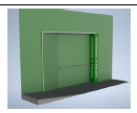
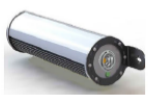
18. Security and evacuation systems

a. SIGNAGE

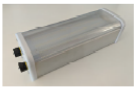
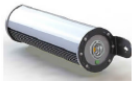
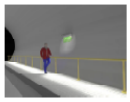
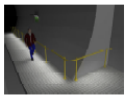
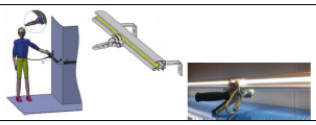
A303 STONEHENGE - MATERIALS OFFER

ITEM	LOGO	NAME	AIM/PLACED	WARRANTY	MAINTENANCE INTERVALS	USEFUL LIFE*
1.A		POWER 300 SIGN	Evacuation hall	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
1.B			Evacuation hall	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
2		POWER 300 SIGN	Evacuation gallery entrance	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
3		POWER 300 SIGN	Evacuation gallery entrance	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
4.A		GATEWAYS	Evacuation gallery entrance	2 YEARS	ONCE EACH SIX MONTHS	20 YEARS
4.B		EXIT CONTOUR LIGHTING/TOTEM	Evacuation gallery entrance	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
5		ROTLEDS	BIE and Hydrants identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS

A303 STONEHENGE - MATERIALS OFFER

6		ROTLEDS	SOS POST identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
7		ROTLEDS	PARKING BAY identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
8		ROTLEDS	EXTINGUISHER identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
9		ROTLEDS	GALLERY identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
10.A		EL-TUNNEL	Gallery identification	2 YEARS	ONCE EACH SIX MONTHS	10 YEARS
10.B		ELEDS-TUNNEL	Gallery identification	2 YEARS	ONCE EACH SIX MONTHS	15 YEARS
11		INHELIUM TUNNEL 20W	Evacuation hall lighting	2 YEARS	ONCE EACH SIX MONTHS	12 YEARS

A303 STONEHENGE - MATERIALS OFFER

12		INHELIUM	Evacuation gallery lighting	2 YEARS	ONCE EACH SIX MONTHS	12 YEARS
13		INHELIUM TUNNEL 30W	Evacuation gallery lighting	2 YEARS	ONCE EACH SIX MONTHS	12 YEARS
14	 	BANLIGHT SYSTEM	Evacuation hall lighting and handrail function	2 YEARS	ONCE EACH SIX MONTHS	20 YEARS
15		ARIADNA'S TUNNEL	Lifeline for firefighters along the evacuation hall	2 YEARS	ONCE EACH SIX MONTHS	20 YEARS

* USEFUL LIFE CALCULATED WITH A PROPER GIVEN USED.

mi. 14/04/2021 13:52

Ane Jorquera <ane@dsaf.es>

Re: A303 Stonehenge : General Product Info

Para Gómez Lucena, Jose Ismael

CC Manso Prieto, Maria Teresa; Martin Blasco, Raquel; Jaro Munoz, Pablo Jose; Gonzalez Gabarda, Carlos; DSAF Miguel Barrena

Respondió a este mensaje el 14/04/2021 14:03.

Mensaje | Dossier info DSAF.rar

- **Manufacturer / Provider**

Dinámicas de Seguridad S.L. (DSAF)

- **Main Products**

Power 300 signs, Rotleds (normal,15º, Parallel), El-tunnel, Eleds tunnel, Gateways, Inhelium luminaires , Banlight, Exit Countour Lighting...

- **Manufacturer's Warranty**

Standard warranty is 24 months.

We are able to offer an extended warranty of 12 months.

- **Manufacturers assessment of asset design life**

The products have a design life of more than 15 years,

when operated in accordance with regular maintenance carried out in accordance with the procedures detailed in the maintenance manuals.

- **Extended Life Cycle and Refurbishment**

It will be possible to extent your product life cycle to 26 years ? Yes

and refurbishment to 13 years ? Yes

19. ALL SENSORS AND ASSET PERFORMANCE MONITORING AND FAULT MANAGEMENT TECHNOLOGY AND SYSTEMS* PROVIDED AS PART OF THE WORKS

19.1. Tunnel Sensors of CO, NOx, Visibiltiy, Air Speed monitoring

SICK.

