaning will help to maintain the appearance of the system and the permeability of the surface. This can be achieved with a regular pressure washer or a sweeper fitted with water jetting and vacuuming equipment.

10 Manufacture

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered to site in 7.5 kg packs containing the correct proportions of each component, bearing the product name, the Certificate holder's name, batch number, weight and use-by date and the BBA logo incorporating the number of this Certificate.

11.2 Each component received on-site must be logged and stored to prevent contamination or deterioration, in accordance with the Certificate holder's instructions.

ANNEX A – SUPPLEMENTARY INFORMATION †

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

CLP Regulations

The Certificate holder has taken the responsibility of classifying and labelling the product under the *GB CLP Regulation* and *CLP Regulation (EC) No 1272/2008 - classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by the BBA (Certificate 10/Q018).

Bibliography

BS EN 12697-19 : 2004 *Bituminous mixtures — Test methods for hot mix asphalt — Permeability of specimen*
BS EN 12697-22 : 2003 *Bituminous mixtures — Test methods — Wheel tracking*

BS EN 13036-1 : 2010 *Road and airfield surface characteristics — Test methods — Measurement of pavement surface macrotexture depth using a volumetric patch technique*

BS EN ISO 9001 : 2015 *Quality management products — Requirements*

TRL Report 176 : 1997 *Laboratory tests on high friction surfaces for highways*

Conditions of Certificate

Conditions

1 This Certificate:

- relates only to the product that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product
- actual installations of the product, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to UKCA marking and CE marking.

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

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