

## Grace Construction Products Ltd

580/581 Ipswich Road  
Slough  
Berkshire SL1 4EQ  
Tel: 01753 490000 Fax: 01753 490001  
e-mail: [uksales@grace.com](mailto:uksales@grace.com)  
website: [www.uk.graceconstruction.com](http://www.uk.graceconstruction.com)



Agrément Certificate  
**04/4173**  
Product Sheet 1

## GRACE CONSTRUCTION WATERPROOFING SYSTEMS

### SERVIDEK/SERVIPAK TRAFFICKED DECK WATERPROOFING SYSTEM

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to the Servidek/Servipak Trafficked Deck Waterproofing System, for use as a protected waterproofing system overlaid with a suitable wearing course on trafficked decks.

(1) Hereinafter referred to as 'Certificate'.

#### CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information 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

**Resistance to water and water vapour** — the waterproofing system will resist the passage of moisture into a structure (see section 6).

**Properties in relation to fire** — the use of the protected system can enable a roof to be unrestricted under the current building regulations (see section 8).

**Durability** — the system will provide a durable waterproofing with a service life in excess of 10 years (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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of Second issue: 7 October 2015

John Albon — Head of Approvals

A handwritten signature in black ink, appearing to read 'Claire Curtis-Thomas'.

Originally certificated on 7 January 2005

Construction Products

Claire Curtis-Thomas

Chief Executive

*The BBA is a UKAS accredited certification body — Number 1113. 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](http://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.*

British Board of Agrément  
Bucknalls Lane  
Watford  
Herts WD25 9BA

tel: 01923 665300  
fax: 01923 665301  
[clientservices@bba.star.co.uk](mailto:clientservices@bba.star.co.uk)  
[www.bbacerts.co.uk](http://www.bbacerts.co.uk)

©2015

# Regulations

In the opinion of the BBA, the Servidek/Servipak Trafficked Deck Waterproofing 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 presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



## The Building Regulations 2010 (England and Wales)

<b>Requirement:</b> B4(2)	<b>External fire spread</b>
<b>Comment:</b>	When used on roof decks with an asphalt or concrete wearing surface, the use of the system will enable a roof to be unrestricted under this Requirement. See section 8 of this Certificate.
<b>Requirement:</b> C2(b)	<b>Resistance to moisture</b>
<b>Comment:</b>	The system will enable a structure to satisfy this Requirement. See section 6 of this Certificate.
<b>Regulation:</b> 7	<b>Materials and workmanship</b>
<b>Comment:</b>	The system is acceptable. See section 10 and the <i>Installation</i> part of this Certificate.



## The Building (Scotland) Regulations 2004 (as amended)

<b>Regulation:</b> 8(1)	<b>Durability, workmanship and fitness of materials</b>
<b>Comment:</b>	The use of the system satisfies the requirements of this Regulation. See sections 9.1 and 10 and the <i>Installation</i> part of this Certificate.
<b>Regulation:</b> 9	<b>Building standards applicable to construction</b>
<b>Standard:</b> 2.8	<b>Spread from neighbouring buildings</b>
<b>Comment:</b>	When used on roof decks with an asphalt or concrete wearing surface, the deck can be regarded as having low vulnerability under clause 2.8.1 <sup>(1)(2)</sup> of this Standard. See section 8 of this Certificate.
<b>Standard:</b> 3.10	<b>Precipitation</b>
<b>Comment:</b>	The system will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.10.1 <sup>(1)</sup> and 3.10.7 <sup>(1)</sup> . See section 6 of this Certificate.
<b>Standard:</b> 7.1(a)	<b>Statement of sustainability</b>
<b>Comment:</b>	The system can contribute to meeting 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.
<b>Regulation:</b> 12	<b>Building standards applicable to conversions</b>
<b>Comment:</b>	Comments made in relation to the system under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



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

<b>Regulation:</b> 23(a)(b)(i)	<b>Fitness of materials and workmanship</b>
<b>Comment:</b>	The system is acceptable. See section 10 of this Certificate.
<b>Regulation:</b> 28(b)	<b>Resistance to moisture and weather</b>
<b>Comment:</b>	The system can enable a structure to meet this Regulation. See section 6 of this Certificate.
<b>Regulation:</b> 36(b)	<b>External fire spread</b>
<b>Comment:</b>	When used on roof decks with an asphalt or concrete wearing surface, the use of the system will enable a roof to be unrestricted under the requirements of this Regulation. See section 8 of this Certificate.

