



**PAVEMENT TESTING SERVICES (PTS) LIMITED
PTS PRODUCT ASSESSMENT AND CERTIFICATION**

**PRODUCT ACCEPTANCE SCHEME
MCHW SHW VOLUME 1 CLAUSE 104.15 AND 104.16**

GUIDELINES AND CRITERIA DOCUMENT

PTSSG 924

**FOR THE ASSESSMENT AND CERTIFICATION OF HIGH FRICTION
SURFACING**

Acknowledgements

This document is published under the PTS Ltd Product Assessment and Certification Scheme (PTSPAS).
This document has been compiled by PTS Ltd.

This current version of the PTS Guidelines and Criteria Document PTSSG 924 has been reviewed and endorsed by PTS Technical Supervisory Panel (PTSTSP). This is a living document, developed from the current industry Specifications, Codes of Practice, and best practice, undergoing editing and updating to incorporate any forthcoming changes to the industry documents.

The PTSTSP provides technical oversight on the operation of the Scheme, formally consents to the issue of assessment and certification requirements of the Specialist Groups (SGs) and includes interested parties within:

- Roads Authorities
- Statutory Undertakers
- Patching and Reinstatement Contractors
- Material Suppliers
- System Providers

Terms and Conditions

This Guideline has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective.

Use and copying of this Guideline is permitted only in accordance with these Terms and Conditions.

References in this Guideline to any Act of Parliament, Statutory Instrument, Directive or Regulation, British, European or International Standard, Code of Practice, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Guideline.

PTS Ltd shall undertake and certify product assessment in accordance with its Internal Process W15 – PTS Product Assessment and Certification, available for reference on PTS website, as required in PTS Product Acceptance Scheme in accordance with Manual of Contract Documents for Highway Works (MCHW) Specification for Highway Works (SHW) Volume 1 Clause 104.15 and 104.16 and associated processes and procedures.

PTS Ltd makes no warranties, representations or undertakings in respect of this Guideline. In no event will PTS Ltd be liable for any direct or consequential loss or damage arising from its use or use of, or reliance on its content.

Revisions

Issue	Details / Revision Changes	By	Reviewed / Approved By	Date
1	Introduction of Technical Appendix Requirements	CH	PTS/TSP	29.01.18
2	Formation of Guidelines and Criteria Document	CH	PTS	01.03.18
3	Review of SHW900 Series Issue May 2018, updates following meeting with RSTA HFS sub-committee	CD	PTS	08.10.18
4	Further development of Guidelines and Criteria Document	CD/VS	PTS/TSP	15.11.18
5	Further development to include reinstatement applications (draft submission to TSP)	CD	PTS	29.07.19
6	Further development to include reinstatement applications	CD	PTS/TSP	19.08.19

Contents

Title	Page Number
Acknowledgements	1
Terms and Conditions	1
Revisions	1
Contents	2
Scope	3
Assessment Stages	4
Application Submission	5
Stage 1 Documentation Review	5
Stage 2 Audit of BS EN ISO 9001 Section 8.3 process 'Design and Development of Products and Services'	6
Stage 3 Installation Method Statement Audit	7
Stage 4 Review of Technical Data Relating to Design Inputs Verification and Consolidate Case Studies	8
Stage 5 Review of Details	9
Stage 6 Submission to PTS Management Committee	9
Stage 7 Draft Certificate Submission to PTSTSP	9
Stage 8 Consolidation of Amendments / Approval	9
Stage 9 Assessment Certificate Authorisation	10
Stage 10 Certification Documentation	10
Stage 11 Publication of Certification Documentation	10
Stage 12 Annual Surveillance Requirements / Agreement and Implementation of Validation	10
Bibliography	12
Definitions, Abbreviations and Acronyms	13
Appendix 1 - Guidelines and Criteria Requirements	15
Appendix 2 – Visual Inspection Criteria	21

Scope

The purpose of this Guideline and Criteria Document is to set out the criteria for the Assessment and Certification of High Friction Surfacing under the PTS Assessment and Certification System, in line with PTS Process W15 PTS Product Assessment and Certification as required in PTS Product Acceptance Scheme in accordance with MCHW SHW Volume 1 Clause 104.15 and 104.16.

The product assessment shall be carried out in accordance with the specific technical requirements outlined in Appendix 1, for each of the following applications:

- approaches to signal controlled junctions, roundabouts and pedestrian crossings subject to a heavy flow of vehicles (as described in MCHW Volume 2, NG924 Table 9/24);
- reinstatement (restricted area of application), typically up to 7.5m²

For the purpose of this document, appropriate extracts from MCHW SHW Series 900 will be known as the *Specification*.

The adopted test methods and laboratory test results shall be derived from UKAS accredited laboratories to ISO/IEC 17025, recognized research bodies and Universities and/or data supplied by the Overseeing Organisation. The content of this document is for certification purposes only and is not intended for use on a contractual basis as a *Specification*. If other claims are being made by the Applicant additional assessment work can be considered and detailed within the issued Certificate under 'Other Investigations'.

