HAPAS

Instarmac Group plc
Danny Morson Way
Birch Coppice Business Park
Dordon, Tamworth
Staffordshire B78 1SE

Tel: 01827 872244
e-mail: enquiries@instarmac.co.uk
website: www.instarmac.co.uk

HAPAS Certificate
11/H171
Product Sheet 1 Issue 4

INSTARMAC POTHOLE REPAIR PRODUCT FOR HIGHWAYS

ULTRACRETE PPR

This Product Sheet(1) is issued by the British Board of Agrément (BBA). The Highways Authorities Product Approval Scheme (HAPAS) is supported by National Highways (NH) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh 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.

(1) Hereinafter referred to as 'Certificate'.

This Certificate relates to Ultracrete PPR, a polymer-modified bitumen-based, cold, hand-applied patch repair product used for potholes and other similar defects occurring in bituminous surfaces on non-trafficked and trafficked highways and as a cold-lay surface course in Type 2, 3 and 4 carriageways, in accordance with the provisions of this Certificate.

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 complying with the requirements of the BBA HAPAS Certification Scheme according to the assessments set out in this Certificate.

On behalf of the British Board of Agrément

Date of Fourth issue: 3 April 2025
Originally certified on 14 March 2011

Hardy Giesler
Chief Executive Officer

This BBA HAPAS Certificate is issued under the BBA's accreditation to ISO/IEC 17065 (UKAS accredited Certification Body Number 0113).

Clauses marked † are additional information outside the scope of accreditation.

Readers MUST check the validity and latest issue number of this BBA HAPAS Certificate by 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.

British Board of Agrément
1st Floor, Building 3, Hatters Lane
Croxley Park, Watford
Herts WD18 8YG
tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

1 Product Description

1.1 The Certificate holder specifies the product under assessment, Ultracrete PPR, as a polymer-modified bitumen-based, cold, hand-applied patch repair product comprising 0/6 mm close graded granite aggregate to BS EN 1097-8 : 2020, a blend of a penetration bitumen to BS EN 12591 : 2009, and a proprietary additive in accordance with the provisions of this Certificate.

† 1.2 The Certificate holder recommends Ultracrete SCJ Seal and Tack as a spray-applied tack coat for priming and sealing the base prior to installation, but this material has not been assessed by the BBA and is outside the scope of this Certificate.

2 Requirements

Requirements for the product are outlined in the BBA HAPAS Certification Scheme and Technical Specifications Documents, and have been established from the following specification documents:

- the *Design Manual for Roads and Bridges* [DMRB(1)]
  - CM 231 *Pavement surface repairs,* March 2020
  - *Potholes and Repair Techniques for Local Highways*, ADEPT, May 2010
- SROH *Specification for the Reinstatement of Openings in Highways : Code of Practice* Fourth Edition.

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

3 Summary of Product Assessment

The product was assessed on the basis of the following characteristics in accordance with HAPAS requirements.

3.1 Performance characteristics

Table 1 Performance characteristics

Product assessed	Assessment method	Requirement	Outcome
Ultracrete PPR	Texture depth to BS EN 13036-1 : 2010		
	Initial	≥0.9 mm	Pass
	Retained(1)	≥0.75	Pass
	Skid Resistance Value (SRV) by pendulum to TRL Report 176 : 1997, Appendix E		
	Initial	≥60	Pass
	Retained(1)	≥50	Pass
	Air void content to BS EN 12697-8 : 2003 Procedure B	Value achieved	7.6 - 8.2%
	Compactibility based on wheel-tracking rate and depth to BS 598-110 : 1998	Compaction achieved	Pass
	Tensile bond to asphalt to TRL 176 : 1997 Appendix J(2)	Value achieved	
	After curing at 18°C for 7 days		0.07 $N \cdot mm^{-2}$
	After curing at 18°C for 14 days		0.08 $N \cdot mm^{-2}$
	After curing at 35°C for 14 days		0.15 $N \cdot mm^{-2}$

(1) Retained texture depth after 3 months.
(2) The values obtained are below the minimum requirement, but the failure occurred within the material itself, and not at the interface.

The assessment showed that the product complies with the HAPAS requirements for these characteristics.

3.2 Aggregate characteristics

Table 2 Aggregate characteristics

Product assessed	Assessment method	Requirement	Outcome
Aggregates	Polished Stone Value (PSV) to BS EN 1097-8 : 2020	≥60	Pass
Aggregates	Aggregate Abrasion Value (AAV) to BS EN 1097-8 : 2020	≤12	Pass

The assessment showed that the product complies with the HAPAS requirements for these characteristics.