## Construction (Design and Management) Regulations 2015

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 1 *Description* (1.2), 3 *Delivery and site handling* (3.3 to 3.5) and 12 *Precautions during application* of this Certificate.

## 1 Description

1.1 The Servidek/Servipak Trafficked Deck Waterproofing System comprises a liquid-applied, polymer-modified bitumen waterproofing membrane protected with Servipak preformed protection boards.

1.2 Components of the system include:

- Servidek — a two-component, liquid-applied, polymer-modified bitumen, elastomeric waterproofing membrane
- Servipak — a range of bitumen impregnated protection boards, available as follows:
  - Servipak 3 (3 mm thick), 1500 mm x 1000 mm
  - Servipak 6 (6 mm thick), 1500 mm by 1000 mm
  - Servipak 12 (12 mm thick), 1000 mm by 1000 mm
- Armourtape — a 1.5 mm thick, bitumen-based tape for sealing joints between Servipak boards, available in rolls 10 m and 20 m long by 75 mm wide
- Primer B2 — a bitumen-based primer for priming Servipak joints prior to applying Armourtape, available in 5 litre and 25 litre drums.

## 2 Manufacture

2.1 The products are manufactured using traditional batch blending processes, laminating and roll forming processes and proprietary laminating and/or bitumen impregnation processes.

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.

## 3 Delivery and site handling

3.1 The liquid components of the system are delivered to site in labelled, sealed containers and, where appropriate, in the specified mix proportions.

3.2 Storage of Servidek Parts A and B should be between 5°C and 27°C, and internal storage is recommended. Where this is not possible, the products may be stored externally but storage in direct sunlight must be avoided. Servidek Part B must not be allowed to freeze in transit or on site, and should be protected with insulated packaging. The amount of time the products are stored on site before use should be kept to a minimum.

3.3 The pack/product weights and types are given in Table 1.

Component	Weight (kg)	Pack type
Servidek (22.5 litre)		
Part A	20.5	bucket
Part B	4.5	bucket
Servipak 3 board 1500 mm x 1000 mm	6.6 per board	200 per pallet
Servipak 6 board	15.8 per board	80 per pallet
Servipak 12 board	22.5 per board	60 per pallet
Armourtape	1.1 per roll 2.2 per roll	24 per carton 7 per carton
Primer B2		
5 litre	5	can
25 litre	25	drum

3.4 Each Servidek container includes a label bearing the batch number, use-by date and quantity. The packaging also includes health and safety information.

3.5 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, labelling and packaging of substances and mixtures. Users must refer to the relevant Safety Data Sheets.

Table 2 Flashpoint and hazard classification

Component	Flashpoint (°C)	Classification
Servidek		
Part A	N/A	Irritant
Part B	N/A	N/A
Primer B2	25	Harmful, flammable

3.6 The containers must be kept tightly sealed and all components must be stored under cool and dry conditions, away from other chemicals and sources of ignition. All containers should be protected from frost when stored externally.

3.7 The products must be stored in accordance with the manufacturer's recommendations. The Certificate holder's product data sheets should be consulted for details.

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Servidek/Servipak Trafficked Deck Waterproofing System.

## Design Considerations

### 4 Use

4.1 The Servidek/Servipak Trafficked Deck Waterproofing System, applied to a concrete deck laid in accordance with BS EN 1992-1-1 : 2004 and its UK National Annex, is satisfactory for use on trafficked decks subject to vehicular and pedestrian traffic.

