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Sector Schemes For Quality Management In Highway Works

Scheme No 7

Sector Scheme Document

For

The Application Of Road Marking Materials

And Road Studs To Road Surfaces

Controlled Document

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COMPOSITION OF THE SECTOR SCHEME ADVISORY COMMITTEE, EXCLUSION OF LIABILITY AND SELECTION OF CERTIFICATION BODY

COMPOSITION OF THE SECTOR SCHEME ADVISORY COMMITTEE

BM TRADA Ltd

BSI

CSS

DfT - Central Transport Group (CTG)

DfT - Highways Agency (HA)

Lloyd's Register Quality Assurance Limited

Local Government National Training Organisation (LGNTO)

NQA Limited

Premier Assessments Limited

Road Safety Markings Association (RSMA)

SGS Yarsley ICS Limited

Society of Chief Officers of Transportation in Scotland (SCOTS)

EXCLUSION OF LIABILITY

The Advisory Committee:

- I have and accept no liability whatsoever for any failure of any system or systems assessed under this Sector Scheme Document or for the quality, fitness for purpose, or safety of any product or service, which is the subject of such assessment;**
- II do not provide any representation or warranty as to any aspect of any such system, product or service, and**
- III hereby expressly exclude all and any liability or responsibility (however alleged to arise) for or in connection with the provision of any service or product or any use of any product, all and any such liability or responsibility attaching exclusively to the producer (or user as the case may be) thereof.**

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SELECTION OF CERTIFICATION BODY

It is important to note that due to the specific requirements for assessor competence required by this Sector Scheme a technical expert may be appointed by the Sector Scheme Advisory Committee to assist UKAS in the assessment of Certification Bodies as described in Appendix G.

Prospective companies seeking registration under this scheme should ensure that they engage a certification body specifically accredited to assess against the requirements of this SSD. Specifiers, consultants, engineers etc. that require confirmation of compliance with the contract specification in respect of the supply of products/materials should confirm the current status of the quality assurance certificate issuer and that specific reference is made to this Sector Scheme. (See Appendix F.)

INTRODUCTION

This Sector Scheme Document (SSD) relates to the quality system requirements for the application/installation, maintenance and removal of road marking materials and road studs to road surfaces. Road marking (materials) shall be deemed to include road studs in the remainder of this document unless otherwise stated.

In using this Sector Scheme users shall use best practice of specifying any other relevant highway sector scheme as appropriate to the nature of the work being undertaken, eg Traffic Management Schemes. Furthermore where there is a Sector Scheme in place it must be used.

It is acknowledged that a number of UKAS accredited certification bodies have obtained the technical competence to be able to provide quality management system certification for these construction activities. There is therefore necessity for these bodies to agree to the same interpretation of BS EN ISO 9001 :2000. The Sector Scheme Advisory Committee reports to UKAS on the application of the Sector Scheme and makes recommendations for improvements. UKAS is the approval authority for this Sector Scheme Document and is responsible for the assessment of certification bodies wishing to be accredited for road marking.

The Document is a live document with the Advisory Committee meeting at least once each year to develop it as appropriate. Those using the document should always ensure that they have the current version of the document by contacting any of the certification bodies listed in Appendix F, UKAS at the address shown on the front cover or the Committee Secretary at the address shown below.

The Secretary of the committee and Lantra Awards maintain a list of registered Organizations and copies may be obtained from the Committee Secretary at the address below.

Any observations or complaints relating to this document should be addressed to the Committee Secretary using the feedback and complaints sheets provided as Appendices J1 and J2

Committee Secretary
Sector Scheme Advisory Committee for Road Markings
RSMA
Bury Business Centre
Kay Street
Bury
Lancashire
BL9 6BU
Tel: 0161 763 7711
Fax: 0161 763 7722

INTERPRETATION OF BS EN ISO 9001: 2000

1. SCOPE

- 1.1** This document describes the quality management system requirements to be established by the supplier of road markings to road surfaces. It interprets the requirements of British Standard BS EN ISO 9001 : 2000 and should be read in conjunction with that Standard. The scheme is applicable to Organizations carrying out the provision, application/installation, maintenance and removal of road markings on road surfaces.
- 1.2** This sector scheme document is currently applicable to the following material types and sub-types:
- a) Thermoplastic Systems
 - 1) Hand screed
 - 2) Raised rib
 - 3) Extrusion
 - 4) Spray
 - b) Paint Systems
 - 1) Spray
 - 2) Airless spray
 - c) Tape Systems
 - 1) Permanent
 - 2) Temporary
 - d) Road Studs
 - 1) Inset
 - 2) Surface mounted
- 1.3** References as listed in Appendix B have been utilised in the preparation of this document.

2. NORMATIVE REFERENCE

The following normative documents contain provisions which constitute provisions of BS EN ISO 9001 : 2000 Quality Management Systems - Requirements

- BS EN ISO 9000 : 2000 Quality Management Systems – Fundamentals and Vocabulary
- BS EN ISO 9004 : 2000 Quality Management Systems – Guidelines for Performance Improvements.

3. TERMS AND DEFINITIONS

1. Definitions

For the purpose of this Sector Scheme document the following definitions shall apply.

Client: The body for which the work is being carried out, eg Highway Authority and its nominated representative.

