



National Highways Sector Schemes for Quality Management in Highway Works

14

For the quality management of the production of
asphalt mixes

**Published by the Sector Scheme Advisory Committee for the
Quality Management of Product of Asphalt Mixes**

SECTOR SCHEME DOCUMENT FOR THE QUALITY MANAGEMENT OF THE PRODUCTION OF ASPHALT MIXES

IMPORTANT NOTE TO THIS EDITION

This edition of this scheme document is the standard format adopted for documents in the National Highway Sector Scheme series. Standard NHSS appendices not currently adopted in this scheme document are shown as “Not used”.

The scheme has undergone a major revision to align it with the BS EN 13108 series of asphalt standards, which are being implemented in UK from 1st January 2008. Most of the detailed requirements which were in earlier editions of this schedule are now incorporated in EN 13108 Part 21 – Factory Production Control (FPC) which is called up by this Sector Scheme (commonly known as “SS14”). This European standard for Factory Production Control is based on the earlier Sector 14 documentation and its implementation will not involve significant change operationally.

FPC is a regulatory element of Attestation of Conformity under the Construction Products Directive, leading to CE marking. Whilst SS14 calls this up, it does not interfere with that activity in any way and the additional elements in SS14 do not affect the CE Marking process.

The main points to note, including requirements additional to FPC, are:

- EN ISO 9001 is not a requirement of FPC but is called up as a separate requirement of SS14.
- The 10% UKAS laboratory audit check is retained.
- The binder blending protocol is retained.
- The requirement to keep records for 10 years is retained.
- The Annex on categorisation of results and the requirement to notify Category C results is retained.
- The requirement for timely availability of test results is retained.
- The ‘Q Value’ system is dropped and replaced by the FPC system of ‘Operating Compliance Level’ (OCL) which is similar in principal but different in detail.

Users of this document are advised to check with UKAS Publications sales whether the document is extant.
(Tel 0208 917 8400)

Implementation of this document will take place from 1 January 2008

DOCUMENT CONTROL

This Sector Scheme Document is subject to periodic review by the Sector Scheme Advisory Committee for the Quality Assurance of the Production of Asphalt Mixes and will be amended as appropriate in the light of experience with its operation. A summary of revisions or amendments made to this Sector Scheme Document since its initial publication are shown in the following schedule. Amendments introduced in this edition are listed and also highlighted on each relevant page by side lining.

Edition	Edition Dated	Amendments Made:	
		Page	Details
First	OCT 1998	--	First Publication
Second	OCT 2000	-- 8 9 11 13	Number of highlighted editorial changes. Cl. 5.1: Randomising of sampling stressed. Cl. 5.3: Clarification of 1 in 10 UKAS testing rate. Cl. 6.2: Review of plant if Q-level >Q6. Appendix A: Guidance on exclusion of samples taken for resolution of process control/mix design. Inclusion of samples of proprietary materials in calculation on Q-level.
Third	28 MAY 02	Complete revision to align with BS EN ISO 9001: 2000	
Fourth	24 APR 03	-- 2 11 13	Number of minor editorial amendments. Addition of this "Document Control" page. Clause 8.4 – addition of requirement for material supplied under concession. Appendix 1A - clarification of method for calculation of 'Q' value to ensure consistency.
Fifth	MAR 04	-- 6 9 Tables 3,4, 5 & 6	Number of highlighted editorial changes. Deletion of Note 3 permitting certification to either BS EN ISO 9002:1994 or BS EN ISO 9001: 2000 Amend Cl 7.4 to incorporate use of BS EN 13043 FPC for aggregates Deletion of reference to BS EN ISO 9002:1994 in footnotes, and incorporate use of BS EN 13043 FPC for aggregates
			Table continued...