4.2 The system may also be applied to steel substrates that are free of rust, scale, oil and other contaminants.

4.3 The system must be overlaid with a suitable wearing course. Suitable materials include asphalt, concrete, paving slabs and block pavers.

### 5 Practicability of installation

Installation of the system must be carried out by contractors trained by the Certificate holder in accordance with the Certificate holder's Installation Manual.

### 6 Resistance to water and water vapour



The system is an effective barrier against the passage of water and water vapour, is flexible and can accommodate the movement due to cracking permitted by BS EN 1992-1-1 : 2004 and its UK National Annex.

### 7 Ability to accommodate movement

Where active joints are encountered, the system must be used with suitable expansion joints. The Certificate holder must be consulted for suitable products and design of detailing. These products are outside the scope of this Certificate.

### 8 Properties in relation to fire



When used on decks with a suitable asphalt or concrete overlay, the deck is classified as EXT.F.AA or B<sub>ROOF</sub>(t4) as described in the national Building Regulations.

### 9 Maintenance



9.1 Installation of the system should be the subject of a planned maintenance programme to ensure that drainage outlets are kept clear.

9.2 Damaged sections of the system or overlay must be repaired in accordance with section 14.

### 10 Durability



The system is durable and will remain effective provided it is not damaged during subsequent resurfacing operations, and will have a service life in excess of 10 years.

## 11 General

- 11.1 The system must be applied only to concrete or steel substrates that are clean and free from ice, frost, laitance, oil or other contaminants that could impair the adhesion of the system. Damp surfaces are acceptable but any surface water must be removed.
- 11.2 New concrete should be well compacted and trowelled to produce a dense finish that should be lightly textured using a wooden float.
- 11.3 Existing concrete surfaces should, if required, be screeded to form a level and uniform surface.
- 11.4 The maximum deviation in surface profile permissible is 10 mm over a 3 m length and any abrupt irregularities over 3 mm should be removed or filled with a high-strength repair mortar. The advice of the Certificate holder must be sought for suitable repair materials.
- 11.5 If concrete curing compounds or membranes have been used that could impair the adhesion of the system to the concrete, an adhesion test should be carried out to determine if removal is necessary. The advice of the Certificate holder must be sought.
- 11.6 Steel surfaces must be grit blasted to ensure that all rust, scale, oil, grease and other contaminants are removed before the system is applied.
- 11.7 If an anti-corrosive coating is used on the steel, a test should be carried out to ensure that adhesion of the system is not adversely affected. The advice of the Certificate holder must be sought.
- 11.8 The system must only be applied when ambient air temperature is between 4°C and 35°C and the substrate temperature is above the dew point.

## 12 Precautions during application

Contact with the liquid components of the system may cause irritation to the skin and eyes, and must be avoided. The Certificate holder's instructions and the relevant working procedures must be observed at all times.