Certificate of Registration: A certificate issued by a UKAS accredited Certification Body certifying that the holder operates a Quality Management System complying with BS EN ISO 9001 : 2000 and this Document.

Contract Specification: i) Manual of Contract Documents for Highway Works: Volume 1: Specification for Highway Works (Highways Agency) or as specifically required in the contract documents.

ii) Contract Specific Appendices

iii) The Contract Drawings

Customer: The body and its nominated representative engaging the Organization for the purpose of the work described in this Document. (The main contractor where the Organization is a sub-contractor)

Designer The person responsible for converting requirements into design output in the form of drawings, specifications, plans, instructions etc.

Quality Management System: The Organization's organizational structure, responsibilities, procedures, processes and resources for implementing Quality Management to BS EN ISO 9001 : 2000.

Organization: The body responsible for the supply of materials, application/installation, maintenance and removal of road marking materials.

***Organization's Manager:** The person named in the Organization's Quality Plan as having managerial responsibility for the road marking operations.

Quality Plan: The document setting out the specific quality practices, resources and sequence of activities relevant to the contract (see Appendix A)

*Technical Manager:	The person named in the Organization's Quality Plan responsible for the technical interpretation and implementation of the requirements of the Contract Specification.
*Road Marking Lead Operative:	The certified operative (eg Chargehand, Ganger, Foreman) named in the Organization's Quality Plan as having the responsibility, training and experience to establish and control the marking operation to meet the requirements of the Contract Specification.
Road Marking Materials	All types and sub-types as listed in the scope.
*Road Marking Operative:	A certified operative who works under the control of a Road Marking Lead Operative and is directly involved with the application/installation maintenance or removal of road marking materials.
"shall"	"Used to indicate a requirement strictly to be followed in order to conform to the standard and from which no deviation is permitted. (See ISO Directives Part 3:1997, Annex E)" (reference "Guidance on the terminology used in ISO 9001 : 2000 and ISO 9004 : 2000".
Trainee Road Marking Operative	An operative receiving training under the direct control of a certified operative on a one to one basis.
* For minor contracts, some roles may be combined. The Road Marking Lead Operative shall be site based.	

2. Abbreviations

CSCS	Construction Skills Certification Scheme
CSS	Formerly 'County Surveyors Society'
CITB	Construction Industry Training Board
DfT	Department for Transport
TSO	The Stationery Office
LGNTO	Local Government National Training Organisation (formerly Local Government Management Board – LGMB)
NVQ	National Vocational Qualification
RSMA	Road Safety Markings Association
SCOTVEC	Scottish Vocational Education Council
SSD	Sector Scheme Document
STANSPEC	RSMA Standard Specification Document
UKAS	United Kingdom Accreditation Service

4. QUALITY MANAGEMENT SYSTEM REQUIREMENTS

4 Quality Management System

4.1 General Requirements

No specific interpretation.

4.2 Documentation Requirements

4.2.3 Control of Documents

All contract specific documents shall be controlled. These will include, but not be limited to, as applicable:

1. Correspondence;
2. Delivery notes and certification where required (eg road marking material grades);
3. Records of rejected material;
4. Contract documentation and Customer order;
5. Customer drawings and records;
6. Instructions to Site Staff;
7. Calibration and maintenance records for temperature measuring and temperature control equipment;
8. Any amendments to the documents listed in Appendix B where appropriate to the scope of registration and Contract Specification; and
9. Inspection and test results for determination of specified requirements, eg control of temperature of marking material, the ability to apply glass beads evenly to the surface of the freshly applied road markings to the specified requirements, achievement of any minimum specified thickness.

4.2.4 Control of Records

(i) In addition to the Organization's own quality records, Contract specific records shall include where appropriate:

1. Customer's specification;
2. Contract Review records;
3. Quality Plan;
4. Instructions to the Operative;
5. Certification of supply of materials;
6. Purchase orders;
7. Calibration and verification records;
8. Production records;
9. Operator training;
10. Complaints / concessions;
11. Reasons for work stoppages / delays;

12. Results of all tests undertaken which should be made available to the Client on request; and

13. Traffic management

- (ii) The Organization shall keep all records for a minimum period of *six* years or until the end of the maintenance period whichever is greater. Record disposition after this period shall be defined in the Quality Plan.

5 Management Responsibility

5.1 Management Commitment

No specific interpretation.

5.2 Customer Focus

The Organization shall consider the interests of the Client and the product end users, for example, the general public / travelling public: and shall be mindful of the Client's interaction with the end users.

5.3 Quality Policy

No specific interpretation.

5.4 Planning

No specific interpretation.

5.5 Responsibility, Authority and Communication

No specific interpretation.

5.6 Management Review

The Organization shall review the quality system to ensure its continuing suitability and effectiveness at least once a year. Records of the review shall be kept.

6 Resource Management

6.1 Provision of Resources

No specific interpretation.

6.2 Human Resources

6.2.2 Competence, Awareness and Training

6.2.2.1 Competency

Operatives shall be assessed to:

NVQ Level 2 Road-building (Pavement Marking - Hand Operated Equipment)

NVQ Level 2 Road-building (Pavement Marking - Machine Laid)

NVQ Level 2 Road-building (Pavement Marking – Road Studding)

For details of NVQ Level 2-see Appendix C1.

