

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

Aggregate Industries UK Ltd

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Pavement Testing Services Ltd

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UK Approved Body (UKAB)
Product Area 23 Road Construction Products

Product Name: 10 mm SuperCurve/ProLay Ultra Thin Surface Course System

Product Family: Thin Surface Course Systems for Highways

Certificate Reference: PA942 0002



Pavement Testing Services (PTS) Ltd has awarded this **Product Assessment Certificate** to the Company named above for the products described herein. These products have been assessed by 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 PTSSG 942 - Thin Surface Course Systems, which sets out Guidelines and Criteria for the assessment, has been authorised by the PTS Technical Supervisory Panel.

On behalf of PTS Ltd

Signature

Dr A J Sewell Managing Director

Date First Issued: 04.06.20

Certificate Valid until: 03.06.26

This Product Assessment Certificate is issued by Pavement Testing Services Ltd (PTS Ltd) under PTS Product Acceptance Scheme (PTSPAS), in accordance with MCHW SHW Sub-Clause 104.15 and 104.16, supported by PTS Technical Supervisory Panel (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”*.

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

PRODUCT APPLICATIONS

10 mm SuperCurve/ProLay Ultra is a high-performance polymer modified Stone Mastic Asphalt intended for use as an enhanced surface course for high stressed areas of new and maintenance road construction, on a sound underlying structure, with no structural deterioration, and with adequate strength to bear the equipment and compaction stresses generated during construction.

Suitable for all road types, in particular for heavily trafficked and stressed road carriageways areas.

Material installed in accordance with this certificate provides a surface course for new and maintenance road construction in accordance with MCHW SHW Sub-Clause 942

KEY FACTORS ASSESSED

- Quality Management System (QMS) has been assessed by BSI and is registered as meeting accreditation requirements to BS EN ISO 9001: 2015
- BSI Certificate Number FM96927 and recent audit
- Manufacture of asphalt products are assessed in line with Factory Production Control (FPC) and Quality Management System (QMS) Audits
- BSI Certificate of Conformity of the Factory Production Control (FPC) 2797 CPR 533859
- Quality Plan for the Manufacture of SuperCurve / ProLay Ultra
- SuperCurve Installation Method
- Compliance with Clause 942 material, installation and performance requirements
- CE Marking in accordance with harmonised European Standard BS EN 13108-5: 2006
- Approved Installers, Aggregate Industries utilise external installers who undergo their approval and audit process to gain acceptance for installation of material in accordance with SuperCurve Installation Method and BS 594987: 2015 + A1: 2017. All installers are registered under National Highway Sector Scheme 16 (NHSS16) Laying of Asphalt Mixes,
- Initial Texture Depth compliance with SHW Clause 942 Table 9/12
- Retained Texture Depth compliance with SHW Clause 942 Table 9/14
- Deformation testing—wheel tracking EN12697-22: 2003
- Bond Strength between the 10mm SuperCurve / ProLay Ultra and the substrate compliance with SHW Clause 942.21 and 942.32
- Visual inspection in accordance with SHW Clause 942.31, Table 9/16

1. TECHNICAL SPECIFICATION

- 1.1 The 10 mm SuperCurve/ProLay Ultra Thin Surface Course System is a Stone Mastic Asphalt surface course, consisting of a polymer modified bitumen to BS EN 14023: 2010, coarse and fine aggregates and limestone filler to BS EN13043: 2002, and added cellulose fibres.
- 1.2 The system is applied in accordance with SHW Clause 903 and in conjunction with a cationic polymer modified bituminous emulsion bond coat in compliance with BS EN 13808: 2013, SHW Clause 920 and BS 594987: 015 + A1: 2017.
- 1.3 Joint preparation shall comply with Section 6.8.1 and Section 6.8.2 of BS 594987: 2015 + A1: 2017.

