

# HAPAS

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**HAPAS Certificate**

**02/H072**

Product Sheet 3 Issue 1

## IKO PLC CRACK SEALING SYSTEMS FOR HIGHWAYS

## IKO PERMATRACK PATCH REPAIR SYSTEM FOR HIGHWAYS

This Product Sheet<sup>(1)</sup> 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 IKO Permatrack Patch Repair System for Highways, a polymer-modified asphalt, for use as a bituminous repair system for potholes, reinstatements and other similar defects occurring in bituminous and concrete (suitably primed) surfaces, in accordance with the *Manual of Contract Documents for Highway Works* (MCHW), Volume 1, Series 900, Clause 946.



The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed 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

Hardy Giesler  
Chief Executive Officer

Date of issue: 6 October 2023

*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.*

## 1 Product Description

1.1 The Certificate holder specifies the system under assessment, the IKO Permatrack Patch Repair System for Highways, as a bituminous repair system for potholes and other similar defects occurring in bituminous and concrete (suitably primed) surfaces in accordance with the *Manual of Contract Documents for Highway Works* (MCHW<sup>(1)</sup>), Volume 1, Series 900, Clause 946.

(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).

1.2 The IKO Permatrack Patch Repair System for Highways is a polymer modified asphalt patch repair system, comprising a flexible waterproof layer and a filler course. The system is supplied in either Hotcharge (Molten) form, or in separate block form, comprising Permatrack H Block, Permatrack PSB and a coarse aggregate.

1.3 The system has the characteristics given in Table 1.

*Table 1 Characteristics*

Characteristic (unit)	Value
Penetration	10 – 25 dmm
Softening point	80 – 100°C
Flow resistance	≤ 2 mm at 60°C
Aggregate gradation	0 – 6 mm

1.4 The IKO Permatrack Patch Repair System for Highways is satisfactory for use in minor routine or reactive repairs of potholes and other similar defects found in bituminous and concrete surfaces. Potholes are defined for the purpose of this Certificate as irregular shaped defects with a total area less than 1 m<sup>2</sup> and a depth greater than 15 mm. They are not continuous or whole width defects.

1.5 The system must only be installed where the adjacent area has surface properties which are equivalent to those of the system.

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

1.7 The properties listed in section 3 should be compared to those of the existing adjacent surface to ensure the system is compatible. Aggregate selection may depend on site-specific requirements for polished stone value (PSV) and aggregate abrasion value (AAV), and these parameters must be identified to ensure the correct aggregate is used.

1.8 If the properties of the existing adjacent surface are unknown, the *Department for Transport – Specification for the Reinstatement of Openings in Highways* (SROH), Fourth Edition, Section S2 provides additional guidance on categorising Local Authority Sites. For the motorway and all-purpose trunk road network, additional guidance can be found within the relevant parts of the MCHW, Volume 1 and the *Design Manual for Roads and Bridges* [DMRB<sup>(1)</sup>], CD 236 *Surface Course Materials for Construction*.

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

## 2 Requirements

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

- the MCHW<sup>(1)</sup>, Volume 1, Series 900, Clause 946
- the MCHW, Volume 2, NG 900
- SROH – *Specification for the Reinstatement of openings in Highways*, Fourth Edition
- the DMRB<sup>(1)</sup>
  - CM 231 *Pavement Surface Repairs*
  - PD 6691 : 2022
  - *Potholes and Repair Techniques for Local Highways*, ADEPT, March 2019.

(1) The MCHW and DMRB are 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 system was assessed on the basis of the following characteristics in accordance with HAPAS requirements.

### 3.1 Stiffness

Table 2 Stiffness characteristics

Product assessed	Assessment method	Requirement	Outcome
IKO Permatrack Patch Repair System for Highways	Stiffness to BS EN 12697-26 : 2018	≥1 GPa after 28 days	Pass

The assessment showed that the system complies with HAPAS requirements for this characteristic.

### 3.2 Resistance to permanent deformation

Table 3 Resistance to permanent deformation

Product assessed	Assessment method	Requirement	Outcome
IKO Permatrack Patch Repair System for Highways	Resistance to Permanent Deformation to BS EN 12697-22 : 2020 (Small Device, Proc B)	WTSair Max: 1.00	Pass

The assessment showed that the system complies with HAPAS requirements for this characteristic.

### 3.1 Texture depth

Table 4 Texture depth characteristics

Product assessed	Assessment method	Requirement	Outcome
IKO Permatrack Patch Repair System for Highways	Initial texture depth to BS EN 13036-1 : 2010	≥0.9 mm	Pass
	Retained texture depth after 6 months to BS EN 13036-1 : 2010	No significant deterioration	Pass

Table 5 Skid Resistance Characteristics

Product assessed	Assessment method	Requirement	Outcome
IKO Permatrack Patch Repair System for Highways (with addition of pre-coated chippings)	Initial skid resistance to BS EN 13036-4 : 2011	≥60	Pass
	Retained skid resistance after 6 months to BS EN 13036-4 : 2011	No significant deterioration	Pass

The assessment showed that the system complies with HAPAS requirements for this characteristic.

### 3.1 Skid resistance value

The assessment showed that the system complies with HAPAS requirements for this characteristic.

### 3.5 Durability

3.5.1 For planned routine maintenance work where best practice installation is followed and where the substrate and adjacent material are generally sound, the system will provide an effective repair for at least 6 months.