Edition	Edition Dated	Amendments Made:	
		Page	Details
Sixth	FEB 06	All	Reformatting of document, including addition of some new appendices.
		1	New clauses referring to the Composition of the Advisory Committee, Exclusion of Liability, Selection of Certification Body and Copyright.
		7	Addition to clause 8.2 to require timely availability of analysis results for satisfactory plant control. Note for application to weekend working.
		6-8	References to Appendices 1A, 1B and 1C amended to A-1, A-2 and A-3 respectively, due to reformatting.
		8	Amended text to require records of supply with customer agreement when Q-level >6.
		9-16	Tables relocated.
		10	Table 2 Re-titled.
		11-13	Amendment to footnote to refer to Factory Production Control certification.
		15	Amended requirements for recovery of binder from reclaimed asphalt.
		17	Amended text relating to timely availability of Q-level.
		17-20	Re-titled Appendices.
		18	Test sieves aligned to revised British Standards: 3.35 & 2.36mm -> 2mm , 75µm -> 0.063mm .
		21	New Appendix B.
		22	Reference to status in this document of NHSS standard appendices C, D and E
		23	New Appendix F.
		24-25	New Appendix G incorporating some text previously contained in Part 2 of the Fifth edition, remaining Part 2 text revised as Advisory Committee Document.
26	New appendix H.		
27	New Appendix J1.		
28	New Appendix J2.		
29	New appendix K.		
Seventh	January '08	ALL	Substantial Revision to align to BS EN 13108-21: Bituminous mixtures – Material specifications – Part 21: Factory Production Control

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

COMPOSITION OF THE SECTOR SCHEME ADVISORY COMMITTEE

BAA	British Aggregates Association
CSS	County Surveyors Society
HA	Highways Agency
QPA	Quarry Products Association
SCOTS	Scottish Technical Officers Association
UKAS	United Kingdom Accreditation Service

Certification Bodies accredited to this Scheme

EXCLUSION OF LIABILITY

The Advisory Committee and its members:

- (i) have and accept no liability whatsoever for any failure of any system or systems assessed under the 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 or any such liability or responsibility attaching exclusively to the Organization (or customer as the case may be) thereof.

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SELECTION OF CERTIFICATION BODY

Asphalt producers are free to appoint a third-party Certification Body of their choice to assess and certificate their production unit(s) against this scheme, but any such Certification Body shall be accredited by the United Kingdom Accreditation Service (UKAS) as being competent to assess and certificate such production units (see Appendix F). Additionally, if the system is also being used for the purposes of CE Marking, the Certification Body will need to have Notified Body status with respect to EN 13108 standards.

NOTE: Appendices F to J of this document give further guidance on certification issues.

ASSESSMENT SCHEDULE FOR THE QUALITY MANAGEMENT OF THE PRODUCTION OF ASPHALT MIXES

FOREWORD

This schedule contains requirements for a quality management system for asphalt mixtures complying with BS EN ISO 9001: 2000. It interprets, where necessary, the requirements of BS EN ISO 9001: 2000 in specific relation to the production and supply of bituminous mixtures and coated chippings for roads and other paved areas and includes in its tables and appendices minimum frequencies of inspection and testing.

NOTE 1: With regard to the practical aspects of plant operation, process control and inspection and test the schedule calls up the requirements of BS EN 13108 part 21 : Bituminous mixtures - Material specifications, Factory Production Control.

NOTE 2: Users of this scheme document should ensure that they are working to the latest edition. UKAS (tel. no. 0208 917 8400) can advise on the date of the current edition.

NOTE 3: This schedule refers to the sampling of both the raw materials used in the production of asphalt as well as the asphalt mix itself. There are health and safety risks associated with such sampling, particularly the risk of burns from hot bitumen and hot asphalt. Health and safety issues are NOT covered by this document, but all parties involved should ensure that appropriate risk assessments are made and requirements of current legislation complied with.

In particular, training of all personnel involved in the operations should be commensurate with the tasks that they are required to undertake.

1. SCOPE AND FIELD OF APPLICATION OF THIS SCHEDULE

This schedule specifies requirements for quality management systems to be used by organisations producing asphalt mixtures and coated chippings.

Such quality management systems have the aim of giving adequate assurance that these products conform with the relevant technical specifications, e.g. documents referred to in Appendix B.

The scope of this schedule excludes the requirements of Clause 7.3 of BS EN ISO 9001: 2000 – Design and Development. Such exclusion does not affect the organisation’s ability, or responsibility, to provide product that meets customer and applicable regulatory requirements.

NOTE: Some specialist proprietary asphalt products may not be covered by this scheme.

2. NORMATIVE REFERENCES

The following normative documents contain provisions that, through reference in this text, constitute provisions of this Schedule.

BS EN ISO 9001: 2000, *Quality management systems – Requirements*

BS EN 13108 *Bituminous mixtures — Material specifications — Part 21: Factory Production Control*

The **MAIN** clause headings of this Schedule reflect those used in ISO 9001: 2000. The **sub-clause** headings used herein are specific to this document.

