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Agrément Certificate
24/7134
Product Sheet 1 Issue 1

RESIN BOUND DECORATIVE SURFACING

DALTEX PERFORMANCE UVR SYSTEM

This Agrément Certificate Product Sheet(1) relates to the Daltex Performance UVR System, a resin-bound surface course system, for use on new or maintenance pavement constructions, 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 system described herein. This system 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 issue: 16 May 2024

Hardy Giesler
Chief Executive Officer

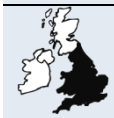
This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation
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The Certificate should be read in full as it may be misleading to read clauses in isolation.
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

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 the Daltex Performance UVR System, 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)**	**Drainage of paved areas**
Comment:		The system can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	**M1**	**Access to and use of buildings other than dwellings (Volume 2)**
Requirement:	**M2**	**Access to extensions to buildings other than dwellings**
Requirement:	**M4(1)**	**Access to and use of buildings Volume 1: Dwellings**
Comment:	**(2)(3)**	The system can contribute to satisfying this Requirement. See section 1 of this Certificate.
Regulation:	**7(1)**	**Materials and workmanship**
Comment:		The system 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 system is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	**9**	**Building standards - construction**
Comment:	2.12	Fire and rescue service access The system 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 system will contribute to satisfying this Standard, with reference to clauses 3.6.2(1)(2), 3.6.3(1)(2), 3.6.4(1)(2) and 3.6.6(1)(2). See section 3 of this Certificate.
Standard:	4.1	Access to buildings
Comment:		Use of the system will contribute towards compliance with this Standard, with reference to clause 4.1.4(1)(2). See section 1 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The system 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 system 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(1)(a)**	**Fitness of materials and workmanship**
Comment:	**(i-iv)(b)(i)**	The system is acceptable. See sections 8 and 9of this Certificate.
Regulation:	**82(a)(b)**	**Rainwater drainage**
Comment:		The system will contribute satisfying this Regulation. See section 3 of this Certificate.
Regulation:	**37**	**Facilities and access for the Fire and Rescue Service**
Regulation:	**91**	**Access and use**
Regulation:	**92**	**Access to extensions**
Comment:		The system will contribute to satisfying these Regulations. See section 1 of this Certificate.

Additional Information

NHBC Standards 2024

In the opinion of the BBA, the Daltex Performance UVR System, 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 the Daltex Performance UVR System to be satisfactory for use as described in this Certificate. The system has been assessed as a resin-bound surface course system, for use on new or maintenance pavement constructions, 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 system under assessment. Daltex Performance UVR System consists of 2 components:

- solvent-free cold-applied binder
- 1 to 3 mm and 2 to 5 mm sized aggregates in accordance with manufacturers specification.

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

- glass, plastics, rubbers and crushed ceramics for broadcasting onto surfaces where additional skid/slip resistance may be required
- catalyst VA5, which may be mixed with the binder to reduce curing times, if necessary.

Applications

The system can be applied to a bituminous or concrete substrates, 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 the expected service life.

Product assessment – key factors

The system was assessed for the following key factors, and the outcome of the assessment 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 result of a resistance to permanent deformation test is given in Table 1.

Table 1 Resistance to permanent deformation

System assessed	Assessment method	Requirement	Result
Daltex Performance UVR System	WTS_{AIR} to BS EN 12697-22 : 2003 at 60°C	Value achieved	0.0040 mm·(1000 cycles)$^{-1}$

1.1.2 On the basis of data assessed, the system classified as Type 2 in accordance with PD 6691 : 2022, Appendix D, Table D.2.

2 Safety in case of fire

Not applicable.

3 Hygiene, health and the environment

3.1.1 The results of water permeability tests are given in Table 2.

Table 2 Permeability

System assessed	Assessment method	Requirement	Result(1)
Daltex Performance UVR System	Permeability(1) (10^{-3}·m·s) to BS EN 12697-19 : 2004	Value achieved	
	Vertical		0.172
	Horizontal		0.141

(1) Mean of two results.

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

4.1.1 The results of skid resistance testing are given in Table 3.

Table 3 Skid resistance

System assessed	Assessment method	Requirement	Result
Daltex Performance UVR System	Skid resistance (initial) to TRL Report 176 : 1997	Value achieved	39

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

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 this system were assessed.