## 13 Procedure

- 13.1 Servidek Part A must be pre-mixed before the addition of Servidek Part B, using a clean timber paddle or a minimum 1000W variable speed drill with a helical blade mixing paddle of 80–100 mm diameter, until a homogeneous, lump-free consistency is achieved. Servidek Part B must also be pre-mixed using a timber paddle until it has a homogeneous, lump-free consistency.
- 13.2 Servidek Part B is then poured into the Part A component and the two components mixed thoroughly by stirring with a clean timber paddle in a folding motion until a homogeneous mix, free from streaks, is obtained. Power mixers, eg drill and paddle, must not be used.
- 13.3 If the ambient temperature is below 10°C, mixing of the components will be made easier if they are stored at a temperature of approximately 20°C for several hours. Under no circumstances should the materials be heated directly.
- 13.4 The working life of the mixed Servidek material is approximately 20 minutes at a temperature of 20°C. One unit should be mixed at a time and applied immediately.
- 13.5 The mixed Servidek material is poured onto the prepared substrate and spread, using a squeegee, to cover 10 m<sup>2</sup> to 12 m<sup>2</sup> for the 22.5 litre unit to achieve a minimum wet film thickness of 1.8 mm.
- 13.6 Servipak protection boards must be laid while the Servidek compound is still liquid. Servipak is laid progressively to minimise applicator trafficking until the Servidek has fully cured. The joints between the Servipak boards must be dry and primed with Primer B2 in 100 mm wide bands with a brush or roller. When the primer has dried, self-adhesive Armourtape is applied centrally over the joint. Where gaps occur between boards, these must be filled with Servidek compound prior to applying Armourtape over the joints. Careful application of heat will assist in promoting adhesion of the Armourtape at low temperatures.
- 13.7 The Servipak boards are fully bonded by rolling with a heavy, hand roller. Armourtape must be firmly rolled along its length and at junctions with a lap roller, to ensure continuity.
- 13.8 Where Servipak boards abut details (such as parapets, pipe bays or abutments) they should be pre-measured, and accurately cut to size by scoring with a sharp knife and breaking.
- 13.9 The exposed edge of the Servipak boards must be sealed at the end of each working period to prevent the ingress of moisture overnight, by tooling the Servidek compound against the exposed edge of the boards.
- ### Day joints
- 13.10 A minimum 50 mm leading edge of Servidek compound should be left to enable subsequent overlapping. Work should commence the following day, ensuring the edge is clean and dry and overlapping with fresh Servidek compound.
- 13.11 Exposed edges of Servipak protection board should be sealed using Servidek compound.

## Wearing surface

13.12 The minimum cure time for Servidek is four hours at 20°C, after which a suitable traffickable overlay should be applied as soon as possible. The advice of the Certificate holder should be sought for suitable overlays and cure times at other temperatures.

13.13 Where asphalt is used, it should be laid at a temperature between 145°C and 185°C.

## 14 Repair

14.1 Damage to the system, ie cuts and perforations, can be repaired by cutting out and replacing the damaged area with fresh material to the same specification.

14.2 A square is marked around the damaged area ensuring a minimum 50 mm overlap onto undamaged material.

14.3 The damaged Servipak protection board is then removed by cutting around the marked area to approximately 50% of its depth, making sure that the Servidek compound underneath is not damaged, and separating it from the Servidek using a heated spatula or trowel.

14.4 Fresh Servidek compound is then applied to the entire exposed area, ensuring at least 50 mm overlap onto the existing undamaged Servidek compound, and a patch of Servipak protection board laid over the fresh Servidek compound.

14.5 The repair joints are then primed and Armourtape applied to lap the Servipak joints.

14.6 Where extensive damage or contamination has occurred, it is necessary to remove all damaged Servidek and Servipak from the deck before applying fresh material. In this case, the Certificate holder should be consulted for advice.

14.7 The overlay must be reinstated once the repair to the system has been completed.

## Technical Investigations

### 15 Tests

Characterisation tests were carried out by the BBA and the results assessed to determine:

#### Servipak boards

- mass per unit area
- resistance to dynamic impact
- resistance to static loading

#### Servidek membrane

- water absorption
- water vapour permeability.

### 16 Investigations

16.1 An assessment was made of BBA test data leading to the issue of previous BBA Certificates relating to Servidek/Servipak to establish:

- pot life
- resistance to water penetration
- resistance to static loading
- resistance to chisel impact
- resistance to chloride ion penetration
- resistance to cracking
- tensile bond strength.

16.2 The manufacturing processes were evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

## Bibliography

BS EN 1992-1-1 : 2004 *Eurocode 2 — Design of concrete structures — General rules and rules for buildings*  
NA to BS EN 1992-1-1 : 2004 *UK National Annex to Eurocode 2 — Design of concrete structures — General rules and rules for buildings*

## 17 Conditions

17.1 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.

17.2 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.

17.3 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.

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

17.5 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.

17.6 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.