Operatives are required to obtain an NVQ within three years of commencement of employment.

6.2.2.2 **Awareness and Training**

Minimum training requirements are to the Certified Operatives Scheme.

All operatives will be required to commence training under this scheme within six months of starting employment.

6.2.2.3 **Registration**

Operatives are required to be registered under the scheme appropriate to the client commissioning the works.

Highways Agency and some local authority contracts require operatives to hold a CSCS Registration Card, whilst some local authority contracts require a Certified Operatives card. It is anticipated that after December 2006 all operatives will be required to carry a CSCS Registration Card.

It should be noted that after March 2003 no new Certified Operatives cards will be issued and that only renewals will be issued. All renewed cards will expire on 31st December 2006, regardless of when they are issued

(i) **CSCS Registration Cards – NVQ Scheme**

A CSCS Card is issued to Operatives in three categories, provided they have satisfied the CSCS conditions of issue, these three categories and conditions of issue are:

- a. Trainee – A CSCS Trainee Card is issued to an operative, without experience, who is undertaking training and is working towards an NVQ Level 2 in Pavement Marking. In order to obtain the CSCS Trainee Card, the trainee must register for the NVQ, sit and pass the approved (CSCS) Health & Safety Touch Screen Test and undertake the approved NVQ profiling exercise.

An operative holding a CSCS Trainee Card has three years in which to obtain their NVQ and their full CSCS Card, failure to do so will result in the withdrawal of the Trainee Card.

- b. Experienced Workers Card – Workers with experience in the industry qualify for a CSCS Experienced Workers card, provided they are registered for an NVQ Level 2 in Pavement Marking, have sat and passed the approved (CSCS) Health & Safety Touch Screen Test, have undertaken the approved NVQ Profiling exercise and their application for a CSCS Card is endorsed by their employer.

CSCS Experienced Workers Cards are valid for a period of three years during which time the operative must achieve their NVQ Level 2 in Pavement Marking, failure to do so will result in the withdrawal of the Experienced Workers Card.

- c. Full CSCS Card (Pavement Marking) – The full CSCS Card is awarded to operatives completing their NVQ Level 2 in Pavement Marking and is valid for a period of 5 years. The card is renewed at the end of this period by sitting and passing the CSCS Health & safety Touch Screen Test.

All road-marking operatives on site shall carry a registration card issued by the approved registration body for this Sector Scheme (see paragraph (iii) below)

bearing a photograph and confirmation of status.

(ii) **RSMA/LGE Registration Scheme – Certified Operatives**

RSMA acting as authorised agents for the Local Government Employers Organisation are the registration body for the Certified Operatives Training Scheme.

Registered trainers, approved to deliver the training scheme, are available through RSMA.

All road marking trainees are required to commence the Certified Operative Training Scheme within six months of starting employment (see 6.2.2.2 above), upon completion of the Certified Operatives Training Scheme the operative will be issued with a Certificate indicating their achievement.

This Certificate is acceptable as NVQ portfolio evidence.

For details of Certified Operatives Scheme see Appendix C2.

Certified Operatives Registration Cards issued prior to the publication of this edition of the Sector Scheme are still valid (subject to client requirements) until their stated expiration date, however, any cards renewed following the publication of this edition of the Sector Scheme shall have an expiration date of December 31st 2006, after which all operatives will be required to hold a CSCS Card.

(iii) **Approved Registration Bodies**

A list of the bodies accredited to assess NVQ Level 2 (Pavement Marking) is available from [CITB](#). All operatives undertaking and or completing an NVQ in pursuance of this scheme must be registered with the approved registration body.

Approved registration bodies for NVQ and Certified Operatives Qualifications are shown at Appendix C3 and are responsible for issuing approved registration cards/certificates.

(iv) **Record of Practical Experience**

The Organization shall create and maintain a validated Record of Practical Experience for each road marking charge hand and operative he employs. The record shall include full details of the manner in which the individual has obtained practical experience i.e. dates, types of marking systems worked, duties performed etc.

Unregistered Road Marking Operatives shall at all times be supervised by a Certified Operative, on a 'one to one' basis. Unregistered Operatives will be required to have a minimum of six months' recorded supervised experience prior to attending an approved training course. (See also Paragraph 6.2.2.3 vi. below)

The issue of a renewed Registration Card, a new Registration Card or **Certified Operatives Certificate** as the case may be, shall be recorded by the Organization on the individual Record of Practical Experience.

(v) **Register of Designated Lead Operatives**

The Organization shall maintain a Register of Designated Lead Operatives in the style of that shown in Appendix D.

(vi) **Client Requirements**

For contracts where the Highways Agency is the Highway Authority all operatives are required to be registered in accordance with Paragraph 6.2.2.3 i. and hold a current

CSCS Registration Card by 2003. Requirements for other Highway Authorities shall be determined on a contract by contract basis.

6.3 Infrastructure

No specific interpretation.

6.4 Work Environment

No specific interpretation.

