

XIAS-PTS Product Assessment Certificate

Product Acceptance Scheme in accordance with Manual for Contract Documents for Highway Works, Specification for Highway Works (MCHW SHW) Volume 1 Sub-Clause 104.15 and 104.16

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UK Approved Body (UKAB)

Product Area 23 Road Construction Products

Product Name: Ultracrete Tough Patch 6mm and 10mm - Permanent Surface Repair Material

Product Family: Local Repairs

Certificate Reference: PA946 005



XAIS-PTS Ltd has awarded this **Product Assessment Certificate** to the Company named above for the products described herein. These products have been assessed by XAIS-PTS Ltd as being fit for their intended use provided, they are manufactured, installed, and used as set out in this Certificate.

The issue of this Certificate under Specialist Group XAIS-PTSSG 946 Local Repairs, which sets out Guidelines and Criteria for the assessment, has been authorised by the XAIS-PTS Technical Supervisory Panel.

On behalf of XAIS-PTS Ltd

Signature

R Edwards Managing Director

Date First Issued: 01.02.19

Date of Second issue: 01.02.22

Certificate Valid until: 31.01.25

Product Name: Ultracrete Tough Patch 6mm and 10mm - Permanent Surface Repair Material

Product Family: Local Repairs

This Product Assessment Certificate is issued by XAIS-PTS Ltd under XAIS-PTS Product Acceptance Scheme (XAIS-PTSPAS), in accordance with MCHW SHW Sub-Clause 104.15 and 104.16, supported by XAIS-PTS Technical Supervisory Panel (XAIS-PTSTSP) which includes representation from National Highways (NH), Association of Directors of Environment, Economy Planning and Transport (ADEPT), Road Surface Treatments Association (RSTA), Mineral Products Association (MPA), HAUC (UK) SROH Working Group, HAUC (UK) SROH Innovations Working Group and Transport Scotland.

Sub-clause 104.16 (e) requires that *“The scheme must have a technical supervisory panel that provides technical oversight on the operation of the scheme and formally consents to the issue of assessment and certification requirements of the specialist groups developing the assessment and certification requirements. This panel must include a balanced representation of key end users, recognized industry experts and those responsible for the highways on which such products will be used or installed”*.

XAIS-PTSPAS Product Assessment Certificates are each subject to a review every three years, with annual interim surveillance.

PRODUCT APPLICATIONS

UltraCrete Tough Patch is intended for the following uses as defined in the New Roads and Street Works Act 1991 : Specification for the Reinstatement for Openings in Highways (SROH).

Permanent Cold lay Surfacing Material (PCSM) in footways, footpaths and cycle tracks (UltraCrete Tough Patch 6mm)

Permanent Cold lay Surface Course (PCSC) in Type 3 and 4 carriageways (UltraCrete Tough Patch 10mm)

KEY FACTORS ASSESSED

- ISO 9001: 2015 Quality Management System and ISO 14001: 2015 Environmental Management System Integrated Management System, Revision 1, 12th October 2016
- NQA Management Systems Audit Report, January 2018
- Assessment of Production – Agreed Quality Plan for UltraCrete Tough Patch 6mm and 10mm, Document reference 01,19 November 2018
- Instarmac Internal Procedures and Processes
- Processes map:
- TSR Technical Service Request (Product Introduction & Change Process), TECH01
- QC Testing Criteria / Testing Plan, TECH02
- NCP/QCA (Non-Conformance Procedure / Quality Control Adjustment), TECH03
- TMR Trial Mix Request for Product / Raw Material Evaluation, TECH04
- PSA Product Specification Approval for New & Amended Formulations, TECH05
- Tough Patch Manufacturing Process, PROD001
- Product Specification
- Technical data comprising test results as required in Appendix 1 of PTS SG946 Guidelines Document (extracted from MCHW SHW Clause 946 and SROH)
- 0/10mm and 0/6mm 65 PSV – Asphalt Material Approval Data Sheet

1. TECHNICAL SPECIFICATION

- 1.1 UltraCrete Tough Patch 6mm and 10mm are bituminous cold applied surfacing materials comprising of fully graded, high PSV aggregate and specially formulated Tough Patch Reactive Binder.
- 1.2 Tough Patch Reactive Binder formulation comprises a paving grade bitumen in accordance with BS EN 12591: 2009 mixed with blended oils, activators and functional additives.
- 1.3 UltraCrete Tough Patch 6mm and 10mm contain no solvents.
- 1.4 When applied into the excavation and prior to compacting, UltraCrete Tough Patch is sprinkled with water to trigger the activators to facilitate rapid curing. After compaction the material cures within 24hrs to 48hrs. This aids the product being able to be cored for assessment after 48hrs, exceeding the SROH requirements which allows cold lay materials 6 months before coring.

2. MANUFACTURE

In accordance with the Assessment of Production - Agreed Quality Plan for UltraCrete Tough Patch 6mm and 10mm and internal procedures and processes covered under process map:

- incoming raw materials controls
- product identification and traceability
- method of production and process control
- in process and final inspection, calibration, and testing (methodology and frequency)
- change management.

3. DELIVERY AND SITE HANDLING

- 3.1 The product is delivered in 25Kg foil bags or plastic buckets. The product packaging contains the product name, aggregate size, weight, storage information, handling and usage instructions and health and safety information.
- 3.2 Each foil bag or plastic bucket also contains a batch number which is linked to the production date.
- 3.3 UltraCrete SCJ Seal and Tack is supplied in 750ml spray cans.
- 3.4 The foil bags or plastic buckets are delivered on shrink-wrapped pallets and should be stored in a well-ventilated place above 5°C in dry conditions, in which case the shelf life is 3 months. Once opened, all the material should be used.
- 3.5 Material Technical and Safety Datasheets are available from www.instarmac.co.uk.

4. DELIVERY AND SITE HANDLING

- 4.1 Installation of UltraCrete Tough Patch 6mm and 10mm shall be carried out in accordance with the Certificate Holder's instructions and the requirements stated in SROH:
 - Product shall only be installed to clean, dry, free of debris openings
 - Priming of the receiving surface and any vertical edges using the UltraCrete SCJ Seal and Tack prior to product installation is required to enhance the durability of the repair
 - UltraCrete Tough Patch 6mm and 10mm shall be applied to the opening with an approximate surcharge of 50%. Before compacting, approximately 1 litre of water (per 25kg unit) should be sprinkled uniformly over the surface to activate the curing reaction. The material is compacted using suitable compaction equipment to the surrounding level, in accordance with the Certificate Holders instructions, Section S10 and Appendix A8 of the SROH
 - UltraCrete Tough Patch should be installed in layers (lifts) to achieve the final depth in accordance with the Certificate Holders instructions.
- 4.2 An audit of the IMS was carried out to assess the installation procedures and the details are presented in PTS Technical Report Reference PTS0062, dated 7 December 2018.

5. INSTALLATION PERSONNEL

- 5.1 UltraCrete Tough Patch 6mm and 10mm shall only be installed by a competent installer experienced with this type of product, in accordance with the Certificate Holder's instructions.
- 5.2 All operators are offered full installation training by Instarmac's Technical Site Support either through organized in-house training days or specifically arranged training on site.

6. TECHNICAL DATA

Technical data comprising laboratory test results for cores extracted from trial section, in accordance with the requirements stated in the PTS SG946 Guidelines Document (extracted from MCHW SHW Clause 946 and SROH):

- Core logs comprising photography and material condition
- Indirect Tensile Stiffness Modulus (ITSM) > 1GPa after 28 days, in accordance with BS EN 12697-26: 2004, Annex C
- Resistance to permanent deformation - Wheel Tracking Test in accordance with BS EN 12697-22: 2003, small device Procedure B, Category WTSAIR1 at 45°C
- Resistance to permanent deformation - Wheel Tracking Test in accordance with BS EN 12697-22: 2003, small device Procedure B, Category WTSAIR1 at 60°C
Note: carried out as an additional test to the requirements; the results demonstrate the enhanced performance quality of UltraCrete Tough Patch 6mm and 10mm, achieving the requirements stated in PD6691: 2015+A1:2016 for Asphalt Concrete and Stone Mastic Asphalt type materials under Classification No 2 for "very heavily stressed sites requiring very high rut resistance"
- Surface macrotexture depth > 0.9mm, measured in accordance with BS EN 13036-1: 2010
- Skid resistance measured by Pendulum Test PTV > 60, in accordance with BS EN 13036-4: 2011
- Air voids content determined in accordance with BS EN 12697-8: 2003 compliant with the requirements of Table S10.1 of SROH (2% - 10% for carriageways and 2% - 13% for footways)
- Rapid Coring Capability - Appendix A8.3 Bituminous Mixtures of SROH states PCSMs shall be capable of being wet flush cored at 6 months from date of the permanent reinstatement. Due to its rapid curing, UltraCrete Tough Patch 6mm and 10mm can be cored within 24 to 48 hours when installed in accordance to Certificate Holders instructions.

7. REQUIREMENTS

- Product to be manufactured only by the Certificate Holder as specified in its Quality Plan and in compliance with internal procedures and processes covered within the process map.
- Product to be manufactured using only the raw materials and the formulations authorised by the Certificate Holder.
- Product to be installed only by competent installers experienced with this type of product. All operators are offered full installation training by Instarmac's Technical Site Support either through organised in-house training days or specifically arranged training on site.

8. BS EN ISO 9001: 2015 SECTION 8.3 PLANNING PROCESS

- 8.1 Comprehensive work was carried out for further development of Instarmac's existing UltraCrete Tough Patch product. The objective was to achieve a higher level of performance by enhancing the rapid setting properties and resistance to permanent deformation and wear.
- 8.2 Technical aspects related to various blended oils, activators and functional additives were assessed prior to the development of the Tough Patch Reactive Binder formulation. The aim of the advanced binder technology was improved workability and compaction, hence enhanced durability.
- 8.3 Investment plans for the continuous improvement of the plant, machinery, and storage capabilities.
- 8.4 Product development internal process map details the stages undertaken from initial Research & Development study, QC testing, processes on responses to non-conforming products, transition to live product status and production.

9. BS EN ISO 9001: 2015 SECTION 8.3 DESIGN INPUTS

The essential requirements determined and covered under:

- Assessment of Production – Agreed Quality Plan for UltraCrete Tough Patch 6mm and 10mm, Document reference 01,19 November 2018
- Product Specification
- Technical data as required in Appendix 1 of PTS SG946R Guidelines Document (extracted from MCHW SHW Clause 946 and SROH)
- Indirect Tensile Stiffness Modulus (ITSM)
- Resistance to Permanent Deformation (Wheel Tracking Test)
- Surface Macrotexture Depth
- Skid Resistance (Pendulum Test)
- Mixture Volumetrics (bulk density, maximum density and air voids content)
- Durability - the results of tests and an assessment of the products in-service performance indicates that it can be used as a first-time, permanent reinstatement of openings in footways, footpaths and cycle tracks (PCSM), and as a surface course in Type 3 and 4 carriageways (PCSC).

10. BS EN ISO 9001: 2015 SECTION 8.3 VERIFICATION PROCESS

10.1 Sites where the products were applied were inspected by PTS Ltd to assess the visual condition of UltraCrete Tough Patch and the details are presented in PTS Technical Report Reference PTS0062, dated 7 December 2018.

10.2 The visual condition of the inspected sites after 7 months and 15 months in service was good, with no visible signs of deterioration.

11. BS EN ISO 9001: 2015 SECTION 8.3 VALIDATION PROCESS

11.1 Test data and an assessment of the products in-service performance indicates that it can be used as a first-time, permanent reinstatement of openings in footways, footpaths and cycle tracks (PCSM), and as a surface course in Type 3 and 4 carriageways (PCSC).

11.2 Routine maintenance is not required; however, damages must be repaired.

11.3 QMS third party audit review.

11.4 Installer training programme

12. BS EN ISO 9001: 2015 SECTION 8.3 CHANGES PROCESS

Processes integrated in the Certificate Holder's QMS:

- Identification of authorised competent person
- Identification and assessment of change generated adverse impact.

13. TEST RESULTS

Available on request of the Overseeing Organisation from the Certificate Holder, comprising the verification and ongoing validation processes.

14. BIBLIOGRAPHY (correct at time of initial certificate issue):

BS EN ISO/IEC 17065:2012 Conformity assessment – Requirements for bodies certifying products, processes, and services

BS EN ISO/IEC 17067:2013 Conformity assessment – fundamentals of product certification and guidelines for product certification schemes

BS EN ISO 17025:2005 General requirements for the competence of testing and calibration laboratories

BS EN ISO 17025:2017 General requirements for the competence of testing and calibration laboratories

BS EN ISO/IEC 9001:2015 Quality Management System Requirements

Manual of Contract Documents for Highways Works Volume 1 Specification for Highway Works, 2018

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

New Roads and Street Works Act 1991: Specification for the Reinstatement of Openings in Highways, Third Edition (England), April 2010

PTS SG946R Guidelines and Criteria Requirements - Hot and Cold Laid Asphalt Surfacing Material for Potholes Repairs, Ironworks, Utility Reinstatements, Airfield Repairs, Patching, Local Repairs and Other Similar Use including Narrow and Micro Trenches, Issue 7 February 2019.

CONDITIONS OF CERTIFICATION

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
 - valid only in 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 XAIS-PTS Ltd.
 - XAIS-PTS Product Assessment forms part of the Product Acceptance Scheme as described in MCHW SHW Volume 1 Clause 104.16 and shall be submitted by the Contractor/Certificate Holder to the Overseeing Organisation for Approval.
2. Publications, documents, specifications, legislation, regulations, standards, and the like referenced in this Certificate are those that were current and/or deemed relevant by XAIS-PTS Ltd at the date of issue or reissue of this Certificate.
3. This Certificate will remain valid for an unlimited period, subject to 3 year review to revalidate 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 XAIS-PTS Ltd
 - continue to be checked as and when deemed appropriate by XAIS-PTS Ltd under arrangements that it will determine
 - are reviewed by XAIS-PTS Ltd as and when it considers appropriate.
 - remain in accordance with the requirements of XAIS-PTSPAS. Additional review shall be carried out as necessary should Specification's / Standard's change to ensure compliance.
 - remain in accordance with XAIS-PTS Terms of Business.
4. XAIS-PTS Ltd has used due skill, care, and diligence in preparing this Certificate, but no warranty is provided.
5. In issuing this Certificate, XAIS-PTS Ltd 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
 - individual 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
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.