3. TERMS AND DEFINITIONS

For the purposes of this Schedule, the terms and definitions given in BS EN ISO 9000: 2005 apply.

3.1 General

The following terms are used in BS EN ISO 9001: 2000 to describe the supply chain and are adopted in this Schedule:



The term “organisation” replaces the term “producer” used in the previous editions of this document. Also, the term “customer” now replaces the term “purchaser”.

NOTE: BS EN 13108-21 uses the earlier terms: ‘producer’ and ‘ purchaser’.

3.2 Asphalt

A mixture of mineral aggregate and a bituminous binder.

3.3 Technical Specifications

The Technical Specifications for asphalt are the specifications for the materials to which the organisation has contracted to supply. These specifications may be Harmonised European Standards and European Technical Approvals for asphalt mixtures, customer-prepared specifications or, in the case of proprietary mixtures, organisation-prepared specifications.

4. QUALITY MANAGEMENT SYSTEM

4.1 Quality Management System

The organisation shall operate a quality management system complying with the requirements of BS EN ISO 9001: 2000 as amplified by this schedule. This shall include a Factory Production Control system complying with the requirements of BS EN 13108 Part 21.

4.2 Quality management system documentation requirements

The organisation shall establish and maintain quality management system documentation for each production site.

4.3 Records

Records relating to Management Review, Internal Audit, 3rd Party Assessment and Inspection and Testing of finished asphalt shall be kept for a minimum of 10 years. Records relating to inspection and testing of incoming materials shall be kept for a minimum of 3 years. All other quality records shall be kept until the end of the succeeding calendar year.

5. MANAGEMENT RESPONSIBILITY

5.1 Management Review

The system shall be reviewed at least annually by management to ensure its continuing suitability and effectiveness.

5.2 Internal Audits

The producer shall carry out internal audits to verify which activities comply with the planned arrangements and to determine the effectiveness of the Factory Production Control system. Audits shall be scheduled on the basis of the status and importance of the activity to ensure that the whole of the quality management system at each plant is audited at least annually.

6. RESOURCE MANAGEMENT

No requirements additional to BS EN ISO 9001 and BS EN 13108 –21.

7. PRODUCT REALIZATION

7.1 In-Plant Blending of Bitumen

Where in-plant blending of two grades of bitumen is undertaken in order to produce an intermediate grade, the producer will provide evidence to show that the plant has been demonstrated to be capable of adequately blending the two grades. Where no other means of checking this capability are available, the protocol given in Appendix A-3 shall be used for checking the adequacy of in-plant blending.

Once plant adequacy has been demonstrated, control of the blending process will be assured by means of regular checks of the individual plant components that affect this process (see 7.5).

Where significant changes are made to any part of the plant involved in the process of bitumen blending then the procedure in Appendix A-3 may require to be repeated to ensure the adequacy of the process.

8. MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 Availability of analysis results (soluble binder content and aggregate grading) used specifically for plant control

For each plant, all samples taken for plant control shall be tested, reported and the results made available to those responsible for action in a timely fashion.

For samples used in the determination of Operating Compliance Level (OCL), results of:

- a) the minimum number of samples dictated by the (weekly) OCL, as defined by the table in BS EN 13108-21 Annex A, shall be available by the end of the working day following the date of sampling;
- b) any additional samples taken at a rate above that dictated by the (weekly) OCL shall be available in order to calculate the final OCL for the 7-day period during which they were sampled. (This does not include other samples taken for resolution of the plant process problems, mix design etc. (as defined in Appendix A-1)).

NOTE: When considering weekend working, results of testing on samples taken over the weekend should be reported by the end of the first working day following the weekend (normally a Monday, except when this is a Public Holiday) and in time to enable calculation of the OCL as in (b) above.

8.2 Plant Control Laboratory Audit Check

As a regular audit check on the efficacy of the plant control laboratory, a proportion of samples analysed for mix composition in the plant control laboratory shall have a duplicate sample analysed in a UKAS accredited laboratory. This proportion shall be one in ten, based on the minimum testing frequency specified for Level OCL A (i.e. the frequency of UKAS testing shall be 1 sample per 6000 tonnes surface course, and 10000 tonnes binder course and base). The duplicate results shall be regularly reviewed and any differences falling outside the reproducibility limits published in BS EN 12697-1 shall be investigated.