7 Planning and Product Realization

7.1 Planning of product realisation

The Organization shall determine and document how the requirements for quality will be met. When specified in the contract documents the Organization shall submit a Quality Plan or alternative document as defined in the contract specification for approval by the Client prior to commencement of work. The Quality Plan shall, as a minimum, address the topics listed in Appendix A supplemented by the contract specific information. (The Organization's Quality Management System Documents shall be made available for examination by the Client and copies provided if requested.)

7.2 Customer Related Processes

7.2.1 The Contract Specification shall not be changed without written approval from the Client. When the Organization is unable to meet the contract specification it shall be referred back to the Client for resolution prior to works commencing

7.2.2 (i) The processes for review and determination of requirements shall require the Organization to verify that the order placed or any subsequent amendments to that order meet the technical requirements included in the Contract Specification.

(ii) Although not *necessarily* responsible for the design, the Technical Manager shall, prior to commencement of the road marking operation, check the practicality of the proposed measures. Where appropriate, this will include liaison with third parties, in particular the Highway Authority, the Customer, Client and the Police. Where irregularities or inconsistencies with the Contract Specification, health and safety or other requirements are encountered these shall be brought to the attention of the Customer / Client for resolution.

(iii) Matters of a significant nature that arise during the review processes shall be considered during the management review and incorporated as necessary into the quality system.

7.3 Design and Development

(i) Where road markings design or development is undertaken, by the road marking company, the Quality Plan will identify the personnel involved with their qualifications/experience appropriate for design. This shall include those involved with design verification and approval.

(ii) The Quality Plan shall identify the level and processes to be used for design verification.

7.4 Purchasing

The Organization shall establish documented procedures to ensure that all materials conform to the Contract Specification. All copies of certification to verify this shall, on request, be passed to the Client

7.5 Production and Service Provision

7.5.1 Control of Product and Service Provision

- (i) The Organization shall produce method statements for the application/installation, maintenance and removal process of road markings. The Organization's management and certified operatives shall have a working knowledge and access to the documents listed in Appendix B that are relevant to the work described in the contract.
- (ii) Before site work commences, the Organization shall ensure that the following are documented and issued to the Road Marking Lead Operative. A copy shall be retained for record purposes.
 - 1. Any special instructions to the Road Marking Operatives relating to the programme of work
 - 2. The equipment required for the work and the method of application/removal of material to meet the requirements of the contract.
 - 3. Any additional application/removal instructions
- (iii) The following items shall be considered as part of process control:
 - 1. Ensuring that the purchased materials used are as specified by the Customer;
 - 2. Ensuring that the materials are clearly identifiable;
 - 3. The presence of a Road Marking Lead Operative during application of road markings;
 - 4. A system for dealing with Variation Orders issued by the Client;
 - 5. Setting-out of road markings and control of the equipment to comply with the Contract Specification;
 - 6. Record of road surface condition prior to application of markings;
 - 7. Compliance with the requirements of Chapter 8 of the Traffic Signs Manual where the road is open to public use. (Note: For high speed dual carriageways there is a requirement for the traffic management contractor to hold qualification to Sector Schemes 12A, 12B and 12C. (Additional schemes may also be introduced at a future date.)
 - 8. Customer notification within 24 hours of any problems which may affect the planned programme of work; and
 - 9. Contract Maintenance Period activities.
- (iv) Inspection and testing shall be undertaken to demonstrate adherence to the specification, eg control of temperature of marking material/stud grout, the ability to apply glass beads evenly to the surface of the freshly applied road markings to the specified requirements, achievement of specified requirement. The methods and frequency of testing shall be defined in the Quality Plan (see Appendix A).

- (v) During the review processes checks shall be undertaken to establish whether any additional Client specified testing and inspection regime is to be adopted. For contracts where the Specification for Highway Works is used additional requirements will usually be included in Appendices 0/2, 1/5 and 12/5 of the Contract Specification.

7.5.3 Identification and Traceability

- (i) When appropriate to the Contract, storage arrangements and delivery programme for all materials shall be stated in the Quality Plan.
- (ii) The Organization shall establish documented procedures to ensure that goods returned to stock are placed at the correct location in the material storage area, and that stock materials are protected from deterioration and or damage.

7.5.4 Customer Property

The Organization shall establish documented procedures to be applied where material is supplied by the Customer or the Client if this is identified in the Contract Specification.

7.6 Control of Monitoring and Measuring Devices

The Organization shall establish documented procedures to demonstrate the manner and frequency of the inspection and calibration of the inspection, measuring and test equipment necessary for the proper execution of the Contract. The frequency shall be in accordance with the requirements stated in Appd'x E.

8 Measurement, Analysis and Improvement

8.1 General

No specific interpretation.

8.2 Monitoring and Measurement

8.2.2 Internal Audit

The Organization shall establish documented procedures to ensure that internal audits are undertaken which cover within each twelve-month period all aspects of the Quality Management System as applied at both site and depot operations.

8.3 Control of Non-conforming Product

Any materials and/or work not conforming to the Contract Specification shall either be reworked to conform or must formally be accepted in writing by the Client, the materials and/or work shall otherwise be considered to be rejected.

8.4 Analysis of Data

No specific interpretation.

8.5 Improvement

No specific interpretation.

