

**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
PTS SG FSMR SROH**

**FOR THE ASSESSMENT AND CERTIFICATION OF
FLOWABLE STRUCTURAL MATERIALS FOR
REINSTATEMENTS (FSMRs)**

**TO SUPPORT SUBMISSIONS & APPROVALS IN
ACCORDANCE WITH THE SPECIFICATION FOR THE
REINSTATEMENT OF OPENINGS 4th EDITION (ENGLAND)**

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Acknowledgements

This document is published under the Pavement Testing Services Limited, referred to PTS Ltd herein Product Assessment and Certification Scheme (PTSPAS).

This document has been compiled by members of the PTS Ltd Certification Team as employed by PTS Ltd.

This current version of the PTS Guidelines and Criteria Document PTSSG 946 has been reviewed and endorsed by the PTS Technical Supervisory Panel (PTSTSP), it is a living document, developed from the current industry Specification, Codes of Practice, and industry best practice, undergoing editing, and updating to incorporate 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
- Professional Institutions and Trade Bodies
- Patching and Reinstatement Contractors
- Material Suppliers
- System Providers

Terms and Conditions

This Guidelines and Criteria Document must be read, understood, and used as a whole document – it may be misleading or incomplete if read selectively.

The use of, and reproduction of, this Guidelines and Criteria Document is permitted only in accordance with these Terms and Conditions.

References in this Guidelines and Criteria Document 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 the publication of this Guidelines and Criteria Document.

PTS Ltd shall undertake and certify product assessment in accordance with this Guidelines and Criteria Document whilst following 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. The test methods and protocols contained in this document are for certification purposes only and are not intended for use on a contractual basis as the Specification.

PTS Ltd makes no warranties, representations, or undertakings in respect of this Guidelines and Criteria Document. 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
Draft 1	Formation of Guidelines and Criteria Document	VS	PTS	Nov 2020
Draft 2	Amendment to Title	VS	PTS	Jan 2021
Draft 3	Revision to reflect generic G&C changes & accommodation of SROH requirements	VS/JB	PTS/TSP	May 2021
Issue 1	Revision to reflect generic G&C changes & accommodation of SROH requirements	JB/VS	PTS/TSP	July 2021
Issue 2	Format layout change following acquisition & change of logo	JB/VS	PTS	July 2022
Issue 3	Amendment to scope wording for clarity of accreditation and cross reference to PTS UKAS schedule. Amendment to logo	VS/JB	PTS	13.07.23

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Scope

The purpose of this Guidelines and Criteria Document is to set out the criteria for the Assessment and Certification of Flowable Structural Material for Reinstatements (Alternative Reinstatement Materials) in conformance with the Specification for the Reinstatement of Openings in Highways, Fourth Edition (England) May 2020 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 the MCHW SHW Volume 1 Clause 104.15 and 104.16.

The scope of assessment and certification under this PTS Guidelines and Criteria document is for Flowable Structural Materials for Reinstatements (FSMRs) only as named on the PTS Application form and does not include certification for the site works.

The assessment and certification process specified within this document shall be structured and implemented to provide assurance to PTS Ltd that the named product(s), 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.

The product assessment shall follow the stages detailed in this document and will be carried out in accordance with the Guidelines and Criteria shown in Appendix 1.

The adopted test methods, in-situ and laboratory test results shall be derived from UKAS accredited testing laboratories to ISO/IEC 17025, for the relevant sampling and test methods, recognized research bodies and Universities and/or data supplied by the Overseeing Organisation. The content of this Guidelines and Criteria Document is for assessment and certification purposes only of the named product(s) on the PTS Application Form and is not intended for use on a contractual basis as a *Specification*. If other claims are being made by the Applicant relating to performance of a system, additional assessment work may be undertaken: such work will be considered and detailed within the issued Certificate under 'Other Investigations'.

All technical references and standards referred to within these Guidelines and Criteria Document are the published versions as referenced in the Bibliography

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 makes no warranties, representations, or undertakings in respect of this Guidelines and Criteria Document. 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.

PTS Ltd are an UKAS accredited Certification Body for BS EN ISO/IEC 17065 for product certification, detail as per UKAS Schedule (see website for most current version) 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 to include additional MCHW SHW clauses.

PTS Ltd as a UK Approved Body (2448) can award UKCA Marking under EU Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020 UK Market Conformity Assessment Bodies - GOV.UK (<http://www.gov.uk>)

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 are registered on the UKMCAB (UK Market Approved Body) Database 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.

This assessment and certification as carried out under this Guidelines and Criteria Document is valid only within the UK.

Note: For the purposes of this Guideline and Criteria Document, the Specification for the Reinstatement of Openings in Highways, Fourth Edition (England), will be known as the *Specification* and be referred to as the SROH throughout.

At the time of issue of this document, two earlier versions, and one equivalent version, of the Specification are currently valid within Scotland, Wales and Northern Ireland:

- For works in Scotland: The Specification for the Reinstatement of Openings in Roads, Fourth Edition (Scotland), from the fourth Edition for England
- For works in Wales: The Specification for the Reinstatement of Openings in Highways, Second Edition (Wales), from the second edition of the Specification
- For works in Northern Ireland: The Specification for the Reinstatement of Openings in Roads, Second Edition (Northern Ireland), from the second edition of the Specification

Pending revisions of the fourth edition of the Specification (and pending its possible adoption in Wales, Scotland and Northern Ireland), the fourth edition (England) shall be the reference document for performance criteria and inspection methodologies within this Guidelines and Criteria Document.

Should a requirement arise to apply this Guidelines and Criteria document to activities in Wales, Scotland or Northern Ireland, the assessment criteria will be reviewed/revised as required.

Definitions, Abbreviations and Acronyms

Applicant	Company requesting for PTS Ltd to provide assessment and certification
ARM	Alternative reinstatement materials (ARMs) including: structural materials for reinstatements (SMRs, SROH A9.1.3), Treated materials for fills (TMFs: SROH A9.1.4 and A9.1.5) and other types of ARM (SROH, A9.1.2)
AT	New technologies, methods or techniques are termed <u>A</u> lternative <u>T</u> echniques or Alternative Technologies (ATs), these include alternative excavation, compaction, and any other alternative technology relevant to the SROH
Authority	The Authority as defined in The New Roads and Street Works Act 1991 (NRSWA)
CE (Mark)	<p>CE marking is a European regulatory mark. CE marked products are entitled to free movement throughout the European market (EU and EEA). The CE mark indicates fitness for the intend use. The CE mark confirms the product complies with all relevant product supply law, and its presence together with the Declaration of Performance gives the product to which it is affixed presumption of conformity with the construction products that are covered by a harmonised European standard (hEN)</p> <p>However, the CE mark is not a quality mark, nor a guarantee that the product meets all the requirements of relevant EU product safety law. Suppliers who install work equipment and users should make reasonable checks of any new products looking for obvious defects. In most cases the Declaration of Conformity must be supplied to the end customer.</p>
Certificate Holder	Company awarded with PTSPAS Certificate
CoP	Code of Practice
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.
COSHH	Control of Substances Hazardous to Health
CPR	<p>Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020</p> <p>‘the CPR’ seeks to remove technical barriers to the trade of construction products in the European single market.</p> <p>The CPR aims to ensure the reliability of information on the performance of construction products. This is achieved through harmonised European product standards using a common technical language and uniform assessment methods.</p> <p>Following EU exit changes will now apply in England, Wales, and Scotland only. The regime in Northern Ireland will match the EU requirements for construction products.</p>

Designated standards	All existing harmonised European standards became UK 'designated standards' This means that immediately after the end of the transition period of EU exit, harmonised European standards and UK designated standards will be identical.
DMRB	Design Manual for Roads and Bridges
DoP	Declaration of Performance
FPC	Factory Production Control
FSMR	Flowable Structural Materials for Reinstatements: a type of ARM, FSMRs comprise any type or combination of aggregates and binders that are flowable and do not normally require compaction. (SROH, A9.1.3)
Intervention	Repair to a compliant condition of a reinstatement that does not comply with the performance requirements of this Code.
Lead Auditor	<p>A recognised 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 Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020</p> <p>Annex IV, Table 2 with the additions given in Table 1/1 of SHW of Clause 104.16 also required, BS EN ISO/IEC 17065 and BS EN ISO/IEC 17021-1</p>
MCHW SHW	<p>Manual of Contract Documents for Highway Works</p> <p>Specification for Highway Works</p>
Method Statement	Method Statement is a documented description that gives specific instructions on how to undertake activities safely and the measures needed (including identification of any potential hazards and what precautionary measures are in place).
NHSS	National Highways Sector Scheme - Bespoke integrated management schemes which supplement ISO 9001:2015 detailing specific application to highway maintenance activities within the UK
NRSWA	The New Roads and Street Works Act 1991
Overseeing Organisation	Organisations responsible for the development of highway / road network in England, Scotland, Wales, and Northern Ireland
Product Family	Specialist Group Sub Clause heading under assessment taken from the Specification - MCHW SHW
PTS Approved Laboratory	An approved laboratory, or recognised research body 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.