***NOTE:** Only the results from the Plant Control Laboratory will be used for the assessment of the OCL.*

8.3 Non-Conformity of Asphalt (arising from analysis of finished product)

With respect to clause 7.4 of BS EN 13108 –21 the action taken when non-conforming product is identified from analysis shall include the following:

- (i) all analyses shall be classified as specified in Appendix A-2;
- (ii) adjustments to process control shall be considered in response to each non-complying result but shall not necessarily follow individual category B results;
- (iii) the organisation shall notify the customer in the event of a category C non-compliance;
- (iv) if at any time the Operating Compliance Level reaches OCL C, the plant as a whole shall be considered to require review and action to bring the OCL to level B or better. In the event that the plant does not achieve this level within 14 days, the organisation shall thereafter ONLY supply to customers prepared to accept supplies under such conditions – record shall be made of such agreement. No other supplies shall be made until the plant is shown to achieve OCL B.

APPENDIX A-1

FREQUENCY OF CARRYING OUT COMPOSITION ANALYSIS OF ASPHALT

EN 13108-21 Factory Production Control uses a measure of conformity known as Operating Compliance Level (OCL). This is based on the 'Q value' which has been used previously in the Sector 14 Scheme but there are minor differences in the method of calculation.

In FPC, as in Sector 14, an increase in the incidence of non conforming test results, expressed as OCL, requires an increase in test frequency. This has the aim of managing the risk of non conformity by concentrating testing on where there are likely to be problems, penalising poor performance and rewarding high conformity.

OCL is determined from the number of non conforming test results in the last 32, as follows:

Non conformities	OCL
0-2	A
3-6	B
>6	C

EN 13108-21 gives three levels of testing frequency, designated X, Y and Z. Level Z is the minimum regulatory level required for CE Marking with levels X and Y as higher 'voluntary' levels. In the UK and in Sector 14 Level X will be used for surface courses and Level Y for base and binder courses.

In the unlikely event of 8 non conforming results in the last 32 drastic corrective action is triggered.

EN 13108-21 FPC also requires the monitoring of the mean deviation from target of certain key analysis parameters, including binder content. This is to ensure that mixtures are produced as close as possible in composition to the mixture which was evaluated in Type Testing.

If any of these mean deviations exceeds prescribed tolerances the OCL is marked down by one level thereby triggering a need for increased test frequency.

The following minimum frequencies, derived from BS EN 13108 Part 21, for undertaking compositional analysis (binder content and aggregate grading determination) of the asphalt are recommended:

Table A. 1. 1 Minimum frequency for analysis of finished product (tonnes/test)

Column	1	2	3	4
Line	Level	OCL A	OCL B	OCL C
1	Surface course Level X	600	300	150
2	Binder/base Level Y	1 000	500	250

Additionally, for operational plants, there shall be at least one test per five operating days.

- All analysis results produced by the laboratory, **except** those taken specifically for the resolution of sudden problems arising from process control (such as a screen mat failure) or for mix design

purposes and kept separately in accordance with Clause 8.1, shall be used in the calculation of OCL

- *Results of analysis of proprietary materials shall be included in the determination of OCL where the proprietary materials in question are subject to a certification scheme that calls up this quality assurance scheme.*

APPENDIX A-2

CALCULATION OF RESULT CATEGORY FOR COMPOSITION ANALYSIS

CATEGORY A:

Material shall be categorised “A” provided the analysis result complies fully with the supply specification and there are no defects reported from the visual inspection.

CATEGORY B:

Material shall be categorised “B” when it fails to fully comply with the supply specification but the analysis is within the following:

- (a) An additional +/- 0.2% tolerance on binder content.
- (b) On gradings:
 - (i) an additional +/-5% tolerance on sieves above 2mm.
 - (ii) an additional +/-3% tolerance on sieves 2mm or below.
 - (iii) an additional +/-1% tolerance on passing 0.063 mm.
 - (iv) a maximum of 3 sieves outside specification but are within the above additional tolerances.

CATEGORY C:

Material shall be categorised “C” when the analysis fails to meet Category “B” tolerances or is found to be substandard in any other way as identified by organoleptic inspection as laid down in the organisation’s quality management system documentation.