APPENDIX A: REQUIREMENTS FOR QUALITY PLANS

1. General Requirements:

- 1.1 Definition of the product or service to be provided
- 1.2 The structure of the Organization describing the line of command and stating the names of the Organization's Manager responsible for the contracted work, the Technical Manager, Road Marking Lead Operative and Designer and their training. An Organization's representative who can be contacted at all times when works are being undertaken must be identified. Where it is proposed to use a sub-contractor, this should be stated and details provided. All sub-contractors shall be registered to the requirements of this Sector Scheme.
- 1.3 Identification of the parts of the Organization's Quality Management System relevant to the product or service being provided.

2. Contract Specific Statements

These are required for the following:

- 2.1 Liaison with the Police and the Highway Authority or other competent authority.
- 2.2 Materials storage details and location
- 2.3 Method statements for application/installation, maintenance and removal of road markings, detailed drawing(s) to be supplied.
- 2.4 Inspection and testing regime to be adopted covering frequency, methods of test, responsibility for testing and acceptance criteria.
- 2.5 Control of non-conforming product.
- 2.6 How performance requirements are to be achieved.

3. Contract Specific Information

This shall be obtained directly by the Organization and documented in the Quality Plan, and shall include as a minimum the following:

- 3.1 Name and address of Customer, including his nominated quality manager, project manager and/or other representative through whom communication is to be made throughout the contract.
- 3.2 Location of sites for the contract and means of access.
- 3.3 Specification and/or Contract Drawings.
- 3.4 Extent of the works and the commencement and completion dates for the contract.
- 3.5 Type(s) and thickness (**where specified**) of marking to be applied, including reflectorised material or not, additional surface applied glass beads or not.

- 3.6** Type(s) of surfaces including existing markings on which the material is to be applied and the need or otherwise for any surface preparation.
- 3.7** Any other relevant information relating to speed restrictions, safety requirements, existing markings, marking removal method, time of working and any other environmental requirements.
- 3.8** Any client specified testing requirements and responsibility for testing including supply of test equipment
- 3.9** Disposition of records after six years or the end of the maintenance period if longer.

Note: Where certain aspects of this information cannot be obtained or, is not provided, this fact shall be noted in the Quality Plan against the appropriate section.

The Organization should also be aware that there may be further general requirements for quality plans within a contract, for instance Appendix 1/24 of the Manual of Contract Documents for Highway Works, which may also need to be addressed.

APPENDIX B: REFERENCE DOCUMENTS

Reference Documents relevant to this Sector Scheme at the date of issue.

The listing is not comprehensive; other documents may be required to fulfil the requirements of the contract. Organizations shall ensure that they have a working knowledge and access to all the documents including amendments unless stated otherwise in the specification.

1. Manual of Contract Documents for Highway Works:
Volume 1 Specification for Highway Works (The Stationery Office)

Series 000 Introduction
Series 100 Preliminaries
Series 1200 Traffic Signs
Any additional clauses identified in the contract
Relevant Sector Scheme Documents from Appendix A including:

Scheme 12A Static Temporary Traffic Management on Motorways
and High Speed Dual Carriageways for Schemes Incorporating
Contraflow Operations and/or Temporary Road Markings.

2. Manual of Contract Documents for Highway Works:
Volume 2 Notes for Guidance on the Specification for Highway Works
(The Stationery Office)

Series NG000 Introduction
Series NG100 Preliminaries
Series NG1200 Traffic Signs

Note - Volumes 1 and 2 of the Manual of Contract Documents for Highway Works were revised and published in March 1998. Amendments are made to these volumes from time to time, possibly at intervals of three months. The Organization shall ensure that there is a system in place to monitor publication of amendments to these documents. Information can be obtained from the Highways Agency's Information Line 08457 504030

3. Manual of Contract Documents for Highway Works:
Volume 3 Highway Construction Details (The Stationery Office)

4. Design Manual for Roads and Bridges: (TSO)
Volume 8: Traffic Signs and Lighting

Section 2: Traffic Signs and Road Markings

TD 26/86 - Maintenance of Road Markings
TA 8/80 – Carriageway Markings: Markings for Right Turning Movements at
Cross-Road Junctions
TA 58/92 – Traffic Signs and Road Markings for Lane Gains and Lane Drops on
All Purpose Dual Carriageway and Motorway Trunk Roads
TA 78/97 – Design of Road Markings at Roundabouts

Section 5: Pedestrian Crossings

TD 28/87 – Pedestrian Crossings: Pelican & Zebra Crossings
TA 52/87 – Design Considerations for Pelican & Zebra Crossings
(The Stationery Office)