PTS Ltd	Pavement Testing Services Ltd
PTS Technical Supervisory Panel Instructions	PTSTSP Review Process for the Determination of requirements – Guidelines and Criteria documents and Certification Authorisation
PTSPAS	Pavement Testing Services Product Assessment Scheme
PTSPAS Management Committee	PTS Ltd Management Committee team to generate and operate the PTSPAS. Consults with PTSTSP members. Competencies to Table 1/1 of SHW Clause 104.16
PTSTSP	Pavement Testing Services Technical Supervisory Panel as defined in MCHW SHW Volume 1 Clause 104.16
QMS	Quality Management System in accordance with BS EN ISO9001:2015 - Standard that helps organisations ensure they meet customer and other stakeholder needs within statutory and regulatory requirements related to a product or service.
Quality Plan	Quality Plan is a document or a defined group of documents that together specify standards and associated references and the requirements for planning, implementation, and measuring/monitoring requirements for production plant(s). It forms the methodology to be followed relevant to the system to be assessed (including responsibilities, production procedures, testing, tolerances, and controls).
Recognised Certification Body	Certification Body that is accredited by UKAS
Recognised Research Body	A Recognised Research body is a disciplined group approved by PTS Ltd that specialises in product development or testing or an individual Recognised Researcher or equivalent who are Researchers / testers with an equivalent level of experience and competence as possessing special knowledge and skills derived from research, education, and training at a high level, and is recognised by the public as such.
Registered NHSS Scheme	Companies certified under the relevant schemes for the work you are carrying out and included on The Schedule of Suppliers website https://www.scheduleofsuppliers.co.uk
Road categories	Road categories 0 to 4 are based on the number of millions of standard axles (msa) carried by the road over a 20-year period. Reinstatements are designed on this basis. (SROH NG1.3)
SG	Specialist Group – Terminology used to identify a sub-clause within the MCHW SHW Specification and/or Specialist Group formulated as deemed necessary by the Technical Supervisory Panel to review specific requirements.
SMR	Structural materials for reinstatements: these include proprietary or alternative bound reinstatement materials that have a bituminous, cementitious, chemical, or hydraulic binder or are inherently self-cementing (SROH, A9.1.3)
SROH	Specification for the Reinstatement of Openings in Highways, Fourth Edition (England), May 2020, Department for Transport – New Roads and Street Works Act 1991.

Technical Expert	<p>Person with competent working knowledge of nationally recognised 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 EU Construction Products Regulation 2011 (retained EU law EUR 305/2011) as amended by the Construction Products (Amendment etc.) (EU Exit) Regulations 2019 and the Construction Products (Amendment etc.) (EU Exit) Regulations 2020, Annex IV, Table 2 with the additions given in Table 1/1 of SHW of Clause 104.16 also required BS EN ISO/IEC 17065 and BS EN ISO/IEC 17021-1</p>
UKAS	<p>United Kingdom Accreditation Service – The National Accreditation Body for the UK. Appointed by UK Government (the Department for Business, Energy, and Industrial Strategy) to provide accreditation to organisations that provide services (certification, testing, inspection, and calibration).</p>
UKAS Accredited Laboratory	<p>Testing laboratory with accreditation to ISO/IEC 17025 for carrying out testing on samples to traceable standards, references or verified in house methods.</p>
UKCA (mark)	<p>The UKCA (United Kingdom Conformity Assessed) marking applies to most goods previously subject to the CE marking. The UKCA marking came into effect on 1 January 2021 and is used for goods being placed on the market in Great Britain (England, Scotland, and Wales).</p> <p>The UKCA marking alone cannot be used for goods placed on the Northern Ireland market, which require the CE marking or UKNI marking</p> <p>CE marking is only valid in those parts of the UK where GB and EU rules remain the same.</p>
Visual Assessment	<p>Procedure for assessing visual condition</p>

Assessment Stages

The Assessment and Certification process is undertaken in stages and in accordance 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. All documents are available on the PTS website. <https://www.ptsinternational.co.uk>

Each stage of the assessment process must be successfully completed and, where applicable, a report is issued detailing the assessment stage findings prior to the commencement of the next stage. The applicant can request for stage 3 (witnessed installation) to be carried out as accessibility of an installation site becomes available at any time during stages 1, 2 and 4. The applicant will have the option of withdrawing from the assessment process at any stage should the named product(s) on the Application fail to comply with the requirements.

Conducting Audits / Assessments

In order that an effective assessment may be conducted, auditors and technical experts shall conduct all audits and assessments in a professional manner and all data/documented information shall be handled with utmost confidentiality in accordance with PTS Process “W3 - On Site Audit”.

Terminology Used During the Audit / Assessment

Opportunity for Improvement or Observation

Opportunities for improvement or observations, made during audit or assessment, may be identified, and recorded without a recommendation of specific resolutions to the issues raised, unless a lack of these is prohibited by the requirements of the Scheme. The subject matter relating to the opportunities for improvement or observations may pose no current risk to the functioning of the system but could lead to a non-conformity in the future if not addressed. Opportunities for improvement or observations should be considered for potential improvement and to further investigate any weaknesses for possible inclusion in the corrective action program.

Non-Conformities

Non-conformities represent one or more of the following:

- 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.
- a situation which would, based on available objective evidence, raise significant doubt as to the conformance of products that are to be placed on the market.
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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 non-conformity 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 provide 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 evidence of the corrective action having been undertaken submitted to PTS Ltd. Details are submitted to PTS Ltd using the Corrective Action Report Form.

The audit team leader shall attempt to resolve any difference of opinion between the audit team and the Applicant with respect to audit evidence or findings, any unresolved points shall be raised and recorded in accordance with PTS Ltd procedures and processes for corrective actions, complaints and appeals and Terms of Business. The Complaints, Appeals and Disputes Policy is available for reference on the PTS website. <https://www.ptsinternational.co.uk>

Audit Report

PTS Ltd shall provide a written report following each audit to the Applicant. The audit team may identify opportunities for improvement but not specific solutions to be implemented. Ownership of the audit report shall be retained 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 also be responsible for its content. The audit report shall provide an accurate, concise, and clear record of the audit to best enable an informed decision on 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 against the matters raised in the non-conforming audit report. 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 any additional 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 when appropriate through onsite verification by a member of the audit team.

Application Submission

Applicants will already be certified to a recognised Certification Body's BS EN ISO 9001: 2015 Quality Management System if services for the work carried out are supplied under MCHW SHW clauses which require certification to a relevant National Highway Sector Scheme then both the Applicant and any external installers shall be registered to that NHSS (specific requirements are detailed in Stage 3 and Appendix 1).

In the case of production only – the product shall be designed in accordance with MCHW SHW applicable clause and only installed by the applicants approved installers who shall be registered to the relevant National Highway Sector Scheme requirements.

Applicant's details and acceptance shall be provided by submitting the relevant PTS forms prior to proceeding and providing the following:

- Application Form
- Client Information Form
- 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) / National Highway Sector Scheme (NHSS) requirements

A Contract Review then commences to ensure PTS Ltd can accommodate the Applicant's requirements as detailed in PTS Process W4 Certification. The review process is ongoing throughout the certification progression.

Stage 1 - Documentation Review

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

The Documentation Review includes the most recent recognised third-party BS EN ISO 9001:2015 QMS Audit Report, and FPC Audit report, non-conformities (if any), and the associated close-out, observations, and any identified opportunities for improvement. Copies of Registration Certificate for QMS and FPC to be provided.