APPENDIX A-3

PROTOCOL TO DETERMINE SUITABILITY FOR USE OF ASPHALT MIXTURES EMPLOYING BITUMEN BLENDED IN-MIXER

Introduction

This test protocol is devised to determine the effectiveness of procedures at an asphalt plant for the blending of two grades of bitumen in the mixer to produce an intermediate grade in the asphalt. It is intended as a one off 'type testing' procedure for a plant and not as a routine control or compliance test for material production, which should be through production records of bitumen proportioning.

The variability of Indirect Tensile Stiffness Modulus between multiple samples from a single batch is determined as a check on homogeneity of a mixture.

The penetration value of binder recovered from the mixture is determined to check that blends are on grade.

Test mixture

The test mixture to be manufactured shall be:

14mm close graded surface course

(AC 14 close surf 70/100 or 100/150)

with a target grading to mid-point of the EN 13108-1 envelope

at a target binder content of 5.0%.

Manufacture

A batch (of the standard mix capacity of the plant) of the mixture shall be manufactured, under normal operating conditions, utilising the manufacturer's proposed blend of bitumens to achieve a 70/100 or 100/150 penetration grade mixture.

Target temperatures shall be within the limits in BS EN 13108-1

The mixing time for all materials shall be the standard mixing time for the plant following discharge of all components into the mixer.

The mixture shall be discharged directly into a vehicle for sampling.

Sampling & Sample Preparation

The mixture shall be sampled using a scoop of suitable dimensions to enable the taking, in a single operation, of single samples of the mass necessary to compact into Impact (Marshall) specimens between 60 and 70mm in height.

9 individual samples, each sufficient to manufacture a Marshall mould between 60 and 70 mm in height, shall be taken by single scoop actions from points randomly spaced around the whole batch.

A bulk sample, representative of the whole batch, shall be taken in accordance with EN , for recovery of binder.

The bulk sample for binder recovery shall be prepared in accordance with BS 598 Part 101: 1987 Cl. 3 to provide sufficient material (approximately 3 kg) for recovery in accordance with BS 2000 Pt 397 1995.

Test specimen storage

The time between manufacture, preparation and compaction shall not exceed 10 days.

The temperature of stored samples, either loose or compacted, shall be $<20^{\circ}\text{C}$ for up to 5 days, thereafter $<5^{\circ}\text{C}$.

Marshall specimen compaction

9 Marshall specimens shall be compacted following the compaction procedures in accordance with BS EN 12697-30 50 blows per side.

The compaction temperature shall be $135 \pm 2^{\circ}\text{C}$ for a nominal 125 pen mixture or $140 \pm 2^{\circ}\text{C}$ for a nominal 85 pen mixture. [Mid-point softening point temperature for each target grade of bitumen plus $92^{\circ}\text{C} \pm 2^{\circ}\text{C}$]

The specimens shall be brought to this compaction temperature using a microwave oven.

Note: *it is important that each sample is given the same heat treatment, as this can affect binder properties and hence mix stiffness. Trials should be undertaken with dummy samples to find the appropriate microwave heating time to bring the specimens to the required compaction temperature. Each sample shall then be given this same heating time ± 1 sec.*

Testing

Determine the bulk density of each Marshall specimen in accordance with BS EN 12697-6.

Determine the Indirect Tensile Stiffness Modulus of each Marshall specimen in accordance with BS EN 12697-27.

The testing shall be carried out at 20°C using a 6 kN actuator (or appropriate for the expected stiffness).

Recover the binder from the bulk sample in accordance with BS EN 12697-3. Determine the penetration of the recovered binder in accordance with BS 2000-49:2000 (BS EN 1426:2000)

Reporting of results

The following information shall be reported:

- a) height of each specimen;
- b) density of each specimen;
- c) age of specimen at time of stiffness testing (days & hours from mixing);
- d) stiffness of each specimen;
- e) coefficient of variation of the stiffness results.

NOTE: This is calculated by dividing the standard deviation of the stiffness results by their mean value, expressed as a percentage ;

- f) penetration value of the recovered binder;
- g) plant name & location;

Determination of compliance

The plant is determined to comply with this protocol if:

1. Coefficient of variation of the stiffness results $< 15\%$
AND

2. Where recovered penetration is denoted R, the target nominal penetration is denoted P (either 85 or 125), and U is the upper limit penetration of the target binder grade i.e. 150 for 100/150 grade and 100 for 70/100 grade:

$$U > R > 0.67P.$$

- i.e The recovered penetration of a 125 pen grade mixture should be:
between 84 and 150 dmm
between 57 and 100 dmm for 85 pen grade.