5. Traffic Signs Manual
Chapter 1: Introduction (1982)
Chapter 3: Regulatory Signs (1986)
Chapter 5: Road Markings (1985)
Chapter 8: Traffic Safety Measures and Signs for Road Works and
Temporary Situations (1991)
(The Stationery Office)
6. Traffic Signs Regulations and General Directions (2002)
(The Stationery Office)
7. 'Zebra' Pedestrian Crossing Regulations 1990 (SI 1828/1990)
(The Stationery Office)
8. 'Pelican' Crossing Regulations and General Directions (SI 1987 No. 16)
(The Stationery Office)
9. Safety of Street Works and Road Works: A Code of Practice 1993
(The Stationery Office)
10. TRMM (Trunk Road Maintenance Manual Volume 2 Part 1)
Chapter 1.15: Road Studs
Chapter 1.16: Road Markings
(Highways Agency 1996)
11. User Manual for the Highways Agency's Routine Maintenance Management
System (RMMS)
(Highways Agency 1996)
12. Notes for Guidance Safety at Roadworks
Third Edition
Joint Working Party
(Department of Transport/County Surveyors' Society)
(C.S.S. publication 1994)
13. Update your Road Safety Markings
A Review of Road Marking Legislation and Practice
(Road Safety Marking Association 1994)
14. Safety Code of Practice
(Road Safety Marking Association 2000. Note the 2000 edition replaces all
previous editions)
15. Appropriate Manufacturers' Road Stud Installation Procedures.
16. RSMA StanSpec 2000/01 – Standard Specification Document for Road Marking
and Road Studs. (Updated annually)

17. European Standards
- a) BS EN ISO 9000 : 2000 Quality Management Systems – Fundamentals and Vocabulary
BS EN ISO 9001 : 2000 Quality Management Systems – Requirements
BS EN ISO 9004 : 2000 Quality Management Systems – Guidelines for Performance Improvements
 - b) BS EN 1423: 1998 Road Marking Materials – Drop on materials, glass beads, antiskid aggregates and mixtures of the two
 - c) BS EN 1424: 1998 Road Marking Materials – Premix glass beads
 - d) BS EN 1436: Road Marking Materials – Performance for road users
 - e) BS EN 1790: Pre-formed Road Marking Materials
 - f) BS EN 1824: Road Marking Materials – Road trials
 - g) BS EN 1871: Road marking Materials – Physical properties
- 18 Guidance for Safer Temporary Traffic Management (CSS/HA/HSE) – July 2001.

Notes:

Highway Authorities Standard Specification (1998) and British Standards referenced in a previous issue have been deleted.

This list of standards and documents are date specific, however, the Organization shall have procedures in place to ensure that the latest version is always available.

APPENDIX C1: TRAINING AND HEALTH AND SAFETY - NVQ QUALIFICATIONS

NVQ Level 2 Roadbuilding (Pavement Marking - Hand Operated Equipment)

NVQ Level 2 Roadbuilding (Pavement Marking - Machine Laid)

NVQ Level 2 Roadbuilding (Pavement Marking – Road Studs)

The following Units of Competence are contained within the NVQ Level 2 Qualification

NVQ Level 2 Roadbuilding (Pavement Marking - Hand Operations)

PR01 Contribute to an efficient and effective work environment

PR02 Contribute to Health & Safety in the workplace

PR14 Operate powered tools and equipment for routine and predictable requirements.

CR05 Provide for and maintain the security of the work and the surrounding environment

CR19 Establish Pavement Markings

PR12 Contribute to specified work programme

NVQ Level 2 Roadbuilding (Pavement Marking - Machine Operations)

All of the above units plus: -

CR18 Operate and control Powered Plant and Machinery

Training requirements within all NVQ Level 2 Roadbuilding qualifications are satisfied by the provision of training modules: -

PM01 Preheater Operation

PM02 Setting Out

PM03 Manual Application of Road markings

PM04 Removal of Road markings

The CSCS Touch Screen test for health and safety shall be completed by all operatives prior to working on site. (See paragraph 6.2.2.3 i.)

APPENDIX C2: TRAINING AND HEALTH AND SAFETY - CERTIFIED OPERATIVES SCHEME

Scheme for the Registration of Training Achievement of Road Marking and Studding Operatives

The following training modules are available and consist of various key-training areas as indicated. All operatives are required to commence training under this scheme within six months of starting employment. The CSCS Touch Screen test for health and safety shall be completed by all operatives prior to working on site.

Module Number	Title	Key training areas
Module 1 (compulsory)	Health & Safety	All safety related topics
Module 2	Road Marking Equipment - General	Use of L.P.G. Plant and Pre-heater use
Module 3	Road Marking Materials	Identification of materials Safe storage & transportation
Module 4	Road Marking - Setting Out	Accurate layout Laying a rope Identification of correct road marking modules
Module 5	Road Marking - Equipment (Hand)	Correct use of Pram Identification of components and tools Use of L.P.G. Knowledge & use of P.P.E.
Module 6	Mobile Equipment - General Key areas to cover knowledge of - Extruded Markings - Sprayed Markings - Screed/Profile Markings	Understanding of different mobile equipment Knowledge of heat circulation systems Knowledge of automatic spacing Knowledge of pressurised systems & equipment Knowledge of safe use of L.P.G. equipment
Module 7	Road Marking - Application	Use and awareness of components relating to Hand Pram / Applicator Demonstrate safe handling of materials/equipment Follow pre-determined alignment Glass Bead application Use of L.P.G. & P.P.E.
Module 8	Mobile Road Marking - Application Mechanical machine	Driving and Operating techniques required for safe application of: - Extruded Markings - Sprayed Markings - Screed/Profile Markings
Module 9	Road Marking Equipment - Removal	Understanding of: Safe use of equipment, handling of materials and disposal of debris. Use of appropriate P.P.E.
Module 10	Road Stud - Installation	Operating techniques/methods required for installation of: - Surface Mounted Studs - Pedestrian Crossing Studs - Inset Road Stud Re-padding
Module 11	Road Stud Installation – Inset Type	Driving & operating techniques required for: - Inset Road Stud Installation
Module 12	Road Stud - Removal	Equipment & materials used for - Removal of Road Studs - Re-instatement of carriageway

Note: where a training module for other applications is not available Clause 6.2 of BS EN ISO: 9001 : 2000 shall apply.