Product Assessment and Certification specified in this document shall be structured and implemented to provide assurance to PTS Ltd that the product, when supplied for its intended use and installed or processed post manufacture shall be in accordance with the manufacturer's instructions and will give the performance and level of safety required by the Specification and be fit for purpose, as derived from BS EN ISO/IEC 17065.

Technical reference and standards referred to within these Guidelines and Criteria Document are the current published versions. Please refer to Bibliography for details.

The Assessment and Certification requirements for the product certified under this Scheme shall be developed ensuring due consideration to the requirements of the users of the products and those responsible for the highways on which such products shall be used or installed.

PTS Ltd are an UKAS accredited Certification Body for BS EN ISO/IEC 17065 for product certification and are in process of expanding the UKAS schedule by seeking accreditation for the Product Assessment as part of the Product Acceptance Scheme in accordance with MCHW SHW Volume 1 Clause 104.15 and 104.16.

PTS Ltd as a Notified Body (2448) can award CE Marking under Regulation (EU) No 305/2011.

PTS Ltd are registered on the EOTA (European Organisation for Technical Assessment) as a Technical Assessment Body (TAB) complying with the competencies requirements of MCHW SHW Volume 1 Clause 104.16 (i) and Table 1/1.

<https://www.eota.eu/en-GB/content/how-to-find-a-tab/55/>

The requirement of MCHW SHW Clause 104.15 for Product Acceptance Scheme is satisfied by PTS's Product Assessment and Certification capability against Guidelines and Criteria as set out in MCHW SHW. PTS Ltd assumes all responsibility in accordance with MCHW SHW and any normative reference documents and can offer assessment and certification for road construction materials, in accordance with MCHW SHW Clause 104.15 and Clause 104.16.

Assessment Stages

The sequence for assessment is carried out in stages and the process is in line with PTS Process W15 PTS Product Assessment and Certification as required in PTS Product Acceptance Scheme in accordance with MCHW SHW Volume 1 Clause 104.15 and 104.16 and PTS Procedure V4 Audit Plan for evaluation, review, decision and certification, available for reference on PTS website.

Conducting Audits / Assessments

In order for an effective assessment to be conducted, auditors and technical experts shall conduct audits and assessments in a professional manner and all data/documentated information shall be handled with utmost confidentiality in accordance with PTS Process W3 - On Site Audit, available for reference on PTS website.

Definitions Used during the Audit / Assessment

Opportunity for Improvement or Observation

May be identified and recorded without recommending specific solutions, unless prohibited by the requirements of the Scheme. May have no current risk to the functioning of the system but could lead to non-conformity going forward if not addressed. They should be considered for potential improvement and to further investigate any weaknesses for possible inclusion in the corrective action program.

Non-Conformities

Represents a weakness or issue based on objective evidence, the absence of, or a significant failure to implement and/or maintain conformance to the requirements of the applicable Standard / Specification / Code of Practice / etc. or a situation which would on the basis of available objective evidence, raise significant doubt as to the conformance of products that are to be placed on the market. Each non-conformity raised shall be recorded against a specific requirement of the audit criteria and shall contain a clear statement in the report of the category of the non-conformity and identify in detail the objective evidence on which the nonconformity is based.

Audit findings which are non-conforming shall not be recorded as opportunity for improvement.

Non-conformities shall be discussed with the Applicant to ensure that the evidence is accurate and that the non-conformities are understood. The Applicant shall analyse the cause of the non-conformity and describe the appropriate corrective action to be taken or planned to be taken to eliminate the non-conformity. A defined time frame shall be agreed for the corrective action to be taken and submitted to PTS Ltd. Details are submitted to PTS Ltd using the Corrective Action Report Form and the submission of corrective action.

The audit team leader shall attempt to resolve any diverging opinions between the audit team and the Applicant, concerning audit evidence or findings, any unresolved points shall be raised and recorded, in line with PTS Ltd procedures and processes for corrective actions, complaints and appeals (available on request) and Terms of Business. The Complaints, Appeals and Disputes Policy is available for reference on PTS website.

Audit Report

PTS shall provide a written report for each audit to the Applicant. The audit team may identify opportunities for improvement but not specific solutions. Ownership of the audit report shall be maintained by PTS Ltd.

The audit team leader / technical expert shall ensure that the audit report is prepared from all evidence as submitted from the audit team and shall be responsible for its content. The audit report shall provide an accurate, concise and clear record of the audit to enable an informed decision in the Applicant's readiness for the next stage of the assessment process.

PTS Ltd shall retain ownership of the audit reports.

PTS Ltd shall review the corrections, corrective actions and identified causes as submitted by the Applicant to determine if these are acceptable. PTS Ltd shall verify the effectiveness of any correction and corrective actions taken. The evidence obtained to support the resolution of non-conformities shall be recorded on the Corrective Action Report Form.