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

3.5.3 The system may be susceptible to minor deformation, scuffing and marking, and de-bonding if used when a combination of the following apply:

- in areas of excessive turning, braking or static loads (eg, within the wheel track)
- when the complete depth of the repair is greater than 40 mm or greater than the surface course layer thickness
- on sites classified higher than Type 4 as defined in SROH.

## 4 Summary of Process Assessment

<b>Manufacturing process and quality control</b>	Complies with HAPAS requirements
<b>Delivery and site handling</b>	Complies with HAPAS requirements
<b>Installation</b>	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 ISO 9001 : 2015 by BSI (Certificate Q 05233).

### 4.2 Delivery and site handling

† 4.2.1 The Certificate holder stated that the system is delivered to site either in hot-charge form, or in a separate block form (comprising of the constituent components of the system). When the hot-charge material is used, material is delivered using purpose-built transporters which are heated and thermostatically controlled.

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

### 4.3 Design

4.3.1 To achieve the performance described in this Certificate, the design requirements given in section 2 must be followed.

4.3.2 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 Installation

4.4.1 The Certificate holder's instructions for installation of the system 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 system must be installed in accordance with the Certificate holder's method statement, the MCHW, Volume 1 Clause 946, and the DMRB CM 231 *Pavement surface repairs* and CD 236 *Surface Course Materials for Construction*.

4.4.3 To achieve the performance described in this Certificate, the area to receive the repair must be prepared in accordance with the MCHW, Volume 1, Clause 946 and the Certificate holder's instructions.

† 4.4.4 The Certificate holder's instructions advise the following:

4.4.5 Installation is only to be carried out when the road surface is clean, dry and free from ice, frost, loose aggregate, oil, grease, road salt and other loose material.

4.4.6 Installation is only to be carried out when the ambient temperature is  $\geq -5^{\circ}\text{C}$ .

4.4.7 Permatrack PSB is to be kept within the temperature limits of 150 - 190°C.

4.4.8 Permatrack H is to be kept within the temperature limits of 150 - 180°C.

4.4.9 The area to be repaired must be clearly defined and marked out and cut back in accordance with the MCHW, Volume 1, Clause 946 prior to commencement of the work on-site. The prepared area will accommodate trimming back the existing surfacing to suitably sound edges prior to installation.

4.4.10 Permatrack PSB is heated and mechanically agitated at a temperature of 150 - 190°C, and applied to the base and sides of the defect at a minimum thickness of 5 mm.

4.4.11 Permatrack H ICR is heated and mechanically agitated with coarse aggregate at a temperature of 150 - 180°C, and poured into the defect to form a flush finish with the surrounding road surfacing. Allowance must be made for the surface finish of calcined bauxite or pre-coated chippings as appropriate. Where the recess depth exceeds 60 mm, Permatrack H ICR is installed in two layers, ensuring that the thickness of the final layer is between 20 and 60 mm. Levelling of the Permatrack H ICR is achieved with suitable tools such as shovels, trowels, floats and scraper boxes.

4.4.12 Calcined Bauxite or pre-coated chippings are rolled into the Permatrack H surface while it is still warm. Where bauxite is used, the aggregate is broadcast over the repair ensuring that all areas are covered. Where Pre-coated chippings are required, these must be applied at a rate of between 6 and 7.5 kg.m<sup>-2</sup> for the 6mm grade, 7.5 and 10 kg.m<sup>-2</sup> for the 14 mm grade, and between 10 and 14 kg.m<sup>-2</sup> for the 20 mm grade.

4.4.13 To achieve the performance described in this Certificate, Installation of the system must be carried out by operatives familiar with this type of system.

#### 4.5 Maintenance

The Certificate holder advises that in the event of damage of the system, either during installation or service, the system is repaired by planing out the repair to firmly adhered material or the adjacent surface. The defect is then cleaned and primed and the system reinstated as per the Certificate holder's Installation Instructions.

## 5 Fulfilment of Requirements

5.1 The conclusion of this BBA assessment is that the IKO Permatrack Patch Repair System for Highways, when used in accordance with the provisions of this Certificate complies with the BBA HAPAS Certification Scheme requirements.

5.2 In order for the system to continue to meet Scheme requirements, it must be installed, used and maintained as per the manufacturer'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 system components 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 EN 12697-22 : 2020 *Bituminous Mixtures — Test Methods — Wheel Tracking*

BS EN 12697-26 : 2018 *Bituminous Mixtures — Test Methods — Stiffness*

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 13036-4 : 2011 *Road and airfield surface characteristics — Test methods — Method for measurement of slip/skid resistance of a surface: The pendulum test*

ISO 9001 : 2015 *Quality management systems — Requirements*

Department for Transport Specification for the Reinstatement of Openings in Highways (SROH), Fourth Edition, May 2020

Design Manual for Roads and Bridges (DMRB), CM 231 *Pavement Surface Repairs, Revision 0 (03/20)*

Design Manual for Roads and Bridges (DMRB) CD 236 *Surface Course Materials for Construction, Revision 4.1.0 (12/22)*

Manual of Contract Documents for Highway Works (MCHW), Volume 1 *Specification for Highway Works*

Manual of Contract Documents for Highway Works (MCHW), Volume 2 *Notes for Guidance on the Specification for Highway Works*

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

Potholes and Repair Techniques for local highways, ADEPT, March 2019



## 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.