8.2 Specific tests were carried out as shown in Table 4.

Table 4 Durability

System assessed	Assessment method	Requirement	Result	
			Unwashed	Washed
Daltex Performance UVR System	Colour stability after UV exposure (400 MJ·-m^{-2} at 50°C) to BS 3900 Part D9 : 1986	Value achieved	3.85	3.97
	Hardness test – 1 and 7 day exposure to BS 5284 : 1993 to:		1 day	7 days
	diesel		3.78	3.86
	hydraulic fluid		3.70	3.75
	antifreeze		3.72	4.11
	engine oil		3.82	3.71
	battery acid		3.98	3.62
	Tensile properties to BS EN ISO 527-1 : 2012 & BS EN ISO 527-3 : 1996		Elongation at max load (%)	Stress at max load (MPa)
	Control		72.09	6.46
	UV exposure (400 MJ·m^{-2} at 50°C,)		6.59	3.78
	heat aged at 70°C for 28 days		76.05	6.77
	water soak at 23°C for 7 days (including chlorinated water)		60.29	4.37
	Tensile adhesion to TRL 176 Appendix J			
	Control ($N.mm^{-2}$)			
	Asphalt		0.42	
	Concrete		1.15	
	heat aged at 70°C for 28 days ($N.mm^{-2}$)			
	Asphalt		0.04	
	Concrete		1.81	
	water soak at 23°C ($N.mm^{-2}$)		7 days	28 days
	Asphalt		0.55	0.55
	Concrete		1.10	0.86
	Erosion index to TRL Report 176 : 1997		0.0	
	Surface texture (mm) to BS EN 13036-1 : 2010			
	Initial		0.70	
	Retained		0.60	
	Skid resistance (retained) to TRL Report 176 : 1997		51	

8.2.1 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 system, will have a service life in excess of conventional asphalt surfacing, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

8.3.2 The system has a 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 are 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 specified in this Certificate.

9.1.2 The system is designed incorporating a blend of a 1 to 3 mm and 2 to 5 mm sized aggregates. The choice of aggregate type must be made by a suitably competent and experienced 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 properties.

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 system 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 greater than 80%
- 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 5 to 30°C.

9.2.5 Rates of spread will be dictated by the required installed depths and the aggregate size. The minimum nominal installation depth is 15 mm for pedestrian use and 18 mm for vehicular use.

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 system to the road surfacing.

9.2.8 The aggregates are mixed in the forced action mixer as dictated by the mix design for 30 seconds using a timer, to combine the aggregate types or segregated material.

9.2.9 The binder components and catalyst are supplied in pre-weighed packs. The catalyst VA5 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 are supplied in pre-weighed packs. the total content of Daltex Performance UVR activator (part B) is added to the Daltex Performance UVR Part A base pail and mixed together until homogenous (typically 1-2 minutes).

9.2.11 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 system must be allowed.

9.2.12 The mixed Derbyshire Specialist Aggregates resin is poured to the mixer and mixed until the aggregate is evenly coated (typically 3 minutes).

9.2.13 Pot life must never be exceeded.

9.2.14 The mixed material is immediately spread evenly across the surface at the required depth using a flat-bladed squeegee. In order to ensure that the correct depth and spread rate is achieved, battens of the required thickness can be used to gauge the depth as work progresses.

9.2.15 The surface is finished with a double-ended hand trowel or other mechanical means such as power trowels for the final compaction.

9.2.16 The system 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 and a site visit to witness an installation in progress. To achieve the performance described in this Certificate, installation of the Daltex Performance UVR System must be carried out by contractors approved by the Certificate holder.

9.4 Maintenance and repair

9.4.1 Ongoing satisfactory performance of the system in use requires that it is suitably maintained. The guidance provided by the Certificate holder was assessed 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 In order to maintain the permeability of the surface, it must be cleaned periodically using a pressure washer or a sweeper fitted with water jetting and vacuuming equipment.

10 Manufacture

10.1 The production processes for the system 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 system is delivered to site in 7.5 kg packs.

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 system 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 system components 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).

Bibliography

BS 3900 Part D9 : 1986 *Determination of colour and colour difference: measurement*

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 5284 : 1993 *Methods of sampling and testing mastic asphalt used in building and civil engineering — Section 6 Hardness number test*

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 527-1 : 2012 *Plastics — Determination of tensile properties — General principles*
BS EN ISO 527-3 : 1996 *Plastics — Determination of tensile properties — Test conditions for films and sheets*

PD 6691 : 2022 *Guidance on the use of BS EN 13108, Bituminous mixtures*

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

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
- is valid only within the UK
- 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
- is subject to English Law.

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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