3.3 Durability

3.3.1 For planned routine maintenance work where best practice installation is followed (see section 4.4), and where the substrate and adjacent surface are generally sound, the product will provide an effective repair for at least 12 months.

3.3.2 For reactive (immediate/emergency/unplanned) repairs with minimum preparation and installation, the expected durability will be reduced.

3.3.3 If a routine or reactive repair is located as identified in section 3.3.5, the expected durability will be reduced.

3.3.4 The BBA conducted visual inspections of new and existing sites and this, along with information received from users of the product, confirmed that the product has a satisfactory resistance to trafficking and satisfactory bond characteristics on sites classified as Type 2, 3 and 4 in accordance with the SROH.

3.3.5 In common with deferred set asphalts, the product may be susceptible to minor deformation, scuffing and marking if used when a combination of the following applies:

- areas of excessive turning, braking or static loads (eg within the wheel track zone)
- when air and road temperatures are high (typically greater than 20°C) immediately following installation
- the complete depth of the repair is greater than 40 mm
- sites classified higher than Type 2 as defined in the SROH
- where installation methods are other than best practice.

3.3.6 An evaluation of the rate of cure of the product indicated that its susceptibility to scuffing and marking identified in section 3.3.5 will reduce following installation. The rate of cure is dependent on the volume of traffic and ambient conditions.

4 Summary of Process Assessment

Manufacturing process and quality control	Complies with HAPAS requirements
Delivery and site handling	Complies with HAPAS requirements
Installation	Complies with HAPAS requirements

4.1 Manufacture

4.1.1 The BBA has undertaken the following tasks for the assessment of product manufacture and has established that the manufacture complies with BBA HAPAS Certification Scheme requirements:

- the BBA has recorded and evaluated the manufacturer's documentation of the methods adopted for quality control procedures and product testing against HAPAS requirements
- the BBA has assessed the quality control operated over batches of incoming materials and formulations against HAPAS Requirements
- the BBA has evaluated the process for management of non-conforming work
- the BBA has audited the production process and verified that it is in accordance with the documented process
- the BBA has checked that equipment has been properly tested and calibrated.

4.1.2 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.

† 4.1.3 The management system of the manufacturer has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 and BS EN ISO 14001 : 2015 by NQA (Certificates 6987 and E317 respectively).

4.2 Delivery and site handling

† 4.2.1 The Certificate holder states that the product is delivered to site pre-packed, in ready-to-use 25 kg polythene bags or plastic tubs. The packaging is stamped with the product name, coding traceable to the date of production, health and safety information and installation instructions.

† 4.2.2 Ultracrete SCJ Seal and Tack is supplied in 750 ml spray cans.

4.2.3 To achieve the performance described in this Certificate, delivery and site handing must be performed in accordance with the Certificate holder's instructions and this Certificate.

4.2.3.1 Ultracrete PPR must be stored in cool, well-ventilated, dry conditions, protected from frost and high temperatures.

4.3 Design

4.3.1 Ultracrete PPR is satisfactory for use in minor routine or reactive repairs of potholes and other similar defects found in bituminous surfaces. Potholes are defined for the purpose of this Certificate as irregular shaped defects with a total area less than 1 m^2 and a depth greater than 15 mm. They are not continuous or whole width defects.

4.3.2 The product surface properties listed in section 3 must be compared to those of the existing adjacent surface to ensure the product is compatible. Aggregate selection may depend on site-specific requirements for PSV and AAV and should be identified to ensure the correct aggregate is used.

4.3.3 If the properties of the existing adjacent surface are unknown, Section S2 of the SROH provides additional guidance on categorising Local Authority sites and selection of appropriate aggregates. For the motorway and trunk road network, additional guidance can be found within the relevant parts of the MCHW(1), Volume 1, and the DMRB, CM 231 *Pavement surface repair*.

(1) The MCHW is operated by National Highways (NH) (acting on behalf of the Overseeing Organisations of the Department for Transport; Transport Scotland; the Welsh Government and the Department for Infrastructure, Northern Ireland).

4.4 Installation

4.4.1 The Certificate holder's instructions for installation of the product were confirmed as meeting the BBA HAPAS Certification Scheme requirements. An installation trial was carried out to assess the practicability of installation.

4.4.2 To achieve the performance described in this Certificate, the product must be installed where the adjacent surface has properties which are considered at least equivalent to those of Ultracrete PPR.