APPENDIX C3 – APPROVED REGISTRATION BODIES

The following bodies are approved to issue registration cards for operatives seeking qualifications or holding qualifications under this scheme. These centres retain records of operatives qualified to the relevant schemes.

Details of Centres or individuals approved to either assess NVQ Level 2 or train operatives to the Certified Operative Training Scheme are available from the registration bodies.

NVQ Qualification Registration Body for Sector Scheme No.7, covering

NVQ Level 2 Road building (Pavement Marking - Hand Operated Equipment)

NVQ Level 2 Road building (Pavement Marking - Machine Laid)

NVQ Level 2 Road building (Pavement Marking – Road Stud)

Construction Skills Certification Scheme (CSCS)

PO Box 114

Bircham Newton

King's Lynn

Norfolk PE31 6ED

Information is also available from

Road Safety Markings Association

Bury Business Centre

Kay St.

Bury, Lancashire

BL9 6BU

Tel. No. 0161 763 7711 Fax No. 0161 763 7722

Certified Operatives Training Scheme

Road Safety Markings Association

Bury Business Centre

Kay St.

Bury, Lancashire

BL9 6BU

Tel. No. 0161 763 7711 Fax No. 0161 763 7722

Acting as agents for

Local Government Employers Organisation

Laydon House

76 Turnmill St.

London

EM1M 5QU

Tel. No. 0207 296 6600 Fax. No. 0207 296 6666

SCOTVEC

Scottish Vocational and Educational Council

Hanover House

24 Douglas St.

Glasgow G2 7NQ

APPENDIX C4 - TRAINING RECORD FOR NVQ QUALIFIED OPERATIVES

Each Organisation shall maintain a record of the date of each operative's CSCS and NVQ Registration, Unit Attainment and Training Modules undertaken where these modules were. As per this example

Operative Name																				
NVQ Reg.																				
CSCS Reg																				
Unit PR01																				
Unit PR02																				
Unit PR14																				
Unit CRO5																				
Unit CR 19																				
Unit PR12																				
Unit CR 18																				
Module PM01																				
Module PM02																				
Module PM03																				
Module PM04																				
Achievement date																				

APPENDIX C5: TRAINING RECORD FOR CERTIFIED OPERATIVES

Each Organisation shall maintain a record for certified road marking operatives. An example of an entry in a register is as below.

Name of Company

Name of Operative

Q.A. Certification Body

Registration Number

	LGNTO/SCOTVEC Reg. No	Name of Training Provider	Date of Achievement	Signature of Training Provider	Name and Signature of Organisation's Manager
Module 1 – Health & Safety					
Module 2 - Road Marking Equipment - General					
Module 3 - Road Marking Materials					
Module 4 - Road Marking Setting Out					
Module 5 – Equipment (Hand)					
Module 6 – Mobile Equipment - General					
Module 7 – Road Marking - Application					
Module 8 – Mobile Road Marking - Application					
Module 9 – Road Marking Equipment - Removal					
Module 10 – Road Stud - Installation					
Module 11 –Road Stud Installation – Inset type					
Module 12 – Road Stud removal					

APPENDIX D: REGISTER OF DESIGNATED LEAD OPERATIVES

Name Of Organisation

Certification Body

Full Name of Lead Operative	CSCS RSMA/ or SCOTVEC Reg	Registration Renewal Date	Categories of Marking Designated to Apply/Install*				Date Designated by Organisation	Name and Signature of Organisation's Manager	
			Hand Applied	Pedestrian Applicator	Mobile	Studding a. and/or b.		Name	Signature

*NOTE: All categories incorporate Safety Awareness and working knowledge of the relevant parts of the Reference Documents (Appendix B of SSD)

**APPENDIX E: REQUIREMENTS FOR THE CONTROL OF
MONITORING AND MEASURING DEVICES:
BS EN ISO 9001: 2000 CLAUSE 7.6**

Item No	Equipment	Purchase Specification	Calibration Control	Calibration Frequency
1	Thermometers and temperature control equipment	Equipment must operate within a tolerance of $\pm 10^{\circ}\text{C}$ at working temperature	Calibration traceable to national standards	3 monthly (may be extended to 12 months upon demonstration of continued calibration accuracy)
2	Pressure measuring equipment	Appropriate British or International standard	Calibration traceable to national standards	Annually
3	Thickness/height measuring equipment	Maximum allowable error at any point in working range value $\pm 5\%$	Calibration traceable to national standards	Annually
4	Measuring wheels, tapes and rules	Maximum allowable error $\pm 1\%$ of the measurement range undertaken (upon purchase only)	Verification check when signs of wear or damage appear	Checks as required

Note

1. Visual daily checks of items 1 and 2 shall be carried out on site to confirm that the equipment is working correctly and is not damaged. Records of the daily checks shall be kept.
2. If in-house calibration equipment is used for the calibration of items 1 and 2 it shall not be used for any other purpose and shall itself be calibrated traceable to national standards at intervals not exceeding two years.
3. If in-house calibration equipment is used for the calibration of item 3 it shall not be used for any other purpose and shall itself be calibrated traceable to national standards at intervals not exceeding five years.
4. Records of all equipment in use, its calibration status and calibration or verification checks undertaken shall be established and maintained.