APPENDIX B: REFERENCE DOCUMENTS

The following documents are either referred to in this Sector Scheme Document or will provide useful additional background information in relation to the products covered by this scheme.

N.B. Amendments are made to these documents on a regular basis. Users should check that they are consulting the appropriate or most recent version of the documents in relation to the contract specification.

British / European Standards

BS EN 13043 - Aggregates for bituminous mixtures and surfaces treatments for roads, airfields and other trafficked areas

BS EN 932 - Tests for general properties of aggregates

BS EN 933 - Tests for geometrical properties of aggregates

BS EN 12591 - Bitumen and bituminous binders – specifications for paving grade bitumens

BS EN 13924 - Bitumen and bituminous binders. Specifications for hard paving grade bitumens

BS 2000 - Methods of test for petroleum and its products – bitumen

BS EN 1426 - Bitumen and bituminous binders — Determination of needle penetration

BS EN 1427 - Bitumen and bituminous binders — Determination of softening point — Ring and ball method

EN 13108-1, Bituminous mixtures — Material specifications — Part 1: Asphalt Concrete

EN 13108-2, Bituminous mixtures — Material specifications — Part 2: Asphalt Concrete for very thin layers

EN 13108-3, Bituminous mixtures — Material specifications — Part 3: Soft asphalt

EN 13108-4, Bituminous mixtures — Material specifications — Part 4: Hot Rolled Asphalt

EN 13108-5, Bituminous mixtures — Material specifications — Part 5: Stone Mastic Asphalt

EN 13108-6, Bituminous mixtures — Material specifications — Part 6: Mastic Asphalt

EN 13108-7, Bituminous mixtures — Material specifications — Part 7: Porous Asphalt

EN 13108-8, Bituminous mixtures — Material specifications — Part 8: Reclaimed asphalt

EN 13108-20, Bituminous mixtures — Material specifications — Part 20: Type Testing

PD 6691 – Asphalt - Guidance on the use of BS EN 13108 “Bituminous Mixtures – Material specifications”

BS EN 12697 - Bituminous Mixtures – Test methods for hot mix asphalt

PD 6692 - Asphalt. Guidance on the use of BS EN 12697 "Bituminous mixtures - Test methods for hot mix asphalt"

BS 594987 - Asphalt for Roads and other Paved Areas - Specification for transport, laying and compaction and design protocols

BS EN ISO 9001:2000 - Quality Management Systems – Requirements

Other Documents

Manual of Contract Document for Highway Works (The Stationery Office) :
Volume 1 Specification for Highway Works
Volume 2 Notes for Guidance on the Specification for Highway Works

Design Manual for Roads and Bridges (The Stationery Office)

APPENDIX C:

Not used

APPENDIX D:

Not used

APPENDIX E:

Not used

APPENDIX F: ACCREDITED CERTIFICATION BODIES

Information on certification bodies accredited against this scheme can be found on the UKAS website www.ukas.com. To identify the certification bodies on the website:

- place the cursor onto 'about accreditation' in top grey menu bar
- move down to 'accredited bodies'
- move across to 'certification body schedules' and left click on this to take you to the list of schedules
- move down past 'key abbreviations' to 'search within the schedules' - click on 'advanced search'
- type 'Highway Sector Scheme No 14' in the box and tick the square by 'search UKAS documents'
- left click 'search'
- this then lists the certification bodies who are accredited and their details can be found by clicking on the appropriate links.

APPENDIX G: THE ROLE OF THE CERTIFICATION BODY AND AUDITOR SKILL REQUIREMENTS

ROLE OF THE CERTIFICATION BODY

1 The Certification Body shall ensure that facilities being assessed satisfy the requirements of ISO 9001: 2000 and Part 1 of this Schedule.

2 The Certification Body shall visit each facility at least annually and carry out product and system audits. Every aspect of the quality management system shall be assessed over a 3-year period.

The annual audit shall pay particular attention to the management review, internal audits, corrective and preventive actions and the speed of such actions. Significant non-compliances will require re-audit to confirm satisfactory discharge.

3 In the case of a mobile plant that has been relocated or a static plant that has been re-commissioned after an extended period of "mothballing", an initial assessment visit shall be made by the Certification Body, as in the case of a new plant, if any significant changes have been made to the process or to the control procedures of the plant.