- **Manufacturer's Warranty**
  Standard warranty is **12** months.

  We are able to offer an extended warranty of **60** months.

  Electrochemical modules maximum 12 months.

- **Manufacturers assessment of asset design life**
  The products have a design life of more than 15 years, when operated in accordance with regular maintenance carried out in accordance with the procedures detailed in the maintenance manuals.

  VM400 42 years

  VISIC100SF 15 years

  FLOWSIC200 15 years

- **Extended Life Cycle and Refurbishment**
  It will be possible to extent your product life cycle to 26 years? **No**

  Refurbishment to 13 years? **Yes**

- **Manufacturers recommended maintenance Regimes**
  Maintenance Manual attached

  VM400 between 6 – 12 months

  VISIC100SF 12 months

  FLOWSIC200 between 2 - 5 years

19.2. Measurement performance for tunnel air quality
VISIC100SF

VISIC100SF sensor unit

Description	Analyzer unit of the measuring system
Enclosure rating	IP 6K9K
Analog outputs	3 outputs: 4 ... 20 mA, 500 Ω Electrically isolated; short-circuit proof
Digital outputs	2 relay contacts: 48 V DC, 0.5 A, 24 W Preset for failure and maintenance request
Interfaces and bus protocols	
RS-485	Modbus RTU (not available when a TAD is used)
RS-485	PROFIBUS DP (option)
Indication	LC display, inside Status LEDs: "Operation", "Maintenance request" and "Failure"
Input	Functional keys
Operation	Via LC-display and function keys
Dimensions (W x H x D)	266 mm x 159 mm x 117 mm (for details see dimensional drawings)
Weight	≤ 2.8 kg
Material	Stainless steel 1.4571
Mounting	Wall-mounting, vertical, up to a wall inclination of 45°
Power supply	
Voltage	18 ... 28 V DC
	Other voltages with optional terminal box or Tunnel Adapter Device TAD
Current consumption	≤ 1 A
Power consumption	Without heating: ≤ 5 W With heating: ≤ 20 W

TAD tunnel adapter device

Description	Unit for displaying data, for operation and for connecting data cables
Enclosure rating	IP 66
Analog outputs	4 outputs (option): 4 ... 20 mA, 500 Ω Electrically isolated
Digital outputs	3 outputs (option): 125 V AC, 0.6 A / 30 V DC, 2 A
Digital inputs	1 input (option): 30 V DC
Indication	LC display and status LEDs
Input	Functional keys
Dimensions (W x H x D)	210 mm x 347 mm x 129 mm (for details see dimensional drawings)
Weight	5 kg
Material	Stainless steel 1.4571
Power supply	
Voltage	88 ... 264 V AC
Frequency	47 ... 63 Hz
Power consumption	15 W

Maintenance by trained users/Customer Service of manufacturer

Maintenance interval[1]	Maintenance work
1Y	
☐	► Clean device inside and outside
☐	► Clean optics
☐	► Exchange gas sensor
☐	► Test analog outputs
☐	► Test digital outputs

19.3. Ultrasonic flow measurement for air velocity in tunnel system FLOWSIC200

MCU control unit

Description	Obligatory control and evaluation unit for up to eight FLOWSIC200 measuring points
Enclosure rating	IP65
Analog outputs	1 output: 0/2/4 ... 20 mA, 750 Ω Electrically isolated; further outputs when I/O modules are used (optional)
Analog inputs	2 inputs: 0 ... 20 mA Not electrically isolated; additional inputs with use of I/O modules (option)
Digital outputs	5 relay outputs (changeover contacts), volt-free: 48 V AC, 1 A Safety extra-low voltage; for status signals "Operation/Fault", "Limit value", "Warning", "Maintenance" and "Control cycle"
Digital inputs	4 volt-free contacts: Additional inputs with use of I/O modules
Interfaces	USB 1.1 (virtual COM port; service interface) RS-232 (via terminal connection; service interface) RS-485 (for connection of sender/receiver unit(s))
Bus protocol	Ethernet TCP/IP (via optional interface module) Modbus (via optional interface module) Modbus TCP (via optional interface module) PROFIBUS DP (via optional interface module)
Display	LC display Status LEDs: "Power", "Maintenance", and "Fault"
Operation	Via LC display or SOPAS ET software
Dimensions (W x H x D)	Details, see dimensional drawings
Weight	≤ 5 kg
Electrical connection	
Voltage	90 to 250 V AC
Frequency	50 Hz / 60 Hz
Power consumption	≤ 50 W
Options	Interface module(s) I/O module(s)

Preventive Maintenance schedule for the operator

Maintenance interval[1)]	Maintenance activity	Remarks
>6 M ... 12 M	▸ Carry out a visible check on the complete device	Strong pollutions, corrosion traces

1) M = month

Civil works – Pavement

TARMAC

The TARMAC specification provided overleaf supports TQ4A1 - enhanced road surface durability

From: Smith, Tim <tim.smith@tarmac.com>
Sent: 28 April 2021 19:31
To: Scott McFadzen <scott.mcfadzen@outlook.com>
Cc: Dixon, Tony <tony.dixon@tarmac.com>; Gossling, Robert <robert.gossling@tarmac.com>; Weller, William <william.weller@tarmac.com>; Holpin, Nigel <nigel.holpin@tarmac.com>
Subject: A303 Stonehenge Surface Course

Scott,

Further to our conversation today regarding the Draft Clause 941 as the basis for an enhanced durability "Premium Surface Course," we confirm the following:

1) Tarmac can offer a Premium Surface Course based on a tweaked version of one of our standard 10mm nominal size Clause 942 thin surface course materials. The material will contain one of the enhanced durability polymer modified bitumens currently coming onto the market, and will comply with the requirements of Clause 942 without the need for a Departure from Standards.

2) The Premium Surface Course will be laid using a high spread rate of bond coat to ensure bond with the binder course and provide additional waterproofing to the pavement. Additionally, we will lay the surface course using jointless echelon paving and material transfer vehicles and averaging beams to ensure the best possible ride quality is achieved. We expect this surface course to have a service life of at least 15 years.

3) Tarmac will provide an enhanced version of the Clause 942.3 Guarantee for a period of 10 years.

Regards,

Tim

Tim Smith
Regional Technical Manager - South

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HAPAS

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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

HAPAS Certificate
01/H052
Product Sheet 1

TARMAC THIN SURFACING SYSTEMS FOR HIGHWAYS

ULTIPAVE 14 mm THIN SURFACING SYSTEM

This HAPAS Certificate Product Sheet[1] is issued by the British Board of Agrément (BBA), supported by Highways England (HE) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Assembly Government and the Department for Infrastructure, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers Group and industry bodies. HAPAS Certificates are normally each subject to a review every three years.

(1) Hereinafter referred to as 'Certificate'.

This Certificate relates to the ULTIPAVE 14 mm Thin Surfacing System, a stone mastic asphalt for use as a surface course on new and maintenance road construction.

CERTIFICATION INCLUDES:

- factors relating to compliance with HAPAS requirements
- factors relating to compliance with Regulations where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Surface macrotexture — the system is designed to comply with the initial and retained texture depth requirements for an installed 14 mm upper aggregate size thin surfacing system in accordance with the MCHW, Volume 1, SHW, Clause 942, incorporating Interim Advice Note 154/12, Clause 921, Tables 9/3SR and NG 9/32, and is satisfactory for use on roads with this requirement (see section 6).

Bond to substrate — the installed system can achieve a torque bond strength greater than 400 kPa and is satisfactory for use on roads with this requirement (see section 7).

Noise — the measured road surface influence indicates that the system will generate less road traffic noise than a hot-rolled asphalt with a 2 mm surface macrotexture and meets the requirements of Level 3 in accordance with Table NG 9/30 of Interim Advice Note 154/12 (see section 8).

Durability — the system can be designed to provide a durable surface course that will meet the MCHW, Volume 1, SHW, Clause 942, requirements for texture depth and bond strength (see section 10).

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 Fourth issue: 6 March 2018

Originally certificated on 5 September 2001

Paul Valentine
Technical Excellence Director

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Requirements

In the opinion of the BBA, the ULTIPAVE 14 mm Thin Surfacing System, when assessed in accordance with the BBA HAPAS *Guideline Document for the Assessment and Certification of Thin Surfacing Systems for Highways* and used in accordance with the provisions of this Certificate, will meet or contribute to meeting the requirements of the *Manual of Contract Documents for Highways Works* (MCHW)[1], Volume 1 *Specification for Highways Works* (SHW), Series 900, Clause 942, incorporating Interim Advice Note 154/12.

(1) The MCHW is operated by the Overseeing Organisations: Highways England (HE), Transport Scotland, the Welsh Assembly Government and the Department for Infrastructure (Northern Ireland).

Regulations

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.

See section: 3 *Delivery and site handling* of this Certificate.

Additional Information

CE marking

The Certificate holder has taken the responsibility of CE marking the stone mastic asphalt in accordance with harmonised European Standard BS EN 13108-5 : 2016. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 The ULTIPAVE 14 mm Thin Surfacing System is a stone mastic asphalt surface course, consisting of a paving grade bitumen to BS EN 12591 : 2009, cellulose fibres and limestone filler, and fine and coarse aggregates to BS EN 13043 : 2002.

1.2 The system is used in conjunction with a spray-applied, bitumen emulsion tack coat conforming to BS EN 13808 : 2013, or a proprietary polymer-modified bitumen emulsion bond coat.

1.3 Ancillary items used with the system include:

- joint preparation — hot applied 40/60 penetration bitumen to BS EN 12591 : 2009 or a cold-applied, thixotropic bitumen emulsion, for use on all cut joints
- tack coat — C40 B 4 (K1-40) bitumen emulsion tack coat conforming to BS EN 13808 : 2013, for use on small areas not accessible by machine application.

2 Manufacture

2.1 The stone mastic asphalt is manufactured using conventional asphalt production methods.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out 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.

2.3 The management system of Tarmac Trading Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate FM 503516).

3 Delivery and site handling

3.1 The system components are delivered in bulk in insulated vehicles.

3.2 Bond and tack coats may be delivered to site either in bulk by tanker or in 205 litre drums.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the system components under the *CLP Regulation (EC) No 1272/2008 on the Classification and Labelling and Packaging of Substances and Mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the ULTIPAVE 14 mm Thin Surfacing System.

Design Considerations

4 Use

4.1 The ULTIPAVE 14 mm Thin Surfacing System can be designed to meet or contribute to meeting the relevant installed requirements of the MCHW, Volume 1, SHW, Series 900, Clause 942, incorporating Interim Advice Note 154/12.

4.2 The system is satisfactory for use on bituminous or concrete substrates, provided they are stable and have sufficient loadbearing strength to support the loads imposed during installation and service.

4.3 Guidance on evaluating the condition of an existing surface is provided in the *Design Manual for Roads and Bridges* (DMRB)[1], HD 30/08, 7.3.3.

4.4 Guidance on appropriate surfacing selection is provided in the DMRB[1], HD 36/06, 7.5.1. Local Authorities may have different criteria, which should be taken into consideration.

(1) The DMRB is operated by the Overseeing Organisations: Highways England (HE), Transport Scotland, the Welsh Assembly Government and the Department for Infrastructure (Northern Ireland).

5 Practicability of installation

The system is installed only by contractors approved by the Certificate holder using conventional paving equipment (see the *Installation* part of this Certificate).

6 Surface macrotexture

The system is designed to comply with the initial and retained texture depth requirements for an installed 14 mm upper aggregate size thin surfacing system in accordance with the MCHW, Volume 1, SHW, Clause 942, incorporating Interim Advice Note 154/12, Clause 921, Tables 9/3SR and NG 9/32, and is satisfactory for use on roads with this requirement.

7 Bond to substrate

The torque bond strength for the system measured greater than 400 kPa and meets the minimum requirement of Table B.5 of the Guideline Document.

8 Noise

8.1 The road surface influence (RSI_H) was recorded as -3.7 [dB(A)]. The system meets the requirements of Level 3 in accordance with Table NG9/30 of Interim Advice Note 154/12.

8.2 Road traffic noise levels will be affected by several factors, including location, traffic type and the condition of the road, therefore the RSI_H value may not be reproduced on other installations.

9 Maintenance

The system is not subject to any routine maintenance requirements. However, any damage must be repaired (see section 15).

10 Durability

When installed in accordance with this Certificate, the system will provide a durable surface course for new and maintenance road construction, in accordance with the MCHW, Volume 1, SHW, Series 900, Clause 942, incorporating Interim Advice Note 154/12.

Installation

11 General

11.1 Application of the system, within the context of this Certificate, is carried out by installers recommended or recognised by the Certificate holder. Such an installer is a company which:

- employs operatives who have been trained and approved by the Certificate holder to install the system
- has undertaken to comply with the Certificate holder's application procedure
- is subject to supervision by the Certificate holder, including site inspections.

11.2 As part of the assessment and ongoing surveillance of the quality of installation of the system, the BBA has:

- agreed the quality control procedures and testing to be undertaken
- monitored the process and verified that it is in accordance with the documented procedures

- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the quality control operated is being maintained.

11.3 The system must be installed in accordance with the Certificate holder's installation procedures, incorporating guidance provided in BS 594987 : 2015.

11.4 The system can be applied to bituminous or concrete substrates at a nominal layer thickness of between 30 and 50 mm in depth on roads installed in accordance with the MCHW, Volume 1, SHW, Series 900, Clause 942. The minimum thickness at any point must not fall below 25 mm.

11.5 Provided the substrate is free from standing water or ice and that the minimum rolling temperature can be achieved, the system can be installed at a minimum ambient temperature of -1°C measured on a rising thermometer.

12 Substrate preparation

12.1 The substrate must be prepared in accordance with BS 594987 : 2015, Section 5.

12.2 Bitumen emulsion bond coat or tack coat is spray-applied to achieve a minimum 0.3 kg·m^{-2} residual bitumen on concrete and 0.15 to 0.35 kg·m^{-2} on bitumen substrates.

12.3 For small areas and detailing, bitumen emulsion tack coat can be applied leaving a uniform coating, using appropriate hand-held equipment.

12.4 The emulsion must be allowed to break (change from brown to black) prior to the application of the system.

13 Laying and compaction procedures

13.1 Machine and hand installation must follow the requirements of BS 594987 : 2015, Sections 6.3, 6.4 and 6.7.

13.2 Compaction must follow the requirements of BS 594987 : 2015, Sections 9.2 and 9.3.

13.3 Rolling and compaction must commence as soon as possible above the minimum rolling temperature. The temperature is binder specific and will be either 110 or 130°C. This must be identified by the Certificate holder prior to the commencement of installation.

14 Joints

14.1 All joints must be prepared in accordance with BS 594987 : 2015, Sections 6.8.1 and 6.8.3. Any cut joints must be saw cut to a full depth vertical face, cleaned and painted with a thick uniform coating of joint preparation as identified in section 1.3.

14.2 Cold longitudinal joints must be either:

- cut to a full-depth vertical face and painted prior to matching, or
- formed into a chamfer during the laying process and subsequently painted prior to matching. Chamfers must be at an angle of 70 to 80° rather than a vertical right angle.

14.3 Hot longitudinal joints may be hot matched, provided that the temperature of the earlier laid mat is at least 120°C.

15 Repair

Any damaged areas must be cut back to sound material by planing or other suitable means and replaced with a material appropriate to the location, traffic and area of re-instatement. Materials must be selected in agreement with the Certificate holder and the purchaser.

Technical Investigations

16 Tests

An assessment was made of data supplied as part of installation trials and of test data to BS EN 13108-5 : 2016, and in accordance with the *Guideline Document for the Assessment and Certification of Thin Surfacing Systems for Highways* in relation to:

- texture depth
- wheel tracking (resistance to permanent deformation)*
- torque bond
- visual condition of system installation and performance trial (SIPT)
- noise.

17 Investigations

17.1 An installation trial was carried out to assess the practicability of the installation and on-site quality control procedures. A visual inspection of the site concluded that it was free from significant abnormalities. Results from the installation confirmed that it complied with the contractual requirements.