"The producer must maintain a Quality System that includes policy and procedures for production control. ARMs must be produced, handled, transported, and used in accordance with the approved mix formulations and procedures proven by prior development and testing. ATs must be used in accordance with the procedures established by prior development and testing"

SROH, Sub clause A9.2.2

Review the installers most recent third-party National Highway Sector Scheme audit report, non-conformities (if any), and the associated close-out, observations, and any identified opportunities for improvement. Review of registration on Lantra Schedule of Suppliers website

Review of relevant Specific Competency Scheme training evidence on installation of the product.

The Applicant shall confirm access to all applicable external documents in line with BS EN ISO 9001:2015 requirements.

In addition to the audit report, PTS Ltd will also require information to satisfy the QMS details as required in line with MCHW SHW the Quality Plan (details below) and Method Statement, as necessary.

If external installers are used, registration to and the most recent third-party applicable National Highways Sector Scheme Audit Report comprising non-conformities (if any), close-out, observations, and any identified opportunities for improvement, is also required. If the documentation is not available, competency must otherwise be defined, and evidence of installation training is required.

The Applicants Quality Plan shall incorporate the requirements of MCHW SHW Clause 104, unless otherwise indicated in contract specific MCHW SHW Appendix 1/24 or as required in the Conditions of Contract.

To ensure the Applicants product(s) are assessed in line with MCHW SHW 104.15 and 104.16 PTS will follow the points as detailed within the relevant sections of Clause 104 and Series 900 to support the assessment process. The Applicants Quality Plan shall incorporate the product(s) and applicable requirements to the works and the individual requirements of the relevant Sector Scheme Documents for Quality Management in Highway Works to thereby 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 within the Applicant's management, who shall also be named in the Quality Plan
- The Applicant shall ensure the Quality Plan and associated quality documentation are made available to all parties involved with the works
- The Quality Plan shall include:
 - Organisation and Management structure, including organisation 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
The control and scheduling of all documentation as required by the Specification and submitted to the Overseeing Organisation 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.
- Relevant training and/or competency assessment certificates and/or registration/skills cards for the workforce as required in the relevant NHSS in accordance with SHW104.10 or scheduling of when they will be provided to the Overseeing Organisation for acceptance prior to the commencement of relevant work.

The competencies of the installer (relevant National Highways Sector Scheme or Specific Competency Scheme).

The installer shall provide the most recent third-party relevant Sector Scheme audit comprising non-conformities (if any), close-out, observations, and any identified opportunities for improvement. Or provide evidence of specific training received in the use and installation with the type of product.

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 – details information for the installation of the product(s), a copy of which shall be submitted to PTS prior to the Stage 3 witnessed on site installation of the product(s).
The Method Statement 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: Method Statement – Please refer to Stage 3 and Appendix 1 for the specific requirements

- Hold Points as per MCHW SHW Clause 104.6

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 at the Applicant's premises by either a lead auditor with technical expertise relevant to the scheme or by a lead auditor who is assisted by a technical expert.

The Stage 2 Audit comprises:

- An audit of the process supporting the technology focussing on BS EN ISO 9001:2015 Section 8.3 process 'Design and Development of Products and Services and how that interacts with leadership, resources, and contract review
- A review of product UKCA / UKNI / CE Marking and DoP
- For non UKCA / CE Marked products, PTS Ltd shall review the Applicant's documented information - processes and procedures for the planning, inputs, controls, outputs and change management of the design and development activities, its process stages, resource needs, associated responsibilities and authorities, reviews, verification, and validation activities.

"The authority must be notified of any alterations to the proven mix formulations, mix proportions, aggregate type, admixtures, procedures, etc. Confirmation of their suitability must be agreed, and further development and testing may be needed." SROH Sub clause A9.2.3

The functional and performance requirements, information derived from previous similar design and development activities including statutory and regulatory requirements, standards, or codes of practice. Outputs of the results achieved, its monitoring and measurement of requirements, reviews / evaluation of the results. Verification that the outputs have met the input requirements; validation activities to ensure that the resulting product/material has met the requirements for the specified application or intended use.

Defined the characteristics of the product/material that are essential for their intended purpose and their safe and proper provision.

Changes shall have been identified, reviewed, and authorised to the extent necessary to ensure that no adverse impact on conformity requirements to ensure a consistent product to confirm conformity with the production Quality Plan for the Factory Production Control.

If the product includes hazardous substances, (i.e., ones 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 as a written report. This report will provide the status of the Applicant activities in line with BS EN ISO 9001:2015 Section 8.3 'Design and Development of Products and Services'.

The time frame for resolving areas of concern that have been identified during the Stage 2 audit shall be agreed and details of the proposed corrective action submitted to PTS Ltd. Evaluation and implementation of any corrective actions shall be reviewed prior to the Stage 3 audit.

Stage 3 - Scheme/ Trial Installation Method Statement Audit

The scheme installation trial for the product will be organised to demonstrate the practicability of installation of the product(s) in accordance with the Applicant's installation procedures.

The Applicant shall contact PTS Ltd and the relevant interested parties to arrange a mutually agreeable date for the product scheme installation trial.

The scheme installation trial will be witnessed and assessed by PTS Ltd to cover the installation procedures as defined in the Applicant's Installation Method Statement.

The Applicant shall confirm to PTS Ltd and the relevant interested parties prior to the agreed date of the scheme installation trial, details of:

- The start date(s) of the planned works
- The scheme installation site address(s) and their road type/category
- A site / location plan for the installation site
- Any GIS/CAD plans for the site
- Relevant Product Health and Safety data
- The Product Installation Method Statement. This comprises all information required under the Quality Plan in Stage 1, this may include substrate condition and suitability assessment, surface preparation, installation, after-care, etc.
- Evidence of the competencies of the installers' operatives (evidence of valid compulsory and optional Street Works Qualifications (O-series certificates, for operatives only; S-series certificates, for supervisors only) awarded by a recognised member of the Street Works Qualification Register (SWQR) or other Specific Competency Scheme.
- The installer shall provide the most recent third-party relevant Sector Scheme audit comprising non-conformities (if any), close-out, observations, and any identified opportunities for improvement. Or provide evidence of specific training received in the use and installation with the type of product.

In the case of production only, the product shall only be installed by the applicants approved installers who shall provide evidence of valid compulsory and optional Street Works Qualifications (O-series certificates, for operatives only; S-series certificates, for supervisors only) awarded by a recognised member of the Street Works Qualification Register (SWQR)

The details recorded shall include all those required in SROH Sub Clauses A9.5.9, A9.5.10 and A9.5.11.

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 approved suppliers / contractors. The IMS shall contain substrate condition and suitability assessment, substrate preparatory works, any defects remedial, installation procedures, air/road surface temperatures and any limitations.

The Applicant must arrange for a UKAS accredited testing laboratory to ISO/IEC 17025 or recognised research bodies to undertake validation, this may include taking samples for laboratory testing from the installation.

Any trial installation found to have less than the minimum thickness requirements for SMR materials (SROH Table A9.1) or not meeting the requirements of the visual condition inspection of the fully reinstated trial (SROH Sub clause S2.2.1) shall be considered as a non-conformity and excluded from any trial programme.

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

The technical aspects of the IMS audit, including photography, site locations and details, installers, etc. will be summarised in the form of 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 of the 'Scheme' / 'Trial'

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 two-year period on sites representative of its intended end use. The installation will be assessed as described above in Stage 3.

OR

- **Where innovation allows (as an alternative to a 2-year trial) and within the scope of the SROH**, evidence of any site detail and/or laboratory simulative testing shall be submitted to the PTSTSP for comment/agreement by means of submission of the Stage 4 Technical Report. The report shall contain details of laboratory testing and site testing data information. The Report as submitted to PTSTSP will ascertain the material's suitability for acceptance as an alternative to the 2-year performance trial. If deemed acceptable, detail of the Report will be referenced in the Assessment Certificate.
- PTSTSP members agreement to the innovative alternative option is by their comments/response to PTS Ltd within the agreed timeframe. The PTSTSP is made up of varied industry representatives with technical expertise and their opinion on acceptance is pivotal. Additional surveillance requirements may be considered. In this case, the testing and additional surveillance program should be agreed by the PTSTSP and carefully developed with engagement from the Applicant.

History of use - retrospective process

- Where an assessment certificate already exists or part approval has been sought from an overseeing organisation for a product and an installation trial has already been carried out, existing data relating to the trial, may be used for assessment purposes under this stage.
- Fully traceable details from previous assessment, existing site details where the product was used shall be submitted for review by PTS Ltd through inspections and technical information will be gathered on the product.

The suitability of the data and evidence from other assessments or trials will be made against the requirements of this PTSPAS Guidelines and Criteria Document. The findings and associated information will be consolidated in a standalone Stage 4 Technical Report prepared by PTS Ltd and submitted to PTSTSP as part of the assessment process. This Technical Report shall be referenced in the Assessment Certificate.

Acceptance of data / consolidation of technical support information

PTS Ltd will accept test data from laboratories with UKAS testing accreditation to ISO/IEC 17025 or a PTS Ltd approved laboratory for the specific tests, provided they are performed on samples that can be traced to the manufacturing location and the site identified in accordance with PTS procedure. If a PTS Ltd approved laboratory is employed, they will be required to submit a copy of their test method procedure to PTS Ltd to ensure that the evaluation activities are managed in a manner which provides confidence in the results, and that records are available to justify the confidence.

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.

Trial installations, when assessed according to the SROH, as falling within the level of distress requiring intervention.

Technical Reports are accepted from recognised PTS Technical Experts / Lead Auditors – with technical expertise in the area under assessment / External Technical Experts / Recognised Research Bodies.

Stage 5 - Review of Details

Reports generated from Stages 1 to 4, any 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.

Evidence will be required that shows compliance with the Guidelines and Criteria Document requirements, and those specified in associated standards / normative documents. A request for certification review can then be submitted to PTSPAS Management Committee.

A draft certificate shall be drawn up based on the information from the Stage 1 - 4 reports.

Stage 6 - Submission to PTS PAS Management Committee

Reports, relevant information, and draft certificate are submitted to the PTS PAS Management Committee, who shall conduct a review of the submitted detail for content and accuracy for all the information provided which relates to the application and evaluation of the named product assessment and certification requirements.

Certification Decision

PTS Ltd shall be responsible for, and shall retain authority for, all decisions relating to the assessment and certification process. The decision to initially issue a certificate in draft form to the PTSTSP shall be made by an independent PTS PAS Management Committee in accordance with PTS Process W4 Certification and 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.

Stage 7 - Draft Certificate Submission to PTSTSP

The draft certificate is raised and submitted to PTSTSP in line with the PTSPAS processes. The role of PTSTSP is to provide governance and technical oversight on the submitted evidence and 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. Interim test data may be submitted for consideration as part of or in place of the required submission. Acceptance of this data will be at the discretion of the PTSTSP.

On completion of their individual evaluations, each PTSTSP panel member will either forward their response / comments to PTS Ltd (for addressing prior to publication of the certificate) or express their consent by default for publication to proceed, if they choose not to respond with any comment(s). This process is as specified in the PTS Technical Supervisory Panel Instructions.

Stage 8 - Consolidation of Amendments / Approval

PTS Ltd shall collate all the information, review the details, and assess whether:

- (i) Additional information or amendments are required or
- (ii) The initial information as submitted is accepted, and Stage 9 commences.

The PTSTSP will review any additional / amended information submitted and confirm the information satisfies the requirements to proceed to Stage 9.

All additional information will be submitted to the PTSTSP for review. The PTSTSP have a further 3 working weeks to conduct this review.

Certification Decision

At this point, final certification documentation shall be prepared as necessary by PTS Ltd.

Approval for the proposed certificate issue shall be granted by the PTSTSP following completion of all necessary requirements and acceptance of notification of the proposed publication date.

On completion of their individual evaluations, each PTSTSP panel member will either forward their response / comments to PTS Ltd (for addressing prior to publication of the certificate) or express their consent by default for publication to proceed, if they choose not to respond with any comment(s) in line with PTS Technical Supervisory Panel Instructions. This will be their Certification Decision

Approval for the proposed certificate issue shall be granted by the PTSTSP following completion of all necessary requirements and acceptance of notification of the proposed publication date.

PTS Ltd shall prepare the final certification documentation, as necessary.

Stage 9 - Assessment Certificate Authorisation

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

Stage 10 - Certification Documentation

The formal Certification documentation issued by PTS Ltd shall convey (as applicable to the product requirements):

- Certification Authority (Name and Address)
- 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*
- Product Family
- Product Name
- Specialist Group (SG) Reference and certificate number
- Date certification is granted and expiry date of certification
- Annual surveillance audit date
- Name and address of the Certificate Holder organisation
- Signature or other defined authorisation of the person(s) of PTS Ltd assigned such responsibility
- Product Applications
- Key Factors Assessed
- Technical Specification
- Manufacture
- Delivery to Site and Handling
- Installation Method
- Maintenance and Repair
- Technical Data
- Requirements
- Design and Development – Planning / Inputs / Verification / Validation / Changes

- Test Data
- Bibliography
- Conditions of Certification
- Any other information required by the certification scheme

*The PTSPAS scope will be described on the published certificates as 'PTS Product Assessment and Certification as part of Product Acceptance Scheme MCHW SHW Volume 1 Clause 104.15 and 104.16'.

PTS Ltd reserves the right to amend or supplement the Certificate headings as required for the Assessment and Certification of a product at any time if deemed as required after consultation with PTSTSP.

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 Certificate holder.

The Certificate issued will be subject to the PTS Terms of Business, which can be found on the PTS Ltd website: <https://www.ptsinternational.co.uk>

Stage 11 - Publication of Certification Documentation

Assessment Certificates are published on the PTS website: <https://www.ptsinternational.co.uk>.

Stage 12 - Annual Surveillance Requirements / Agreement and Implementation of Validation

PTS Ltd shall carry out assessments in line with internal procedures and processes at the Certificate Holders premises and production location(s) (where appropriate) with onsite visits of installed material. Assessments may be carried out remotely in times where access to Certificate Holders premises are not permitted.

PTS Ltd shall conduct annual surveillance audits in accordance with the PTS Assessment and Certification System, the SROH, Codes of Practice, Guidelines and Criteria documents, associated specifications, standards and normative documents, PTS Ltd policies, procedures, and processes.

PTS shall ensure that the procedures and controls defined at the outset continue to apply to ensure ongoing validity of product requirements as in accordance with the Guidelines and Criteria Document, relevant standards, and normative documents. Surveillance audits cover the PTSPAS requirements as above with a 3-year re-certification.

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

The Annual Assessments will follow the requirements as detailed in PTS Process W3 On Site Audit and the Visit Plan.

During the validity of any Certificate, the Certificate Holder is responsible for the quality assurance in maintaining their ISO9001:2015 registration, with control of the production at the manufacturing location(s) as declared to PTS for the named product and where necessary, taking account of the product having its performance declared under a UKCA / CE mark. PTS shall review the most recent third-party QMS and FPC. Audit Reports, non-conformities (if any), and the associated close-out, observations, and any identified opportunities for improvement

PTS Ltd shall also review the installers third-party National Highway Sector Scheme audit reports, non-conformities (if any), and the associated close-out, observations, and any identified opportunities for improvement to ensure ongoing validation of the demonstration of fulfilment of product and installation requirements. If not available, relevant Specific Competency Scheme training evidence on installation of the product is required.

In addition to the above, the following will form part of the surveillance requirements:

- Organisation / production responsibility and authority / management of change

- Customer Feedback / complaints
- Quality Plan - production operations, processes, and controls
- Product quality and performance
- Component changes
- Specification changes
- Installation Method Statement - changes
- Corrective action-based changes
- Use of PTS Certification Mark / Logo

Inspection(s) of the surface course laid on top of the installed product is undertaken in accordance with Appendix 1 and surveillance requirements (Year 1, Year 2 etc.)

Characteristic	SROH Sub clause
Surface profile – edge depression	S2.2.2
Surface profile - surface depression	S2.2.3
Surface profile - surface crowning	S2.2.5
Surface profile - combined defect	S2.2.7
Surface regularity	S2.4.1
Structural integrity - cumulative settlement	S2.5.1

Non-conforming manufactured product and/or installed product identified during surveillance audit(s), or as a result of third-party notification, or identified as a result of the Certificate holder's own quality system, shall be discussed with the Certificate Holder to ensure that the evidence arising is accurate and that the nature of the non-conformities are fully understood and acted upon within agreed timescales and evidence of the corrective action taken shall be submitted to PTS Ltd using the Corrective Action Report Form.

The Certificate may be suspended for the period during which the Certificate Holder analyses and advises on the cause of the non-conformity and provides the appropriate corrective action to be taken to eliminate the non-conformity. Any subsequent suspension or withdrawal of a Certificate will be displayed on the PTS website.

The assessment report as compiled by the lead auditor/ technical expert, shall describe the scope of the assessment. The body of the report will include areas of positive aspects, observations, and comments. Non-conformities and areas for correction are identified. The report also incorporates the three-year programme plan and the auditor's recommendation. Assessment reports are reviewed by the PTS PAS Management Committee for their technical content and accuracy in line with the Certificate.

The certificate holder must inform PTS Ltd without delay of matters that affect the performance of the assessed product and/or associated management system;

- Proposed changes to the specification of the product or components,
- Changes to performance levels, scope of operations under the certified system,
- Changes to the management / production / assessment system and processes,
- Changes relating to legal, commercial organisation status or ownership, organisation, and management (key managerial, decision making or technical staff), contact address and sites,

Any certificate change requirement is considered on an individual basis, with respect to the impact of any such changes on the certification of the product.

The certificate holder agrees that changes will not be implemented until PTS Ltd have reviewed the proposed change and have determined if investigation/additional assessment is required. The certificate holder will be responsible for any costs so arising.

PTS Ltd will inform the certificate holder of any relevant changes to this Guidelines and Criteria Document, the revised documentation will be published on the PTS Ltd website. <https://www.ptsinternational.co.uk>

Subsequent 3-year re-certification audit

The 3-year re-certification audits incorporate the Annual Surveillance PTSPAS requirements along with specific visual inspections, related data collection and any additional surveillance requirements as required in accordance with Appendix 1.

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

Data storage / accessibility will be retained in line with Legislation, regulatory, standard, and PTS Ltd policy, and procedure requirements.

Suspension / Withdrawal of Certificate

PTS Ltd shall suspend or withdraw the certificate if:

- the Certificate Holders management system / process / product(s) has persistently or seriously failed to meet the PTSPAS requirements as detailed in PTS Ltd Processes and PTS Ltd Terms of Business.
- The Certificate Holder does not allow surveillance or recertification assessments to be conducted at the required frequencies
- The Certificate Holder has voluntarily requested a suspension.

The Certificate Holder shall be notified in writing of such a decision in writing by a member of the PTS Ltd Certification Management team. The letter shall state whether it is intended for suspension or withdrawal, the reason(s) and any additional actions required. PTS Ltd shall allow 30 days for the Certificate Holder to respond before suspension is implemented. The Certificate Holder provide appropriate corrective action that is acceptable to PTS Ltd, 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 Certificate Holder fails to act 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-month period, whichever comes first.

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

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

PTS Ltd shall make the suspension or withdrawal status of the Certificate Holder publicly accessible and in addition where other parties are involved such as regulatory bodies, those shall also be notified by PTS Ltd of the changes in the certification scope and shall take any other measures it deems appropriate during Certificate Holder 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 Ltd Certificate Holder 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 Ltd shall take necessary actions and modifications to formal certificate documents, public information, authorisations for use of marks etc, to ensure the suspension / withdrawal is clearly communicated and details clearly specified in its documentation and public information.

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

Bibliography

- BS EN ISO/IEC 17021-1:2015 Conformity Assessment. Requirements for Bodies Providing Audit Certification of Management Systems. Requirements
- BS EN ISO 17025:2005 / 2017 General requirements for the competence of testing and calibration laboratories
- 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/IEC 9001:2015 Quality Management System Requirements
- Manual of Contract Documents for Highways Works (MCHW), Volume 1 Specification for Highway Works, Series 100 Preliminaries, May 2014
- Manual of Contract Documents for Highways Works (MCHW), Volume 2 Notes for Guidance on the Specification for Highway Works, Series 100 Preliminaries, May 2014
- PTS Technical Supervisory Panel Instructions
- Department for Transport – New Roads and Street Works Act 1991
- Specification for the Reinstatement of Openings in Highways (SROH), Fourth Edition (England), May 2020,
- Department for Transport – New Roads and Street Works Act 1991
- Specification for the Reinstatement of Openings in Roads (SROH), Second Edition (Northern Ireland), August 2006,
- Department for Transport - New Roads and Street Works Act 1991
- Specification for the Reinstatement of Openings in Highways (SROH), Second Edition (Wales), November 2006,
- Specification for the Reinstatement of Openings in Roads (SROR), Fourth Edition (Scotland), May 2019,
- BS EN 1367-4:2008 Tests for thermal and weathering properties of aggregates. Determination of drying shrinkage
- BS EN 12350-7:2019 Testing fresh concrete. Air content. Pressure methods
- BS EN 12390-1:2012 Testing hardened concrete. Shape, dimensions, and other requirements for specimens and moulds
- BS EN 12390-2:2019 Testing hardened concrete. Making and curing specimens for strength tests
- BS EN 12390-3:2019 Testing hardened concrete. Compressive strength of test specimens
- BS EN 12390-7:2019 Testing hardened concrete. Density of hardened concrete
- BS EN 14227-1:2013 Hydraulically bound mixtures. Specifications. Cement bound granular mixtures
- BS 812-124:2009 Testing aggregates. Method for determination of frost heave
- BS 1924-2:2018 Hydraulically bound and stabilised materials for civil engineering purposes. Sample preparation and testing of materials during and after treatment

Manual of Contract Documents for Highways Works (MCHW), Volume 1 Specification for Highway Works, Series 800
Road Pavements- Unbound, Cement and Other Hydraulically Bound Mixtures, February 2016

V4 PTS Procedure, Audit Plan

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

W3 PTS Process, On Site Audit

Appendix 1 – Guidelines and Criteria Requirements: FSMR SROH

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

PTSSG FSMR SROH: FLOWABLE STRUCTURAL MATERIALS FOR REINSTATEMENT (SROH)

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

Relevant Documents	
Specification	Department for Transport - New Roads and Street Works Act 1991 Specification for the Reinstatement of Openings in Highways, Fourth Edition (England), May 2020, Referred to as “SROH” or “The Specification”

Application Submission	
	<ul style="list-style-type: none"> Application Form, Client Information Form Purchase Order Product Assessment Documentation as detailed in Stage1 Documentation Review (see below) <p>Certificate for existing Quality Management System (QMS) to BS EN ISO 9001: 2015 / Factory Production Control (FPC)</p>

Stage 1: Documentation Review - BS EN ISO 9001: 2015 / FPC	
A9.2.2	To comply with the requirements of the SROH, <u>the Producer</u> must maintain a Quality System that includes a policy and procedures for production control. FSMRs must be produced, handled, transported, and used in accordance with the approved mix formulations and procedures proven by prior development and testing.
A9.2.3	To comply with the requirements of the SROH, <u>the Authority</u> must be notified of any alterations to the proven mix formulations, mix proportions, aggregate type, admixtures, procedures, etc. Confirmation of their suitability must be agreed, and further development and testing may be needed.

Quality Management System (QMS)

A review shall be undertaken of Applicants most recent third-party BS EN ISO 9001:2015 QMS Audit Report, non-conformities (if any), and the associated close-out, observations, and any identified opportunities for improvement. demonstration of leadership engagement, competencies, and continuous improvement.

BS EN ISO 9001:2015 QMS Certificate

The Applicant shall ensure the Quality Plan includes hold points where no further work shall proceed without written approval of a designated person within the Applicant’s management, who shall also be named in the Quality Plan

The Applicant shall ensure the Quality Plan and associated quality documentation are made available to all parties involved with the works

The Quality Plan shall include:

- Organisation and Management structure, including organisation 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

The control and scheduling of all documentation as required by the Specification and submitted to the Overseeing Organisation 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. Relevant training and/or competency assessment certificates and/or registration/skills cards for the workforce with evidence of valid compulsory Street Works Qualifications awarded by a recognised member

Stage 1: Documentation Review - BS EN ISO 9001: 2015 / FPC

	<p>of the Street Works Qualification Register (SWQR) in accordance with SHW104.10, or scheduling of when they will be provided to the Overseeing Organisation as a prerequisite for the commencement of work.</p> <p>In the case of production only – the product shall be designed to be installed by a competent installer experienced with that type of product.</p> <ul style="list-style-type: none">• Method Statements – details information for the installation of the product(s), a copy of which shall be submitted PTS prior to the Stage 3 witnessed on site installation of the product(s). <p>The Method Statement shall contain:</p> <ul style="list-style-type: none">• 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 <p>Note: Method Statement – Please refer to Stage 3 and Appendix 1 for the specific requirements</p> <ul style="list-style-type: none">• Hold Points as per MCHW SHW Clause 104.6
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Stage 2: BS EN ISO 9001: 2015 SECTION 8.3 – Design and Development

Planning evidence	<p>Review of evidence supporting the technology focussing on BS EN ISO 9001:2015 Section 8.3 process 'Design and Development of Products and Services' and how that interacts with leadership, resources, and contract review to ensure that the design and development was a planned process.</p> <p>This means an objective development of a project plan, identification of resources required and a close out report detailing stages including verification, validation and change management</p> <ul style="list-style-type: none">• A review of product UKCA / UKNI / CE Marking and DoP (if applicable)• For non UKCA / UKNI / CE Marked products, PTS Ltd shall review the Applicant's documented information - processes and procedures for the planning, inputs, controls, outputs and change management of the design and development activities, its process stages, resource needs, associated responsibilities and authorities, reviews, verification, and validation activities.
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The functional and performance requirements, information derived from previous similar design and development activities including statutory and regulatory requirements, standards, or codes of practice. Outputs of the results achieved, its monitoring and measurement of requirements, reviews / evaluation of the results. Verification that the outputs have met the input requirements; validation activities to ensure that the resulting product/material has met the requirements for the specified application or intended use.

Defined the characteristics of the product/material that are essential for their intended purpose and their safe and proper provision.

Changes shall have been identified, reviewed, and authorised to the extent necessary to ensure that no adverse impact on conformity requirements to ensure a consistent product to confirm conformity with the production Quality Plan for the Factory Production Control.

If the product includes hazardous substances, (i.e., ones 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 material shall have been shown to be able to achieve the minimum strength requirements for the intended location within the highway structure (see Table A9.1)

Performance criteria shall be tested in accordance with the latest versions of the standards/normative references

Specimen shape and dimensions according to BS EN 12390-1, and in accordance with A9.3.5

- Compressive Strength BS EN 12390-2&3 at 28 days
- Frost Heave to BS 812-124

Additional Laboratory Evaluation in support of the design process

- Air Content BS EN 12350-7 (@ 20oC)
- Compressive Strengths BS EN 12390-2&3 (@ 20oC) – 1 hr, 2hrs, 3hrs, 6hrs, 12hrs, 24hrs, 7 days
- Hardened Densities BS EN 12390-7 (@ 20oC) – 1 hr, 2hrs, 3hrs, 6hrs, 12hrs, 24hrs, 7 day and 28 day
- Compressive Strengths BS EN 12390-2&3

Stage 2: BS EN ISO 9001: 2015 SECTION 8.3 – Design and Development

	<p>(@ 5oC) – 3hrs, 6hrs, 12hrs, 24hrs, 7 days</p> <ul style="list-style-type: none"> Hardened Densities BS EN 12390-7 (@ 5oC) – 3hrs, 6hrs, 12hrs, 24hrs, 7 day and 28 day Drying Shrinkage BS EN 1367-4 (@ 20oC) – at 28 days <p>The class of compressive strength (R_c) shall be identified using the procedure given in BS EN 14227-1:2013 (Table 5) in combination with the selected method of specimen manufacture (slenderness ratio).</p>																																																						
<p>Table A9.1</p>	<p>Extract from Table A9.1 Provides the minimum strength class (R_c) requirements for SMR materials</p> <table border="1" data-bbox="379 663 1430 1308"> <thead> <tr> <th rowspan="2">Layer</th> <th colspan="5">Road type</th> <th rowspan="2">Footway, footpath or cycle track</th> </tr> <tr> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Combined binder course & sub- base</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>C_{1.5/2}</td> </tr> <tr> <td>Base</td> <td>NP</td> <td>NP</td> <td>NP</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>-</td> </tr> <tr> <td>Base & sub-base</td> <td>NP</td> <td>C_{3/4}</td> <td>C_{3/4}</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>-</td> </tr> <tr> <td>Sub-base &/or below</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> <td>C_{1.5/2}</td> </tr> <tr> <td>Strength class at 28 days</td> <td colspan="5">C_{3/4} minimum to C_{9/12} maximum C_{1.5/2} minimum to C_{9/12} maximum</td> <td></td> </tr> <tr> <td colspan="7">NP = Not Permitted (see SROH, A9.3.1)</td> </tr> </tbody> </table>	Layer	Road type					Footway, footpath or cycle track	0	1	2	3	4	Combined binder course & sub- base	NP	NP	NP	NP	NP	C _{1.5/2}	Base	NP	NP	NP	C _{1.5/2}	C _{1.5/2}	-	Base & sub-base	NP	C _{3/4}	C _{3/4}	C _{1.5/2}	C _{1.5/2}	-	Sub-base &/or below	C _{1.5/2}	C _{1.5/2}	C _{1.5/2}	C _{1.5/2}	C _{1.5/2}	C _{1.5/2}	Strength class at 28 days	C _{3/4} minimum to C _{9/12} maximum C _{1.5/2} minimum to C _{9/12} maximum						NP = Not Permitted (see SROH, A9.3.1)						
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Base & sub-base	NP	C _{3/4}	C _{3/4}	C _{1.5/2}	C _{1.5/2}	-																																																	
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<p>Sub-clause S5.3.1</p> <p>MCHW Sub-clause 801.8</p>	<p>Frost susceptible material is deemed to be material with a mean heave greater than 15 mm when tested in accordance with BS 812-124 (as amended by MCHW Clause 801.8).</p>																																																						

Summary of the Stage 3 and Stage 4 audit processes

<p>Verification</p>	<p>SIPT (details below)</p> <p>Simulative testing methodology may be considered</p>
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Summary of the Stage 3 and Stage 4 audit processes

Validation	Covered in SIPT (details below) Surface Defect / Irregularity
Change management	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

Stage 3: Scheme / Trial Installation Method Audit

Sub clause A9.3.1	Permitted uses of SMRs: SMRs may only be used as follows, and in any combination, regardless of the nature of the reinstatement materials in the layers above or below: 1) At any position within the surround to apparatus or backfill, as the entire layer or combined with any other permitted backfill materials, in any proportion, within any reinstatement; 2) As a sub-base within any reinstatement; 3) As a combined sub-base and base within any reinstatement in road Types 1, 2, 3 & 4 and as base within any reinstatement in road Types 3 & 4; 4) As a combined sub-base and binder course, within any reinstatement in footways, footpaths and cycle tracks.
Sub clause A9.3.2	SMRs must comply with the minimum layer thickness and compressive strength (Rc Class) requirements shown in Table A9.1.
Sub clause A9.3.3	Where the total thickness of SMR exceeds 1000 mm, the minimum strength class requirement of C3/4 must apply to the top 1000 mm with a minimum of C1.5/2 below this depth.

Table A9.1

Extract from Table A9.1 provides the minimum layer thicknesses for SMR trial materials

Layer	Road type					Footway, footpath or cycle track
	0	1	2	3	4	
Combined binder course & sub- base	NP	NP	NP	NP	NP	150 mm
Base	NP	NP	NP	300 mm	200 mm	---
Base & sub-base	NP	450 mm	450 mm	450 mm	350 mm	---
Sub-base &/or below	150 mm	150 mm	150 mm	150 mm	150 mm	100 mm
NP = Not Permitted (see SROH, A9.3.1)						

Sub Clause A9.2.7

Protection of adjacent ducts / drains: FSMRs can flow into any damaged drains or ducts nearby. Where required, plastic sheeting may be needed to provide protection during pouring.

Sub Clause A9.5.9

The following general Information is to be recorded in the record of the trial

- Parties to trial – names of undertaker and authority agreeing to approval trial
- Confidentiality – parties (if any) to whom trial information may be divulged
- Geographical extent of trial – county or district border, utility region or area boundary
- Scope of trial – total number of trial reinstatements or maximum number of sites
- Time limit for trial – start/end dates
- Termination criteria – conditions under which agreement may be ended and notice of termination
- Signatories/witnesses – approved officers of appropriate seniority who are permitted to commit their organisation to the execution of the approval trial and who can approve the terms and conditions of the trial
- Record of sites where the ARM or AT has been used and dates of installation

Stage 3: Scheme / Trial Installation Method Audit

<p>Sub Clause A9.5.10</p>	<p>The following procedural information to be included in the record of the trial</p> <ul style="list-style-type: none"> • Contemporary records – details of records required, responsibility for record-keeping • Notification details – notice periods, arrangements for contacting relevant parties to an approval trial • Attendance at trials – parties who may attend an approval trial • Review periods/meetings – dates, participants, procedures for calling ad hoc meetings • Post-construction assessment – test methods to be employed and arrangements for periodic surveying, sampling, etc
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Stage 3: Scheme / Trial Installation Method Audit

<p>Sub Clause A9.5.11</p>	<p>The following general information to be included in the record of the trial</p> <ul style="list-style-type: none"> • Type of trial site – routine utility excavations or specially excavated approval trial • Location of trial site – non-high-amenity or non-high-duty footway, cycle track, (including road classification/ road category Type 2 to 4) etc • Positioning of trial site – “as excavated”, within wheel track, etc • ARMs or ATs to be trialled – generic SMR or SMF materials • ARM or AT details – Mix design, binder details, additives, dependencies on site conditions or excavated/base material type and condition, details of prior development work • ARM or AT preparation – batching, mixing and placement procedures. • Quality control on site – any tests to be applied to ensure that an ARM has been prepared to the required design • Compaction regime – NFSMRs and SMRs only • Sampling requirements – types of samples and sampling frequency • Testing laboratories – contact details of accredited laboratories or otherwise • Remedial measures for “failed” sites – replacement with an alternative SMR or SMF material or other approved material or remove from the approval trial agreement • Future of trial sites – remove after trial completion or leave in place, future monitoring or testing • Any specific assessment management or maintenance requirements. • Confirmation of compliance with all SROH performance requirements; linked to inspection and defects
<p>Sub clause S2.2.1</p>	<p>A visual condition inspection of the fully reinstated trial site is to be made at the time of completion.</p>

Initial Inspection at time of Site Completion

Characteristic	SROH Sub clause	Time(s) at which the performance characteristic shall be determined or measured
The reinstatement surface must be flush with the surrounding surfaces. No depression or crowning present.	S2.2.1	At completion of the reinstatement
The construction tolerance at the edges of the reinstatement shall be ± 6 mm.	S2.2.1	At completion of the reinstatement

Note: Any new reinstatements found to be outside of the above tolerances when initially inspected shall be considered as a non-conformity and excluded from any trial programme.

Sub Clauses
S2.2.2, S2.2.3,
S2.2.5, S2.2.7

A visual condition inspection of the fully reinstated trial site is then to be undertaken at predetermined intervals following installation.

The measurements undertaken shall correspond with those routinely used to quantify the degree of defectiveness in reinstatements as described in the SROH.

Any defect considered to require intervention, according to the requirements of the SROH, shall be investigated to establish whether the defect is attributable to failure of the overlying material, or the performance of the trial product (or its installation), and no further surveillance of the site shall be undertaken.

Interim Surveillance (Predetermined Intervals after Site Completion)

Characteristic	SROH Sub clause	SROH Intervention Limit	Time(s) at which the performance characteristic shall be determined or measured
Surface profile – Edge depression	S2.2.2	Figure S2.2	3 & 6 months after installation
Surface profile - Surface depression	S2.2.3	Figure S2.3 Table S2.1	3 & 6 months after installation

Stage 3: Scheme / Trial Installation Method Audit

Interim Surveillance (Predetermined Intervals after Site Completion)			
Characteristic	SROH Sub clause	SROH Intervention Limit	Time(s) at which the performance characteristic shall be determined or measured
Surface profile - Combined defect	S2.2.7	Table 2.1 & Table S2.2	3 & 6 months after installation
Surface regularity	S2.4.1	Table S2.3	3 & 6 months after installation
Structural integrity - Cumulative settlement	S2.5.1	Table S2.4	3 & 6 months after installation

Note: Surface deformation resulting from vehicles over-running reinstatements within paved footways, including footpaths and cycle tracks, must be excluded from all measurements carried out for the purposes of monitoring the reinstatement surface performance unless such reinstatements have been carried out under the provisions of SROH Sub clause S8.7.

Sub Clause
S2.1.6

Stage 4: Review of Technical Data Relating to Design Inputs Verification and Consolidation of Case Studies of the Scheme / Trial

A9.5, NGA9	<p>Product Performance Scheme/Trial Visual Condition Inspection of selected case studies:</p> <p>Review of Technical Data Relating to Design Inputs Verification and Consolidate Case Studies of the ‘Scheme’ / ‘Trial’</p> <p>Alternative to 2 year trial</p> <p>Where innovation allows-within the scope of Appendix A9.5 and NGA9, as an alternative to a 2-year trial, evidence of any site detail and/or laboratory simulative testing shall be submitted to the PTSTSP for comment/agreement by means of submission of the Stage 4 Technical Report.</p> <p>The report shall contain details of laboratory testing and site testing data information. The Report as submitted to PTSTSP will ascertain the material’s suitability for acceptance as an alternative to the 2-year performance trial. If</p>
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Stage 4: Review of Technical Data Relating to Design Inputs Verification and Consolidation of Case Studies of the Scheme / Trial

deemed acceptable, detail of the Report will be referenced in the Assessment Certificate.

PTSTSP members agreement to the innovative alternative option is by their comments/response to PTS Ltd within the agreed timeframe. Additional surveillance requirements may be considered. In this case, the testing and additional surveillance program should be agreed by the PTSTSP and carefully developed with engagement from the Applicant.

Suitability of Data

The suitability of the data and evidence from other assessments or trials will be made against the requirements of this PTSPAS Guidelines and Criteria Document. The findings and associated information will be consolidated in a standalone Stage 4 Technical Report prepared by PTS Ltd and submitted to PTSTSP as part of the assessment process. This Technical Report shall be referenced in the Assessment Certificate.

Acceptance of data / consolidation of technical support information

PTS Ltd will accept test data from laboratories with UKAS testing accreditation to ISO/IEC 17025 or a PTS Ltd approved laboratory for the specific tests, provided they are performed on samples that can be traced to the manufacturing location and the site identified.

If a PTS Ltd approved laboratory is employed, they will be required to submit a copy of their test method procedure to PTS Ltd to ensure that the evaluation activities are managed in a manner which provides confidence in the results, and that records are available to justify the confidence.

Technical Reports are accepted from recognised PTS Technical Experts / Lead Auditors – with technical expertise in the area under assessment / External Technical Experts / Recognised Re-search bodies.

Stage 5: Review of Details

PTSPAS Assessment personnel (auditors) shall review the Reports as generated from Stages 1-4 to ensure all applicable requirements are complete and compliant with the Guidelines and Criteria Document requirements, and those specified in associated standards / normative documents.

A draft certificate shall be drawn up based on the relevant information from the Reports.

The format of the draft certificate shall be as per Stage 10 – Certification Documentation

A request for certification review is submitted to PTSPAS Management Committee.

Stage 6: Submission to PTS PTSPAS Management Committee

Reports, relevant information, and draft certificate are submitted to the PTSPAS Management Committee, who shall conduct a review of the submitted detail for content and accuracy for all the information provided for evaluation of the named product assessment and certification requirements.

The PTSPAS Management Committee shall in accordance with this Guidelines and Criteria Document, PTS internal processes: Process W4 Certification and 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 review all the information and make the decision on acceptance and give authorisation to initially issue a certificate in draft form to the PTSTSP.

7 days' notice is given to the PTSTSP to advise of intention to submit information.

Stage 7: Draft Certificate Submission to PTSTSP

The draft certificate and associated Technical Reports are submitted to PTSTSP in line with the 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 PTSTSP have 3 working weeks to conduct the review. On completion of their individual evaluations, each PTSTSP panel member will either forwards their response / comments to PTS Ltd (for addressing prior to publication of the certificate) or express their consent by default for publication to proceed, if they choose not to respond with any comment(s). This process is as specified in the PTS Technical Supervisory Panel Instructions.

Stage 8: Consolidation of Amendments / Approval

PTS Ltd shall collate all the information, review the details, and assess whether:

- (i) Additional information or amendments are required or
- (ii) The initial information as submitted is accepted, and Stage 9 commences.

The PTSTSP will review any additional / amended information submitted and confirm the information satisfies the requirements to proceed to Stage 9.

Certification Decision

Final certification documentation shall be prepared as necessary by PTS Ltd.

Approval for the proposed certificate issue shall be granted by the PTSTSP following completion of all necessary requirements and acceptance of notification of the proposed publication date.

On completion of their individual evaluations, each PTSTSP panel member will either forward their response / comments to PTS Ltd (for addressing prior to publication of the certificate) or express their consent by default for publication to proceed, if they choose not to respond with any comment(s) in line with PTS Technical Supervisory Panel Instructions. This will be their Certification Decision

Approval for the proposed certificate issue shall be granted by the PTSTSP following completion of all necessary requirements and acceptance of notification of the proposed publication date.

PTS Ltd shall prepare the final certification documentation, as necessary.

Stage 9: Assessment Certification Authorisation

Final review prior to issuing and publication of the certificate to ensure all areas are completed. The Certificate shall be endorsed by PTS Management Committee and subsequently consented by the PTSTSP.

Stage 10: Certification Documentation

The formal Certification documentation issued by PTS Ltd shall convey (as applicable to the product requirements):

- Certification Authority (Name and Address)
- 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*
- Product Family
- Product Name
- Specialist Group (SG) Reference and certificate number
- Date certification is granted and expiry date of certification
- Annual surveillance audit date
- Name and address of the Certificate Holder organisation
- Signature or other defined authorisation of the person(s) of PTS Ltd assigned such responsibility
- Product Applications
- Key Factors Assessed
- Technical Specification
- Manufacture
- Delivery to Site and Handling
- Installation Method
- Maintenance and Repair
- Technical Data
- Requirements
- Design and Development – Planning / Inputs / Verification / Validation / Changes
- Test Data
- Bibliography
- Conditions of Certification
- Any other information required by the certification scheme

*The PTSPAS scope will be described on the published certificates as 'PTS Product Assessment and Certification as part of Product Acceptance Scheme MCHW SHW Volume 1 Clause 104.15 and 104.16'.

PTS Ltd reserves the right to amend or supplement the Certificate headings as required for the Assessment and Certification of a product at any time if deemed as required after consultation with PTSTSP.

The Certificate issued will be subject to the PTS Terms of Business, which can be found on the PTS Ltd website: <https://www.ptsinternational.co.uk>.

Stage 11: Publication of Certification Documentation

Assessment and Certification Certificates for “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 and Specification for the Reinstatement of Openings in the Highway (England, 2020) are issued to the Certificate Holder and published on the PTS Ltd website:
<https://www.ptsinternational.co.uk>.

Stage 12: Annual Surveillance Requirements

Annual Surveillance Requirements / Agreement and Implementation of Validation

PTS Ltd shall carry out assessments in line with internal procedures and processes at:

- The Certificate Holders premises and/or
- Production location(s) (where appropriate) and
- Onsite visit(s) of installed product – Site as witnessed at stage 3, and/or Case study installed site(s),

to ensure ongoing validity of product requirements as in accordance with this Guidelines and Criteria Document, the SROH, Codes of Practice, associated specifications, standards and normative documents, PTS Ltd policies, procedures, and processes. Surveillance audits cover the PTSPAS requirements as above with a 3-year re-certification.

If at any surveillance stage the Guidelines and Criteria requirements are not met, non-conformities may be raised, resulting in possible suspension of the certificate or its withdrawal.

The measurements undertaken to establish the defect and its severity shall correspond with those routinely used to quantify the degree of defectiveness in reinstatements as described in the SROH.

Any defect considered to require intervention, according to the requirements of the SROH, shall be investigated to establish whether the defect is attributable to failure of the overlying material, or the performance of the trial product (or its installation), and no further surveillance of the site shall be undertaken

Surface deformation resulting from vehicles over-running reinstatements within paved footways, including footpaths and cycle tracks, must be excluded from all measurements carried out for the purposes of monitoring the reinstatement surface performance unless such reinstatements have been carried out under the provisions of SROH Sub clause S8.7.

Stage 12: Annual Surveillance Requirements

Surveillance 1 (12 Months after Certificate issue, 36 months after scheme / trial installation)

Characteristic	Performance criteria	Time(s) at which the performance characteristic shall be determined or measured
Management System/ Production Control	PTS SG Guidelines and Criteria	12 <u>Months after Certification</u>

Characteristic	SROH Sub clause	SROH Intervention Limit	Time(s) at which the performance characteristic shall be determined or measured
Surface profile – Edge depression	S2.2.2	Figure S2.2	12 <u>Months after Certification</u>
Surface profile - Surface depression	S2.2.3	Figure S2.3 Table S2.1	12 <u>Months after Certification</u>
Surface profile - Surface crowning	S2.2.5	Figure S2.4 Table S2.2	12 <u>Months after Certification</u>
Surface profile - Combined defect	S2.2.7	Table 2.1 & Table S2.2	12 <u>Months after Certification</u>
Surface regularity	S2.4.1	Table S2.3	12 <u>Months after Certification</u>
Structural Integrity - Cumulative settlement	S2.5.1	Table S2.4	12 <u>Months after Certification</u>

Stage 12: Annual Surveillance Requirements

Surveillance 2 (24 Months after Certificate issue, 48 months after scheme / trial installation)

Characteristic	Performance criteria	Time(s) at which the performance characteristic shall be determined or measured
Management System/ Production Control	PTS SG Guidelines and Criteria	24 <u>Months after Certification</u>

Characteristic	SROH Sub clause	SROH Intervention Limit	Time(s) at which the performance characteristic shall be determined or measured
Surface profile – Edge depression	S2.2.2	Figure S2.2	24 <u>Months after Certification</u>
Surface profile - Surface depression	S2.2.3	Figure S2.3 Table S2.1	24 <u>Months after Certification</u>
Surface profile - Surface crowning	S2.2.5	Figure S2.4 Table S2.2	24 <u>Months after Certification</u>
Surface profile - Combined defect	S2.2.7	Table 2.1 & Table S2.2	24 <u>Months after Certification</u>
Surface regularity	S2.4.1	Table S2.3	24 <u>Months after Certification</u>
Structural Integrity - Cumulative settlement	S2.5.1	Table S2.4	24 <u>Months after Certification</u>

Recertification (36 Months after Certificate issue, 60 months after scheme / trial installation)

The 3-year re-certification audit incorporates the Annual Surveillance PTSPAS requirements along with specific visual inspections, related data collection and any additional surveillance requirements as required.

Characteristic	Performance criteria	Time(s) at which the performance characteristic shall be determined or measured
Management System/ Production Control	PTS SG Guidelines and Criteria	36 months after certification

Characteristic	SROH Sub clause	SROH Intervention Limit	Time(s) at which the performance characteristic shall be determined or measured
Surface profile – Edge depression	S2.2.2	Figure S2.2	36 months after certification
Surface profile - Surface depression	S2.2.3	Figure S2.3 Table S2.1	36 months after certification
Surface profile - Surface crowning	S2.2.5	Figure S2.4 Table S2.2	36 months after certification
Surface profile - Combined defect	S2.2.7	Table 2.1 & Table S2.2	36 months after certification
Surface regularity	S2.4.1	Table S2.3	36 months after certification
Structural Integrity - Cumulative settlement	S2.5.1	Table S2.4	36 months after certification