The Applicant shall be formally informed of the result of the review and verification and advised if an additional full audit, an additional limited audit or documented evidence (to be confirmed during future audits) will be needed to verify effective corrections and corrective actions.

Verification of effectiveness of corrections and corrective actions can be carried out based on a review of documented information provided by the Applicant, or where necessary, through verification onsite. This activity would be carried out by a member of the audit team.

Application Submission

Applicants will already be certified to BS EN ISO 9001: 2015 and if services are supplied to Highways England under SHW, certification under the relevant scheme for the work carried out is required for both Applicant and any external installers (specific requirements are detailed in Stage 3 and Appendix 1).

Applicant's details and acceptance shall be provided prior to proceeding as follows:

- Application and Client Information Forms (to be completed by the Applicant)
- Purchase Order
- Product Assessment Documentation as detailed in Stage 1 Documentation Review (see below)
- Certificate for existing Quality Management System (QMS) to BS EN ISO 9001: 2015 / Factory Production Control (FPC) / NHSS certification

The Contract Review process commences to ensure PTS Ltd can accommodate the Applicant's requirements, as detailed in PTS Process W4 Certification, available for reference on PTS website.

Stage 1

Documentation Review

Stage 1 audit is performed by a lead auditor, following receipt of the Applicant's documentation and authorisation to proceed, either by desk study review of the documentation supplied to the PTS Ltd head office or by a visit to the Applicant's premises.

This stage reviews the most recent third-party BS EN ISO 9001: 2015 QMS Audit Report, non-conformities (if any), close-out, observations and any identified opportunities for improvement. In addition to the surveillance audit report, PTS Ltd will also require information to be provided to satisfy the QMS details as required in the Quality Plan (details below).

The Quality Plan shall incorporate the requirements of SHW Clause 104 to demonstrate leadership engagement, competencies and continuous improvement and shall include details of the "hold points" - SHW 104.6 and the product to be assessed and production procedures:

- The Applicant shall ensure the Quality Plan includes hold points where no further work shall proceed without written approval of a designated person of the Applicant's management, who shall be named in the Quality Plan
- The Applicant shall ensure the Quality Plans and associated quality documentation are made available to all parties involved with the works
- The Quality Plan shall include:
 - Organisation and Management structure, including organization of the contract, line command and communication links between parties involved in the contract on and off site. Names, roles, responsibilities and authority of principals and key personnel
 - Identification of the parts of the QMS relevant to the works

- Supply chain management – including control and communications processes, assessment of the suppliers and subcontractors QMS and quality control capabilities, monitoring arrangements, review and acceptance of work items being undertaken by the subcontractor or supplier
Details and scheduling of Quality Plan required by relevant NHSS or other QMS schemes
Details of registration to relevant NHSS or other QMS schemes
- Document Control – controls relevant to the Works, including the control and processing of testing results, materials and workmanship certification, quality records in accordance with SHW 104.7 and FPC (where required)
The control and scheduling of all documentation as required by the Specification and submitted to the Overseeing Organization as required throughout the works and the control and processing of test results that confirm the verification of the product within the design requirements for their product. This information will be used to validate that subsequent production meets the design requirements.
- Resource management – including details of relevant skills and experience of personnel involved in the works. Training and/or competency assessment certificates and/or registration/skills cards for the workforce as required in the relevant NHSS for the work carried out (specific requirements are detailed in Stage 3 and Appendix 1) in accordance with SHW 104.10, or scheduling of when they will be provided to the Overseeing Organization for acceptance prior to the commencement of relevant work.
In the case of production only – the product shall be designed to be installed by a competent installer experienced with that type of product.
- Method Statements – for initial items of work and scheduling shall be submitted a minimum of 14* days prior to the commencement of the relevant work (*time period, can be amended to suit the particular requirements); shall contain:
 - Method statement for installation
 - Limitations in respect to weather and substrate conditions
 - General installation procedures
 - On site storage and handling of materials
 - On site quality control / assurance procedures and associated documentation

Note: Installation Method Statement – Please refer to Stage 3 and Appendix 1 for the specific requirements

The lead auditor / technical expert shall submit their findings and recommendations in a written report. The report provides a focus for planning Stage 2 by gaining understanding of the system to determine the preparedness for the Stage 2 audit.

The interval between the Stage 1 and Stage 2 audits is determined with consideration given to the needs of the Applicant to resolve areas of concern identified during the Stage 1 audit. PTS Ltd also considers whether any revisions are required to its arrangements for the Stage 2 audit.

Stage 2

Audit of BS EN ISO 9001 Section 8.3 process 'Design and Development of Products and Services'

The Stage 2 audit is performed by a lead auditor with the technical expertise for the scheme or by a lead auditor assisted by a technical expert as necessary at the Applicant's premises.