17.2 A user/specifier survey relating to existing sites that were at least two years old was carried out to confirm the system's performance in use.

17.3 The manufacturing process was evaluated by inspection of a typical coating plant, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used. The inspection confirmed that the plant operated in accordance with the requirements of the Quality Plan and Quality System agreed with the BBA.

17.4 Data gathered from a monitored installation trial showed that, when laid at a nominal thickness of 35 mm on a road of Stress Level 1[1] and estimated Traffic Level[2] of 4600 cv/l/d, the system will meet Clause 942 Interim Advice Note 154/12 Tables 9/3SR and 9/32 requirements for initial and retained surface macrotexture. The initial texture measured was 1.9 mm and the retained texture was >1.0 mm.

(1) Site Stress Levels are defined in the Guidelines Document, Appendix C.

(2) Traffic Levels (cv/l/d) are defined as commercial vehicles/lane/day.

17.5 Additional data relating to surface macrotexture depth was supplied, indicating that texture depths less than 1.8 mm can be achieved prior to trafficking.

Bibliography

BS 594987 : 2015 + A1 : 2017 *Asphalt for roads and other paved areas — Specification for transport, laying, compaction and product type testing protocols*

BS EN 12591 : 2009 *Bitumen and bituminous binders — Specifications for paving grade bitumens*

BS EN 13043 : 2002 *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas*

BS EN 13108-5 : 2016 *Bituminous mixtures — Material specifications — Stone mastic asphalt*

BS EN 13808 : 2013 *Bitumen and bituminous binders — Framework for specifying cationic bituminous emulsions*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

Guideline Document for the Assessment and Certification of Thin Surfacing Systems for Highways, January 2000 and May 2008

HD 30/08 *Design Manual for Roads and Bridges : Volume 7, Pavement Design and Maintenance : Section 3, Pavement Maintenance Assessment : Part 3, Maintenance Assessment Procedure*

HD 36/06 *Design Manual for Roads and Bridges : Volume 7, Pavement Design and Maintenance : Section 5, Pavement Materials : Part 1, Surfacing Materials for New and Maintenance Construction*

IAN 154/12 *Revision of SHW Clause 903, Clause 921 and Clause 942*

Manual of Contract Documents for Highway Works, Volume 1 *Specification for Highway Works*, Series 900 *Road pavements — bituminous bound materials*

Conditions of Certification

18 Conditions

18.1 This Certificate:

relates only to the product/system 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.

18.2 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.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system 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.

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

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

18.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system 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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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

HAPAS Certificate
01/H052
Product Sheet 2

TARMAC THIN SURFACING SYSTEMS FOR HIGHWAYS

ULTIPAVE 10 mm THIN SURFACING SYSTEM

This HAPAS Certificate Product Sheet[1] is issued by the British Board of Agrément (BBA), supported by Highways England (HE) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Assembly Government and the Department for Infrastructure, Northern Ireland), the Association of Directors of Environment, Economy, Planning and Transport (ADEPT), the Local Government Technical Advisers Group and industry bodies. HAPAS Certificates are normally each subject to a review every three years.

(1) Hereinafter referred to as 'Certificate'.

This Certificate relates to the ULTIPAVE 10 mm Thin Surfacing System, a stone mastic asphalt for use as a surface course on new and maintenance road construction.

CERTIFICATION INCLUDES:

- factors relating to compliance with HAPAS requirements
- factors relating to compliance with Regulations where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Surface macrotexture — the system is designed to comply with the initial and retained texture depth requirements for an installed 10 mm upper aggregate size thin surfacing system in accordance with the MCHW, Volume 1, SHW, Clause 942, incorporating Interim Advice Note 154/12, Clause 921, Tables 9/3SR and NG 9/32, and is satisfactory for use on roads with this requirement (see section 6).

Bond to substrate — the installed system can achieve a torque bond strength greater than 400 kPa and is satisfactory for use on roads with this requirement (see section 7).

Durability — the system can be designed to provide a durable surface course that will meet the MCHW, Volume 1, SHW, Clause 942, requirements for texture depth and bond strength (see section 9).

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 Fourth issue: 6 March 2018

Originally certificated on 5 September 2001

Paul Valentine
Technical Excellence Director

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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