2. MANUFACTURE

- 2.1 The 10 mm SuperCurve/ProLay Ultra is manufactured in accordance with the Quality Plan for the Manufacture of SuperCurve/ProLay Ultra, which adopts conventional asphalt manufacturing process and FPC Certificate 2797 CPR 533859 in respect of EN 13108-5: 2006—Bituminous Mixtures—Material Specifications Part 5: Stone Mastic Asphalt.
- 2.2 The Quality Management System of Aggregate Industries UK Ltd has been assessed and certified as meeting the Requirements of BS EN ISO 9001: 2015 by BSI (Certificate FM96927).

3. DELIVERY AND SITE HANDLING

The product is delivered and handled in accordance with BS 594987: 2015 + A1: 2017.

- 3.2 Bond coats are generally delivered to site in bulk by tanker.
- 3.3 Users must refer to the Material Safety Data sheets available from Aggregate Industries UK Ltd.

4. INSTALLATION METHOD STATEMENT (IMS)

- 4.1 Installation of 10 mm SuperCurve/ProLay Ultra is carried out by Aggregate Industries, or Aggregate Industries' approved installers, who undergo approval and audit process to gain acceptance for installation of material in accordance with SuperCurve Installation Method and BS 594987: 2015 + A1: 2017. All installers are registered under National Highway Sector Scheme 16 (NHSS16) Laying of Asphalt Mixes.
- 4.2 The system can be applied to:
 - i. bituminous or concrete substrates for HE Network at a nominal layer thickness of between 25 mm and 40 mm. The minimum compacted thickness at any point shall not fall below 25 mm.
 - ii. bituminous or concrete substrates for Other Network's at a nominal layer thickness of between 20 mm and 50 mm. The minimum compacted thickness at any point shall not fall below 20 mm in accordance with Contract Specific Appendix 7/1
- 4.3 Substrate preparation shall be carried out in accordance with Section 4.0 of SuperCurve Installation Method and Section 5 of BS 594987: 2015 + A1: 2017.
- 4.4 Approved cationic polymer modified bituminous emulsion bond coat is applied by calibrated mechanical spraying equipment, at a uniform rate, to achieve 0.20 kg/m² residual bitumen on newly laid and 0.35 kg/m² residual bitumen on planed (milled) or existing asphalt substrate, in accordance with SHW 920.
- 4.5 The system installation should only be carried out once the emulsion was allowed to break (i.e. change from brown to black), unless installed by a paver with an integrated spray bar.

4. INSTALLATION METHOD STATEMENT (IMS) cont..

- 4.6 The temperature of the material delivered to site must fall within the 90°C — 185°C limit range, for traditional hot mix and warm mix asphalt, in line with procedure, Temperature Control of Finished Product. Compaction must commence as soon as rolling can be performed without causing excessive displacement or surface cracking.
- 4.7 Compaction must follow Operating Procedure Q04/ASP/OP2, and the requirements of Sections 9.1 to 9.3 of BS 594987: 2015 + A1: 2017

5. MAINTENANCE / REPAIR

Routine maintenance is not a requirement, however, should damage occur, areas must be cut back to sound material by planning or other suitable means and replaced with an appropriate material for the site materials to be agreed with the purchaser.

6. TECHNICAL DATA

Product to be manufactured only by the Certificate Holder. Product to only be transported and installed by the Certificate Holder or Aggregate Industries Approved Installers (see 4.1), as specified in its Quality Plan, IMS Procedure and referenced standards and specifications.

Product to be manufactured using only the raw materials and the mix design authorised by the Certificate Holder.

The certification process comprised aspects related to:

- Technical information for the system components
- Transportation and installation procedures
- CE Marking and Declaration of Performance
- Quality Assurance

Laboratory Data — The following tests were carried out, in accordance with Performance Product Specification and the product met the specified values (bracketed)

- Wheel tracking (resistance to permanent deformation) Class 2, $WTS_{AIR0.6}$
- Water Sensitivity ($ITSR_{min80}$)
- Air Voids ($V_{min1.5}; V_{max4.0}$)
- Binder Drainage ($BD_{max0.3}$)
- System Methodology Installation - IMS audit carried out at Silverstone Circuit on the 2 February 2018 (PTS Stage 3 Report dated 2 February 2018)
- Visual inspection
- Macrotexture depth
- Rolling straight-edge
- Torque bond ($\leq 400kPa$)
- Installed performance characteristics (in accordance with Clause 942, Table 9/15)
- Visual inspection (in accordance with Clause 942, Table 9/16)

The data gathered from the System Installation Performance Trial (SIPT) show that the system meets the initial texture depth requirements of Clause 942 for Trunk Roads including Motorways (Table 9/12) and for roads other than Trunk Roads and Motorways (Table 9/13) and Wheel Tracking WTT Classification 2 for very heavily stressed sites requiring very high rut resistance.