4.4.3 The product will satisfactorily fill a pothole or similar defect. It will not delay or stop the deterioration of the adjacent surface.

4.4.4 To achieve the performance described in this Certificate, installation of Ultracrete PPR must follow best practice. For the purpose of this Certificate, this is considered to be in accordance with either BS 434-2 : 2006, Clause 13.2, or the DRMB, CM 231. If best practice is not followed, for example for reactive repairs, then the method of installation must be agreed with the Overseeing Organisation.

4.4.5 Traffic management must be in accordance with the latest issue of the Department for Transport Traffic Signs Manual, Chapter 8, or as agreed between the Overseeing Organisation and the installer.

4.4.6 The product must be installed, compacted and trafficked immediately when air and road temperatures are between -5 and 40°C and due consideration of the position of the repair in the road is taken, as identified in section 3.3.5.

4.4.7 The area to be repaired must be marked out and the edges saw-cut, back to sound material. The prepared area should be regular in shape. For high-speed roads, BS 434-2 : 2006 recommends a diamond shape.

4.4.8 All surfaces must be swept clean and be free from ice, loose material, oil, grease and standing water or other contaminants that may affect the bond to the existing surface.

† 4.4.9 Ultracrete SCJ Seal and Tack must be applied to surfaces in accordance with the Certificate holder's instructions.

4.4.10 The product must be applied in uniform lifts of between 15 and 40 mm, allowing approximately 50% surcharge per lift to allow for compaction.

4.4.11 The product must be fully compacted and finished level with the adjacent surface using suitable compaction equipment. Compaction must cease before migration of binder to the surface or crushing of aggregates is observed.

4.4.12 On completion, the installer must visually inspect the finished surface for uniformity and any discernible faults, and remedy if necessary.

4.4.13 To achieve the performance described in this Certificate, installation of the product must be carried out by operatives trained by the Certificate holder.

4.5 Maintenance

The Certificate holder advises that product is not subject to any routine maintenance requirements. In the event of damage of the product, either during installation or service, the product is repaired by planing out the repair to firmly adhered material or the adjacent surface. The defect is then cleaned and primed and the product reinstated as per the Certificate holder's Installation Instructions and in accordance with Figure 1.

Figure 1 Reactive maintenance process

5 Fulfilment of Requirements

5.1 The conclusion of this BBA assessment is that Ultracrete PPR, when used in accordance with the provisions of this Certificate, complies with the BBA HAPAS Certification Scheme requirements.

5.2 In order for the product to continue to meet Scheme requirements, it must be installed, used and maintained as per the Certificate holder's instructions and as detailed in the Certificate.

6 Validity of Certificate

Continuing validity of this Certificate is dependent on the following factors:

- continuing compliance with product or process requirements, as described in the HAPAS Scheme document, and the specification documents referred to therein
- ongoing BBA surveillance of factory production control, to verify that the specifications and quality control being operated by the manufacturer are being maintained
- acceptable results from long-term exposure monitoring
- acceptable data to confirm durability
- formal triennial Review of the Certificate, and Reissue for required technical or non-technical updates
- compliance with ongoing Certificate obligations by the Certificate holder and manufacturer(s).

†7 Additional 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.

CLP Regulations

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

8 Bibliography

BS 434-2 : 2006 *Bitumen road emulsions — Code of practice for the use of cationic emulsions on roads and other paved areas*

BS 598-110 : 1998 *Sampling and examination of bituminous mixtures for roads and other paved areas. Methods of test for the determination of wheel-tracking rate and depth*

BS EN 1097-8 : 2020 *Tests for mechanical and physical properties of aggregates — Determination of the polished stone value*

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

BS EN 12697-8 : 2003 *Bituminous mixtures — Test methods for hot mix asphalt — Determination of void characteristics bituminous specimens*

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

ISO 9001 : 2015 *Quality management systems — Requirements*

ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

Design Manual for Roads and Bridges (DMRB), CM 231 *Pavement surface repairs,* March 2020

SROH Specification for the Reinstatement of Openings in Highways : Code of Practice Fourth Edition, May 2020

Potholes and Repair Techniques for Local Highways, ADEPT, May 2010

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

Department for Transport Traffic Signs Manual, Chapter 8, Second Edition 2009

Manual of Contract Documents for Highway Works, Volume 1 Specification for Highway Works

9 Conditions of Certification

9.1 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.

9.2 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.

9.3 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.

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

9.5 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 UKCA marking and CE marking.

9.6 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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