4 Surveillance visits by the Certification Body shall include the witnessing of sampling procedures.

5 The Certification Body shall make reference to this Sector Scheme Document in any Certificate of Registration issued to an asphalt-producing organisation against the Scheme.

6 Certification Bodies shall notify the Secretary of the Advisory Committee to the Scheme and the compiler of the Schedule of Suppliers when an organisation is de-certificated. This will enable an accurate and extant database of certificated organisations to be maintained for public information and reference (<http://www.lantra-awards.co.uk/highways.htm>).

7 Auditors from the Certification Body shall have qualifications and experience in line with the following requirements:

AUDITOR SKILL REQUIREMENTS

Qualifications

- | | | |
|----|--|-----------|
| 1. | Degree, HND or HNC in civil, construction engineering discipline or other appropriate qualification (i.e. Technological or Science based qualification). | Preferred |
| 2. | Member of the IAT, IHT, ICE or other similar organisation. (May be met by experience) | Preferred |
| 3. | Registered lead auditors. | Essential |
| 4. | Item 1 and 2 may be replaced if a Lead Auditor has been part of an assessment team, lead by another meeting criteria 1 and 2 above, on at least 3 other occasions. | |

Experience/Skills

Understanding and knowledge of asphalt production and testing processes Essential

This ***may*** include:

- quarrying/transportation of aggregates
- binder properties/effects of storage
- plant maintenance/operation
- obtaining samples* and testing

***NOTE:** The auditor, or a member of the auditing team, should be able to show evidence that he/she has received training in the sampling of asphalt mixes, preferably in a UKAS accredited laboratory.

APPENDIX H : ORGANISATION ACCEPTANCE AND GUIDELINES FOR NEW APPLICANTS

ORGANISATION ACCEPTANCE

For work carried out on roads managed by the Highways Agency or its' designated agent, the Highways Agency specifies within its *Specification for Highway Works* that only those organisations holding a valid Certificate of Registration for work within the scope of this Sector Scheme Document will be accepted.

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

It will be the responsibility of the Certificated organisation to inform the compilers of the Schedule of Suppliers (currently LANTRA Awards) that it has received certification against the Scheme within 14 calendar days of confirmation of certification - this shall be a requirement for newly certificated organisations and those renewing certification. Organisations shall additionally inform the Secretary of the Advisory Committee to the Scheme of when they receive first certification and/or have certification renewed.

GUIDELINES FOR NEW ENTRANTS

Compliance with the scheme can only be fully assessed by approved Certification Bodies through an evaluation when work is in progress. Applicants should therefore consider any seasonality they may experience in the scope of their works before beginning the certification process.

To enable new entrants to the scheme to prove compliance, both documentary evidence and site procedures must be the subject of assessment. The following guidelines are provided:

- i) Organisations must have sufficient appropriately experienced and qualified key operatives, supervisors and staff.
- ii) Organisations must have applied for registration with a Certification Body accredited by UKAS to audit against this Scheme (see Appendix F).
- iii) Documented procedures must be in place (to the satisfaction of the Certification Body) to demonstrate that the organisation can comply with the requirements of the Scheme. A temporary certificate, based on those procedures, may be granted and will be valid for a maximum period of 12 months.
- iv) Site audits must be carried out to provide full compliance with the Scheme. Wherever possible, these audits should be carried out concurrently with the system audit, and at least within 6 months.
- v) Full certification can then be granted verifying that the Scheme criteria have been met.

APPENDIX J **FEEDBACK**

APPENDIX J1: **FEEDBACK ON THIS DOCUMENT**

Use of Form Appendix J1:

Any observations, feedback or complaints **relating to the content of this document** or the process **described** herein should be addressed (using the form below) to:

Committee Chairman
Sector Scheme Advisory Committee for the Quality Management of the Production of Asphalt Mixes
c/o UKAS
21 – 43 High Street
Feltham
Middlesex
TW13 4UN
Tel: 0208 917 8400
Fax: 0208 917 8500

Problem Identified:

Suggested Action:

Name:

Organization:

Address:

Contact details:

Date:

APPENDIX J2: FEEDBACK RELATING TO CERTIFICATION ISSUES

Use of Form Appendix J2:

- (i) Feedback or complaints relating to certification matters in respect of *alleged deficiencies in the service provided under this scheme* should in the first instance be taken up with the Organisation. In the event that the matter cannot be satisfactorily resolved, written complaints should be made to the Organisation's Certification Body, detailing the problem identified, using the form below.
- (ii) Feedback or complaints relating to *alleged deficiencies in the service provided* by Certification Bodies to applicant/certificated organisations should in the first instance be taken up with the Certification Body. In the event that the matter cannot be satisfactorily resolved, written complaints should be made to UKAS, copied to the Chairman of the Sector Scheme Advisory Committee (address in Appendix J1), using the form below.