Review of installed performance characteristics and technical data from case studies (PTS Stage 4 Report dated 23 July 2019)

- Visual inspection (in accordance with Clause 942, Table 9/15, and Table 9/16)
- Retained macrotexture depth (in accordance with Clause 942, Table 9/14)

7. REQUIREMENTS

- 7.1 Product to be manufactured only by the Certificate Holder. Product to only be transported and installed by the Certificate Holder or Aggregate Industries Approved Installers (see 4.1), as specified in its Quality Plan for the Manufacture of SuperCurve/ProLay Ultra and referenced standards and specifications.
- 7.2 Product to be manufactured using only the raw materials and the mix design authorised by the Certificate Holder.

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

- 8.1 Comprehensive work was carried out for the continuous development of Aggregate Industries UK Ltd products and services, with focus on high quality, value and years of experience. The objective was to offer a high-performance polymer modified product of high durability, high resistance to permanent deformation, resistance to cracking and to water induced damage, with a texture depth of >1.0, suitable for use on all applications, including high speed roads and other roads (in accordance with Clause 942, Table 9/12 and 9/13)
- 8.2 The 10 mm SuperCurve/ProLay Ultra is manufactured in accordance with the controls defined in the Company's Operating Procedures for the manufacture of asphalt which form part of the integrated Management System (IMS), Certificate of Conformity of the Factory Production Control (FPC), BSI Certificate 2797 CPR 533859 and recent audit.

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

The essential requirements determined and covered under:

- ISO 9001: 2015 BSI Certificate FM 96927
- Quality Plan for the Manufacture of SuperCurve/ProLay Ultra
- Performance Product Specification for SuperCurve
- SuperCurve/ProLay Ultra Quality Plan
- Technical data as required in Appendix 1 of PTS SG942 Guidelines Document (extracted from MCHW SHW Clause 942)
- Durability, defined and assessed as an ITSr requirement within Performance Product Specification for SuperCurve
- Certificate of Conformity of the Factory Production Control (FPC), BSI Certificate 2797 CPR 533859

Mixture properties and performance parameters assessed under Type Testing procedure in accordance with BS EN 13108 20 are detailed in Aggregate Industries "Performance Products Specification for SuperCurve.

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

Installed performance characteristics were assessed in relation to:

- Visual Inspection (in accordance with SHW Clause 9423.31, Table 9/16 and TRL Report TRL674)
- Retained Macrottexture Depth at 24 months after opening to traffic on case study sites

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

QMS third party audit review.

Installer accreditation.

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, July 2019

TRL Report 674 - Durability of thin asphalt surfacing systems.

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

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

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

BS EN 13108-5: 2016 Bituminous mixtures - Materials Specifications - Stone mastic asphalt

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

PTS SG942 Guidelines and Criteria Document for the Assessment and Certification of Thin Surface Course Systems, Issue 4, November 2018

PTS Report Stage 3 Installation Methodology Statement Audit, 2 February 2018

PTS Report Stage 4 Review of Technical Data Related to Design Inputs Verification and Consolidate Case Studies, 23 July 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 PTS Ltd.
 - 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 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 PTS Ltd
 - continue to be checked as and when deemed appropriate by PTS Ltd under arrangements that it will determine
 - are reviewed by PTS Ltd as and when it considers appropriate
 - remain in accordance with the requirements of PTSPAS. Additional review shall be carried out as necessary should Specification's / Standard's change to ensure compliance.
4. PTS Ltd has used due skill, care, and diligence in preparing this Certificate, but no warranty is provided.
5. In issuing this Certificate, 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.