- Audit of the process supporting the technology with specific respect to the BS EN ISO 9001: 2015 Section 8.3 'Design and Development of Products and Services' and how that interacts with leadership, resources and contract review at the Applicant's premises
- Review product CE Marking and DoP (if applicable)
- For non CE Marked products, PTS Ltd shall review the Applicant's submission for production procedures/processes, such as material controls and records, to ensure consistent product to confirm the Quality Plan for the FPC.
- Laboratory performance criteria (simulative, conditioning and thermal movement) – TRL R176 (see Appendix 1).

If the product includes hazardous substances, (i.e. that require special precautions to be taken under the COSHH Regulations), the Applicant must supply all the relevant data. No formal assessment of the suitability of this data, in terms of the COSHH regulations, is undertaken by PTS Ltd. However, this data will always be required by PTS Ltd and its subcontractors to ensure the safe use and testing of the product in their laboratories. The Applicant's instructions for use must include all necessary data to allow the safe use of the product.

The lead auditor/ technical expert shall submit their findings and recommendations in a written report. The report provides the current status of the Applicant's activities in line with BS EN ISO 9001: 2015 Section 8.3 process 'Design and Development of Products and Services'. The time frame for resolving areas of concern identified during the Stage 2 audit shall be agreed and details of corrective action submitted to PTS Ltd. Evaluation and implementation of corrective actions shall be reviewed prior to the Stage 3 audit.

Stage 3

Installation Method Statement Audit

The Applicant shall confirm to PTS Ltd and the relevant interested parties prior to the intended date of the approval trial, details of:

- Start date(s) of the planned works
- Site address(s) road type/category
- Site / location plan
- Product Health and Safety data sheet
- Installation Method Statement (comprising ambient and road surface temperatures, substrate condition and suitability assessment, surface preparation, installation, coverage rates, after-care). In the case of reinstatement applications (up to 7.5m²), the compatibility with the surrounding material and a comprehensive site condition assessment shall be carried out to clearly define the area of repair, the existing defects and their potential causes.
- Installer competencies

In the case of production only – the product shall be designed to be installed by a competent installer experienced with that type of product.

If services are supplied to Highways England under SHW, certification under National Highways Sector Scheme 13 is required.

Alternatively, training certificates and CSCS cards for all operatives are required, in compliance with Section 16 of RSTA ADEPT Code of Practice for High Friction Surfacing, 2nd Edition April 2017:

- Operatives should hold NVQ level 2 and CSCS cards
- Supervisors acting as a charge hand supervising one crew should hold NVQ level 3 and a CSCS card
- Supervisors who are responsible for supervising more than one crew should hold NVQ level 4 and a CSCS card

It is recommended that the manufacturer (certificate holder) should provide training programs, on-site training days, live demonstrations and/or installation instructions.

It is also advisable that installers are attending RSTA training courses every 5 years, which is an ADEPT requirement (ADEPT RSTA Code of Practice for High Friction Surfacing, 2nd Edition April 2017, Section 16).

The installation will be witnessed and assessed by PTS's lead auditor with the technical expertise for the scheme or by a lead auditor assisted by a technical expert to cover the installation procedures as defined in the Applicant's Installation Method Statement (IMS) along with the process control and evidence of competency for suppliers / contractors.

Note: For reinstatement applications (up to 7.5m²), the installation trial shall be carried out over the entire lane width (3.75m x 4m = 15m²), constructed in such manner that a comparison between existing (typically Type 1 performance site) and reinstated material can be made. It is recommended that the reinstatement installation trial is carried out within the area which is subjected to the most severe breaking action (i.e. for a total of 4m distance, starting from 5m from the complete stopping point up to 9m from the complete stopping point). Site drawings indicating the existing and reinstated areas are required. Caution shall be taken to maintain the joints to a minimum.

Following installation, the Applicant must provide the following test data (detailed in Appendix 1), derived from UKAS accredited laboratory to ISO/IEC 17025, recognized research bodies and Universities and/or supplied by the Overseeing Organisation:

- Visual inspection
- Skid Resistance Value (SRV)
- Texture Depth

The lead auditor / technical expert shall submit their findings and recommendations in a written report. Any areas of concern identified during the IMS audit shall be agreed and details of corrective action submitted to PTS Ltd.

The technical aspects of the IMS audit, including photography, site locations and details, installers, etc. will be summarized in a standalone report prepared by PTS Ltd, referenced in the Assessment Certificate and available to PTSTSP / Overseeing Organisation upon request.

Stage 4

Review of Technical Data Relating to Design Inputs Verification and Consolidate Case Studies

Product Performance Trial / Visual Condition Inspection of selected case studies

No history of use

- A 2 year product performance trial will be required if it cannot be demonstrated that the product has performed satisfactorily over a 2 year period on sites representative of its intended end use. The installation will be assessed as described above in Stage 3.
- To enable certification generation, for reinstatement areas (up to 7.5m²) and/or where innovation allows, following engagement with and approval from PTSTSP, laboratory simulative testing e.g. wear test by using equipment such as the original Transport Research Laboratory road simulator, with additional surveillance requirements may be considered (please refer to Appendix 1). In this case, the testing and additional surveillance program should be carefully developed with engagement from the Applicant and PTSTSP. The laboratory simulative testing data provide information for the certificate generation; the reinstatement installation trial, as described in Stage 3 above, will generate the 2 year trial performance assessment with respect to:
 - Skid Resistance Value (SRV)
 - Estimated overall system loss in the wheel tracks (%)
 - Texture Depth (mm)
 - Visual Inspection

History of use - retrospective process

- Where an assessment certificate already exists for a product and an installation trial has already been carried out, existing data relating to the trial, if suitable, may be used for assessment purposes under this stage. Fully traceable details from previous assessment, existing sites details where the product was used shall be submitted. Representative sites must be available for review by PTS Ltd through site inspections and technical information should be gathered on the product. The suitability of the data and evidence gained will be submitted to PTSTSP to ascertain its suitability. If deemed acceptable, the site inspection findings and associated information will be consolidated in a standalone report prepared by PTS Ltd, referenced in the Assessment Certificate and available to the PTSTSP and Overseeing Organisation upon request.

Acceptance of data / consolidation of technical support information

PTS Ltd will accept test data from laboratories with UKAS accreditation to ISO/IEC 17025 or a PTS approved laboratory for the specific tests referred to provided they are performed on samples that can be traced to the manufacturing location and the site identified. PTS Ltd requires the UKAS test laboratory to submit a copy of their "UKAS schedule" or the test method procedure when a PTS Ltd approved laboratory is employed.

Adopted laboratory test methods and procedures shall be as detailed in Appendix 1, with any additional relevant tests if required, as agreed with the Applicant and the PTSTSP.

Stage 5

Review of Details

Reports generated from Stages 1 to 4, comments, non-conformities and where applicable, the correction and corrective actions taken together with any conditions or observations are reviewed by the lead auditor and technical expert to confirm that all evaluations stages have been carried out and evidence shows compliance with the Guidelines and Criteria Document requirements and those specified in associated standards / normative documents the recommendation whether or not to grant certification is submitted to PTS Management Committee.

Stage 6

Submission to PTS Ltd Management Committee

The PTS Ltd Management Committee shall conduct a review of all submitted detail for content and accuracy and all the information provided which relates to the application and evaluation of the certification assessment requirements.

Certification Decision

PTS Ltd shall be responsible for, and shall retain authority for, its decisions relating to the assessment and certification process. The decision for a draft certificate to be raised shall be made by independent person(s) or group of persons that have not been involved in the evaluation process for submission to PTSTSP, in accordance with PTS Process W4 Certification, available for reference on PTS website.

Stage 7

Draft Certificate Submission to PTSTSP

The draft certificate is raised and submitted to PTSTSP in line with the PTSPAS processes. PTSTSP role is to provide governance and technical oversight on the submitted evidence, to review and comment on the draft certificate to ensure compliance with the Guidelines and Criteria Document requirements and those specified in associated standards / normative documents.

Stage 8

Consolidation of Amendments / Approval

PTS Ltd shall collate all the information, review the details and assess whether a consensus meeting is required to complete the evaluation or if additional information is required / or minor wording amendment. If a consensus meeting is required, the PTSTSP will meet and agree the requirements to satisfy the Guidelines and Criteria requirements.

Certification Decision

Certification documentation shall be amended as necessary by PTS Ltd.

Approval for issue shall be granted if no issues are raised with regard to the conduct of the certificate generation.

On completion, PTS Ltd shall be given approval and authorisation to issue the Assessment Certificate.

Stage 9

Assessment Certificate Authorisation

Prior to issue and publication, providing that no concerns were raised with regard to the conduct of the certificate generation, the Certificate shall be endorsed by the PTS Management Committee and subsequently consented by the PTSTSP.

Stage 10

Certification Documentation

The formal Certification documentation issued by PTS Ltd shall clearly convey:

- Accreditation Authority (name and address)
- Date certification is granted and expiry date of certification
- Annual surveillance audit date
- Specialist Group (SG) reference and certificate number
- Name and address of the Applicant organisation
- Material's designation
- Installed properties
- In-service properties
- Any other information required by the certification scheme
- Signature or other defined authorisation of the person(s) of PTS Ltd assigned such responsibility

PTS Ltd reserves the right to amend or supplement the tests required for the Assessment and Certification at any time if deemed as required after consultation with PTSTSP. The cost of all further tests will be borne by the Applicant.

The PTSPAS will be described on the published certificates as

'PTS Product Assessment Certificate

Product Acceptance Scheme in accordance with MCHW SHW Volume 1 Clause 104.15 and 104.16'.

The Certificate issued will be subject to the Terms and Conditions of the relevant PTS Ltd Contract, which can be found on the PTS website: www.ptsinternational.co.uk.

Stage 11

Publication of Certification Documentation

Assessment Certificates are published on the PTS website: www.ptsinternational.co.uk.

Stage 12

Annual Surveillance Requirements / Agreement and Implementation of Validation

PTS Ltd shall conduct annual surveillance audits of the production to ensure that the procedures and controls defined at the outset continue to apply. PTS Ltd shall also review the installers third-party Sector Scheme audit reports, to ensure ongoing validation of the demonstration of fulfillment of product and installation requirements, any certificate changes and how change is managed in accordance with this Guidelines and Criteria document, relevant standards and normative documents.

Annual surveillance audits cover the PTSPAS requirements as above with 3 year re-certification audit. Specific visual inspection, data and any additional surveillance requirements are required in accordance with Appendix 1 and Stage 4 respectively.

During the validity of any Certificate, the Applicant is responsible for the Quality Assurance / control of the production at the manufacturing location(s) declared to PTS Ltd.

Review of Validation Methodology to be adopted during the future annual surveillance audits

Annual surveillance assessments are carried out in accordance with PTS Assessment and Certification System, MCHW SHW, Codes of Practice, Guidelines and Criteria document, associated specifications, standards and normative documents, PTS Ltd policies, procedures and processes.

The annual assessment report as compiled by the lead auditor / technical expert, comments, non-conformities and where applicable, the corrective actions taken together with any conditions or observations are reviewed by the PTS Ltd Management Committee for content and accuracy in line with the Certificate.

PTS Ltd shall be responsible for, and shall retain authority for, its decisions relating to the assessment and certification process.

Suspension / Withdrawal of Certificate

PTS shall suspend or withdraw the certificate if the Applicant's management system / process / product(s) has persistently or seriously failed to meet the PTSPAS requirements, if the Applicant does not allow surveillance or recertification assessments to be conducted at the required frequencies or if the Applicant has voluntarily requested a suspension.

The Applicant shall be notified in writing of such a decision in writing by a member of the PTS Certification Management team. The letter shall state whether it is intended for suspension or withdrawal, the reason(s) and any additional actions required. PTS shall allow 30 days for the Applicant to respond before suspension is implemented. The Applicant provide appropriate corrective action that is acceptable to PTS, accept the suspension or withdrawal or appeal the decision.

When a decision on suspension / withdrawal has been made, that suspension / withdrawal shall remain effective until the appeal process is completed, and a decision has been reached. PTSTSP shall be informed. If the Applicant fails to take action within the 30 days, withdrawal of the certification shall be immediate.

Suspensions are intended to be temporary. Suspensions shall be processed as withdrawals if re-certification is not completed by the next assessment date or within a 6 months period, whichever comes first.

Whilst suspended, the Applicant loses the privilege of delivering the certified products / processes under the Certificate. The letter of suspension details the restrictions imposed on the Applicant as a result of the suspension.

The Applicant must refrain from promoting its certification status during suspension / withdrawn activities in any promotional materials, letterhead, or any other documents or media. The Applicant shall also remove any displayed certificate on its premises or media format.

PTS shall make the suspension or withdrawal status of the Applicant publicly accessible and in addition where other parties are involved such as regulatory bodies, those shall also be notified by PTS of the changes in the certification scope and shall take any other measures it deems appropriate during Applicant suspension / withdrawal.

Failure to resolve issues that caused the Certificate to be suspended in the established time frame shall result in withdrawal of the Certificate.

A PTS certified Applicant may voluntarily suspend or withdraw its certificate at any time by providing written notice to PTS. Requests must clearly state the reason. Requests will normally be processed within 10 days. Any fees / monies due shall be payable to PTS at this time.

PTS shall take necessary actions and modifications to formal certificate documents, public information,

authorisations for use of marks etc, in order to ensure the suspension / withdrawal is clearly communicated and details clearly specified in its documentation and public information.

An immediate suspension of the Applicant's Certificate imposed by PTS when there is evidence to support that one or a number of critical non-conformances have been found or the Applicant has declined any additional surveillance by PTS. The Applicant can appeal the decision for an immediate suspension according to the appeal process, available on request.

Bibliography

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/IEC 9001:2015 Quality Management System Requirements

Manual of Contract Documents for Highways Works (MCHW)

Volume 1 Specification for Highway Works, May 2018

Volume 2 Notes for Guidance on the Specification for Highway Works, May 2018

RSTA ADEPT Code of Practice for High Friction Surfacing, 2nd Edition, April 2017

J. C. Nicholls, Laboratory tests on High-Friction Surfaces for Highways, TRL Report 176

National Highway Sector Scheme Document 13 Particular Requirements for the Application of ISO 9001: 2015 for the Supply and Application of Surface Treatments to Road Surfaces, January 2018

PTS Technical Supervisory Panel Instructions

W15 PTS Product Assessment and Certification in accordance with PTS Product Acceptance Scheme in accordance with MCHW SHW Volume 1 Clause 104.15 and 104.16

V4 PTS Procedure Audit Plan

W3 PTS Process - On Site Audit

Definitions, Abbreviations and Acronyms

PTS Ltd	Pavement Testing Services Ltd
PTSPAS	Pavement Testing Services Product Assessment
PTSTSP	Pavement Testing Services Technical Supervisory Panel
PTS Approved Laboratory	A laboratory approved by PTS Ltd to carry out test work on behalf of PTS Ltd, i.e. sub-contracted by PTS Ltd, which may lead to the approval of a product and the issue of a PTS Certificate. Before approval the laboratory will have demonstrated to PTS Ltd that it has the relevant expertise, equipment and quality systems in place to carry out the work required
MCHW	Manual of Contract Documents for Highway Works
SHW	Specification for Highway Works
SROH	Specification for the Reinstatement of Openings in Highways
NHSS	National Highways Sector Scheme
CoP	Code of Practice
COSHH	Control of Substances Hazardous to Health
UKAS	United Kingdom Accreditation Service
Visual Assessment	Procedure for assessing visual condition
QMS	Quality Management System
FPC	Factory Production Control
SG	Specialist Group
Overseeing Organisation	Organisations responsible for the development of highway / road network in England, Scotland, Wales and Northern Ireland
Applicant	Company requesting for PTS Ltd to provide assessment and certification
Lead Auditor	A recognized lead auditor having satisfactorily completed an approved training course in Management system(s) operation and auditing. The course must have included an examination recognized by IRCA

standards, with competent audit management skills. Competencies for Technical Assessment Bodies given in Regulation (EU) No 305/2011, the Construction Products Regulation, Annex IV, Table 2 with the additions given in Table 1/1 of SHW of Clause 104.16 also required

Technical Expert	Person with competent working knowledge of nationally recognized technical discipline within the construction industry, to provide technical expertise during certification audits / assessments in conformance with standards, PTS procedures and processes. Competencies for Technical Assessment Bodies given in Regulation (EU) No 305/2011, the Construction Products Regulation, Annex IV, Table 2 with the additions given in Table 1/1 of SHW of Clause 104.16 also required
Technical Supervisory Panel	Panel consisting of 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. The Panel 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
PTS Management Committee	Management team to generate and operate the PTSPAS. Consults with PTSTSP. Management Committee members competencies to Table 1/1 of SHW Clause 104.16
Corrective Action Report	Detail corrective actions following non-conformance / finding raised during an assessment stage. The report details the cause and extent of the non-conformity, action taken (including action to prevent recurrence) and the corrective action submitted to enable review of effectiveness of correction, its verification and satisfaction close out of the non-conformance or additional action if necessary.

Appendix 1 – Guidelines and Criteria Requirements

PTS PRODUCT ASSESSMENT AND CERTIFICATION (PTSPAS)
AS PART OF PRODUCT ACCEPTANCE SCHEME
MCHW SHW VOLUME 1 CLAUSE 104.15 AND 104.16

PTSSG 924 High Friction Surfacing

Relevant Documents	
Specification (SHW)	Manual of Contract Documents for Highway Works Clause 924 (05/18) High Friction Surfaces
Notes for Guidance	Manual of Contract Documents for Highway Works NG 924 (05/18) High Friction Surfaces
MCHW Referenced Documents	HD36/06 DMRB 7.5.1 Table 3.1
	Design Life of Surface Treatments including High Friction Surfacing, RSTA ADEPT
'Laboratory tests on High-Friction Surfaces for Highways' TRL Report 176 (1997)	
Code of Practice (CoP)	'Code of Practice for High Friction Surfacing' 2 nd Edition RSTA ADEPT (04/17)
Stage 1 Documentation Review BS EN ISO 9001: 2015	
Quality Management System (QMS)	BS EN ISO 9001: 2015 QMS Audit Report, non-conformities (if any) close-out, observations and any identified opportunities for improvement. In addition to the surveillance audit report, PTS Ltd will also require information to be provided to satisfy the QMS details as required in the Quality Plan (SHW Clause 104.6). If external installers are used, the most recent third-party applicable Sector Scheme Audit Report, comprising non-conformities (if any), close-out, observations and any identified opportunities for improvement, is also required. Installation Method Statement, as detailed in Stage 3, is also required for review.
Stage 2 BS EN ISO 9001: 2015 SECTION 8.3 – Design and Development	
Planning evidence	Evidence that the design and development was a planned process. This means an objective, determination of a project plan, identification of resources required and a close out report detailing stages including verification, validation and change management

Design inputs	Factory Production Control assessment	
	Aggregate properties (PSV, AAV) and DoP	
	System type (classification as shown in Table NG 9/24)	
	Laboratory testing - performance criteria to TRL R176:	
	Slab Manufacturing and HFS application	Appendix A and C
	Simulative:	
	Scuffing	Appendix G
	Wear	Appendix H
	Tensile Adhesion	Appendix J
	Conditioning:	
	Heat Ageing	Appendix K
	Freeze-thaw	Appendix L
	Diesel susceptibility	Appendix M
	Movement	
Thermal movement	Appendix N	

Note: TD denote texture depth (BS EN 13036-1:2010) and SRV denote skid resistance value (BS EN 13036-4:2011); all other tests to be carried out in accordance with TRL 176.

Verification	<p>This constitutes Stage 3 and Stage 4 of the audit process, as detailed in the main document</p> <p>Verification method by which the design requirements of product, installation requirements, in-service requirement and installation method statement fitness for purpose are established.</p> <p>Verification by 2 year field trial: Skid Resistance Value (SRV), Estimated overall system loss in the wheel-track (%), Texture Depth (mm) and Visual Assessment (including photography) The Criteria for the visual assessment in accordance with PTS internal procedure based on TRL Report 176, Appendix R (Appendix 2).</p> <p>Note: For reinstatement applications (up to 7.5m²), laboratory simulative wear testing by using equipment such as the original Transport Research Laboratory road simulator may be considered to support the certification generation. The wear test is stopped periodically for visual inspection, skid resistance and macrotexture retention. Reinstatement installation trial should be carried out as specified in Stage 3, Note and Stage 4.</p>
Validation	<p>This constitutes Stage 12 of the audit process, as detailed in the main document</p> <p>These are the elements which will constitute surveillance auditing activities: QMS third party audit reviews Coverage Rates 2 year guarantee performance (TRL R176) Installer competency and third party audit review Change management</p> <p>In service validation options:</p> <ul style="list-style-type: none"> • Functional property validation (SCRIM) • Complete suite of requirements (texture depth, skid resistance, visual inspection at 6, 12, 24 and 36 months); visual inspection in accordance with PTS internal procedures
Change management	<p>Competent individual identified and authorised to manage change precipitated by the following causes: Components changes Installation Method Statement changes Corrective Action based changes Specification changes</p>

Certificate checklist	System Name System Type Road Type(s) Components IMS Installers competencies ISO 9001: 2015 QMS ISO 9001:2015:8.3 Verification Verification measurements Validation methodology Case Studies Referenced reports
Extract from Specification SHW Vol 1 (Clause 924):	
Sub Clause 924.2 (08/16)	Certification shall reference installation method statement
Sub Clause 924.3 (08/16)	The Type classification contract requirement will be as detailed in the site specific Appendix 7/1
Sub Clause 924.4 (08/16)	The aggregate used shall be declared in accordance with BS EN 13043:2002 (4.3.3 PSV and 4.2.4 AAV) and this shall demonstrate compliance with the site specific Appendix 7/1; DoP required
Sub Clause 924.5 (08/16)	Installation shall be in accordance with the IMS detailed and referenced within the assessment certificate. All testing as required by the contract and by the certificate shall be undertaken and made available to the Overseeing Organisation including surveillance visits
Sub Clause 924.6 (08/16)	Coverage rate of components or mixture shall be calculated, documented and communicated to the Overseeing Organisation
Sub Clause 924.7 (08/16)	A guarantee is required for two years and covers the requirements set out in 'Guideline Document for the Assessment and Certification of High Friction Surfaces for Highways' Table 4.
Extract from Specification Vol 2 NG 924:	
NG 924.1	Identifies prime sites for HFS as controlled junctions, roundabouts and pedestrian crossings
NG 924.2	Overseeing Organisation are required to reflect on the short service life and restrict the use of HFS on a prioritised basis
NG 924.3	Details the need for site classification to relate to the three Type classifications of HFS. These are dependent on road configuration and commercial traffic levels. This is detailed in Table NG 9/24
NG 924.4	Guidance on service life is provided with cross reference to RSTA / ADEPT Code of Practice document
NG 924.5	Installed only in accordance with the certificate holders IMS. Not be applied on cracked or rutted sub

	strata. Detail of sub strata which the system is unsuitable for needs to be identified within the certification.
NG 924.6	A period of time is expected to be required for the fresh asphalt to provide optimal conditions for the application of HFS. These need to be agreed with the Overseeing Organisation but should as a consequence be identified on the product assessment document
NG 924.7	Cracking in the HFS can be remedied by application of such as epoxy based crack sealant. This needs to be detailed on the assessment certificate and agreed with the Overseeing Organisation
NG 924.8	One of the problems of this NG is that the 70+ PSV detailed is outside the bands within BS EN 13043:2002 Table 13. It only permits sub 44 PSV and intermediate PSV levels as declared options and as such a 70+ cannot be declared. Not sure how this is to be remedied.

Appendix 2 – Visual Inspection Criteria

Visual Inspection Criteria

The assessment of the condition of the site is carried out by a lead auditor with technical expertise and/or technical expert, and is based broadly on visual inspection and reporting (including photography) in accordance with Appendix R of TRL Report 176.

The Applicant shall arrange site access and ensure that the inspection can be carried out in a safe manner.

The lead auditor with technical expertise and/or technical expert shall prepare an inspection report including the site location and details, weather condition and fault suffixes and marks in accordance with Tables R.1 and R.2 of TRL Report 176, Appendix R.