Contact addresses may be obtained by following the procedure given in Appendix F..

Problem Identified:

Organization's Details:

Name:

Address:

Complainant's Name:

Organization:

Address:

Date:

Signed:

APPENDIX K: THE INTERPRETATION OF CERTIFICATES ISSUED BY CERTIFICATION BODIES

The certification bodies issue a variety of styles of Certificates of Registration, which may or may not include the scope of the registration and the location of premises that are covered by the certificate of registration.

The full scope of registration may be included on the certificate or in an Appendix, it may be a text list or described as a schedule. Other Appendices or addendum may also be used to list the Organization's premises included in the certification.

In order for the registration to be valid with respect to this and other Sector Schemes the scope of registration must include specific reference to the Sector Scheme. A list of work activities appropriate to the Specification for Highway Works is not sufficient to indicate compliance. The words 'National Highway Sector Schemes' must be included along with the scheme number. Where possible the scheme title should also be included, e.g. '14 – Sector Scheme for Quality Management of the Production of Asphalt Mixes'.

Many organizations operate from several locations e.g. regional offices, asphalt plants, service depots etc. It is important that each and every location covered by the certificate of registration is identified by the certification body and included with the certificate as an essential part of the registration process. This may be achieved by the attachment of an addendum or appendix that is referred to on the certificate of registration. The Addendum or Appendix shall include sufficient information that will identify the scope of registration at each location and where applicable the relevant category of work that can be undertaken at that location e.g. type of vehicle restraint system that can be installed.

The following are example models for the certification.

Figure 1 shows the scope of registration on the certificate and

Figure 2 shows an example of an Appendix for scope of registration. The italic text in square brackets indicates where specific text would need to be included. Where appropriate the information on location and their respective scopes may be included on the Appendix for scope of registration.

Figure 1 Example Model Certificate of Registration.

[Certification Body Name / Logo]

C E R T I F I C A T E O F R E G I S T R A T I O N

[ORGANIZATION NAME]

[Organization Address]
[Town]
[County]
[Post Code]

[Certification Body Name] issues this certificate to the above named company after assessing the company's quality management system and finding it in compliance with

BS EN ISO 9001:2000 AND THE FOLLOWING NATIONAL HIGHWAY SECTOR SCHEMES

For the following scope of registration
[List of appropriate highways related works].
National Highways Sector Schemes

[Sector Scheme number and Title]

[Sector Scheme number and Title]
[Sector Scheme number and Title]

[(Appendix ... details the full scope of registration and Appendix ... details the locations covered by this registration)]

Certificate Number: [Certificate Number]
Issue Date [date]
Renewal Date [date]

Signature

[Name & Title of Certification Body Official]

[Certification Body standard footer: Name / Logo / UKAS Logo / NHSS Logo etc.]

Figure 2 Example Model Appendix

[Certification Body Name / Logo]

APPENDIX

To Certificate Number *[Certificate Number]* Appendix No. *[1]* Page 1 of *[1]*

This Appendix declares the scope of registration of the certificate granted to:

[ORGANIZATION NAME]

[Organization Address]
[Town]
[County]
[Post Code]

Scope of Registration

[List of appropriate highways related activities]
 National Highway Sector Schemes
[Sector Scheme Number and Title]
[Sector Scheme Number and Title]
[Sector Scheme Number and Title]

<i>Depot, Regional Office etc</i>	<i>Applicable Sector Scheme(s)</i>	<i>Scope of Registration</i>
<i>[Depot 1 New road, Newtown]</i>	<i>[Sector Scheme Number and title]</i>	<i>[Detailed scope]</i>
<i>[Depot 2 Old Road, Oldtown]</i>	<i>[Sector Scheme Number and title]</i>	<i>[Detailed scope]</i>

[Certification Body standard footer: Name/ Logo/ UKAS Logo/NHSS Logo etc.]