APPENDIX F: LIST OF CERTIFICATION BODIES

Certification Body	Address	Telephone No
BSI	389 Chiswick High Road London W4 4AL	0208-996 6431
Lloyds Register Quality Assurance Limited	Hiramford Middlemarch Office Village Siskin Drive Coventry CV3 4FJ	0800-900012
Moody International	Unit 6 The Derwent Business Centre Clarke Street Derby DE1 2BU	01332-202556
SGS Yarsley International Certification Services Ltd	SGS House 217/221 London Road Camberley Surrey GU15 3EY	0800-900094

APPENDIX G: THE ROLE OF THE CERTIFICATION BODY AND AUDITOR QUALIFICATIONS

This appendix provides specific requirements relating to the necessary expertise and experience that certification bodies and their evaluation team shall have in order to operate and administer the scheme in addition to the normal requirements of United Kingdom Accreditation Service (UKAS) for accreditation.

A Qualifications of Certification Body

1. The Certification Body shall be accredited by UKAS to the requirements of EN 45012 to issue certificates for quality management systems in accordance with BS EN ISO 9000 family of standards and this SSD
2. The Certification Body must be able to demonstrate to UKAS that it possesses and can maintain the necessary in-house expertise and experience within its organization for the assessment of road marking application systems for road surfaces

B Evaluation

1. The Certification Body is responsible for ensuring that the evaluation team that carries out the audit for the Quality Management System Certificate, possesses a demonstrable expertise of the road marking industry. Assessment of the certification bodies ability to select a competent team will be made by UKAS during surveillance visits of the certification body. Typical knowledge and skills expected by the assessment team are as follows:
 - a) IRCA Registered Lead Auditor/Auditor of quality management systems or equivalent
 - b) knowledge of the road marking methods and application/installation techniques sufficient to understand the process employed and the controls necessary to ensure delivery of conforming product. Typically this would include knowledge of road studs and their installation, thermoplastic marking systems and process plant for their delivery including glass bead application, paint marking application systems, typical techniques and methods for measuring skid resistance, wear resistance and reflectivity. (Conveyance of this knowledge to assessment staff will be determined by the Certification Body and will be audited by UKAS)
 - c) a demonstrable engineering background capable of reading and understanding specifications and drawings, including an awareness of the Specification for Highway Works
2. The Certification Body shall provide to the SSACRM [and to Lantra Awards](#) details of newly registered companies deemed competent to undertake road-marking operations within 14 days of registration of such companies. Additionally certification bodies shall immediately notify the SSACRM [and Lantra Awards](#) when companies have been de-registered

3. The quality management system certificate, which shall include reference to this Sector Scheme Document (SSD), will be issued to a model that conforms to the requirements of UKAS and indicates competence under this SSD. The certificate shall include the type (and subtype if appropriate) of road marking for which the registered company has been assessed.

5. The certification bodies involved in certification to this scheme shall provide feedback on the effectiveness of the scheme to SSACRM as part of the annual scheme review either by attendance at the review meeting or as a formal report to the meeting.

APPENDIX H: ORGANIZATION APPROVAL

Organization Acceptance

The Highways Agency, The National Assembly for Wales, the Scottish Executive and the DRD (Northern Ireland), have stated that only those Organisations holding a valid Certificate of Registration within the scope of this Sector Scheme Document or equivalent attestation meet the requirements of Clause 104 and Appendix A of the Specification for Highways Works.

For work carried out on roads managed by other highway authorities acceptance of the Organisation will depend on the requirements of the Contract.

Guidelines for New Entrants

New Organisations not currently registered to the requirements of this scheme shall meet all the requirements of Clause 6.2 of this Sector Scheme document and have undergone a documentation review as part of the registration process for the scheme before award of a contract may be considered. The client is deemed to have the right to review non-conformities arising from the documentation review. A written declaration of intent to gain registration to the scheme within six months of the date of the documentation review is also required.

APPENDIX J1: FEEDBACK

Any observations or complaints relating to this document should be addressed to the Committee Secretary

Sector Scheme Advisory Committee
RSMA
Bury Business Centre
Kay St.
Bury
Lancashire
BL9 6BU

Tel: 0161 763 7711
Fax: 0161 763 7722

Problem Identified:

Suggested Action:

Name:

Organisation:

Address:

Contact details:

Date:

APPENDIX J2: COMPLAINTS TO CERTIFICATION BODIES

Complaints relating to certification matters in respect of alleged deficiencies in the product provided under this scheme should in the first instance be taken up with the Organization. In the event that the matter cannot be satisfactory resolved written complaints should be made to the Organization's certification body, detailing the problem identified. Contact numbers are given in Appendix F.

Problem Identified:

Organization's Details:

Name:

Address:

Complaints

Name:

Organization:

Address:

Date:

Signed: