
**Graphic technology — Guidelines for
schema writers — Template for colour
quality management**

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document specifies requirements for certification schemes for certifying the production of printed products. Quality and repeatability are ensured by applying total quality control according to ISO 9001 as the overarching method, coupled with print specific ISO standards.

A certification can be centred around any ISO standard related to print production. It will therefore use the term THE REFERENCED STANDARD as a pointer to the actual standard that is referenced in the certification scheme. Digital presses that can match an output condition of THE REFERENCED STANDARD are also intended to be included for certification.

While this scheme assumes familiarity and adoption of a quality management systems based on the requirements of ISO 9001, it doesn't intend to assess or audit an organization's conformity to a complete implementation of ISO 9001.

The use of this document should make it easier to compare certifications worldwide.

A scheme developed according to this document can be validated by accreditation organisations to produce verifiable results.

In this document:

- “shall” indicates a requirement;
- “should” indicates a recommendation;
- “may” indicates a permission;
- “can” indicates a possibility or a capability.

Information marked “NOTE” is for guidance in understanding or clarifying the associated requirement.

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Graphic technology — Guidelines for schema writers — Template for colour quality management

1 Scope

This document provides a framework that organisations can follow, and that can be used as the structure for market or sector specific schemes. It is intended to be a process certification.

The goal of this document is to have comparable attestations or certifications worldwide.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3664, *Graphic technology and photography — Viewing conditions*

ISO 12646, *Graphic technology — Displays for colour proofing — Characteristics*

ISO 13655, *Graphic technology — Spectral measurement and colorimetric computation for graphic arts images*

ISO/IEC 17011, *Conformity assessment — Requirements for accreditation bodies accrediting conformity assessment bodies*

ISO/IEC 17065, *Conformity assessment — Requirements for bodies certifying products, processes and services*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

product

final output (printed matter) supplied to the customer

Note 1 to entry: In the context of an attestation or certification this means that the emphasis is on a specific compliant print production process, and not on the organisation as such.

3.2

colour quality and production management system

range of processes, including those of a quality management system, as outlined in this document, which are required to consistently produce printed products compliant with ISO colour quality standards

3.3

accredited body

authoritative body that performs accreditation

Note 1 to entry: The authority of an accreditation body is generally derived from government.

3.4 certification

third party attestation related to products, processes, systems, or persons

[SOURCE: ISO/IEC 17000:2004, 5.5]

4 Template for requirements of colour quality and production management system of the organization

4.1 General

To achieve and maintain certification, the organization shall be in accordance with the requirements of this scheme.

4.2 Colour quality and production management system requirements

Requirements for the colour quality and production management system are as specified in ISO 9001, but with a scope specified for the colour quality system.

The scope shall be defined according the following:

- **Tone and colour reproduction to** < THE REFERENCED STANDARD > : < PRODUCTION METHOD(s), (as applicable); <PROCESS>, (as applicable); < CUSTOMISED PRINTING CONDITION > , (as and if applicable).
- **Outsourced tone and colour reproduction to** < THE REFERENCED STANDARD > : < PRODUCTION METHOD(s) > , (as applicable); <PROCESS>, (as applicable) < CUSTOMISED PRINTING CONDITION > , (as and if applicable).

Any change to the scope of the certification shall be agreed to by the certification body.

Site locations of the certified organization shall be defined within the scope. Site locations can only be included if the colour quality system applies at a particular site to be included, and an audit product test has been successfully conducted at that site.

Processes which can be included in the scope of the certification are the following:

- pre-press, proofing and PDF file submission to an agreed printing conditions;
- press* only, including plate calibration and TVI curves;
- proofing and press*, including plate calibration and TVI curves;
- pre-press, proofing and press*;
- outsourced printing in any of the above categories.

Organisations are deemed to provide pre-press services when some or all of the following activities are undertaken by the organization itself.

- Process and correct and/or colour manage clients application files.
- Process, colour manage and/or retouch images.
- Pre-flight and correct and/or colour manage PDF or other file formats.
- Scan analogue colour originals, if required.

*A press for the purposes of this scheme is any conventional printing device or printing press covered by THE REFERENCED STANDARD and digital printing devices outputting to THE REFERENCED STANDARD conditions. For presses with other TVI, or no TVI, than assumed by this document, for

example digital presses, adjustments to or simulation of the expected TVI in this document shall be implemented to ensure that the tone levels are reproduced in the same way.

Compliant product claims

Certified organisations shall only make compliant claims relating to specific printed products, via invoices and delivery notes, and other product specific documents, to customers, where it is documented that those products meet the requirements of the certification scheme, and when the organization has an existing valid accredited certification under this scheme at the time of production.

Organisations shall not claim to be in accordance to THE REFERENCED STANDARD, other than in relation to a specific printed product.

Customised printing

Customised printing conditions involving the use of non-THE REFERENCED STANDARD or amended THE REFERENCED STANDARD colour data sets and profiles including digital printing.

It is recognized that there are cases of customer requirements, including non- standard papers, processes including digital printing, papers, boards and other substrates, inks, etc. may require the use of printing conditions and ICC profiles which are not covered within THE REFERENCED STANDARD colour quality standards.

A customised printing condition is defined as: A printing condition that uses a combination of substrates, inks and printing methods that are not referenced by current THE REFERENCED STANDARD standard printing conditions.

In this case, any printing company can be certified to these customised printing conditions by demonstrating that the same controls, systems, policies and measurement tolerances required by this scheme and the associated ISO standards are adhered to, where it is demonstrated that it is possible and appropriate to do so. Any proposed certification for a customised printing condition, and relevant aim values, shall be agreed by the printer seeking certification in advance with the certifying body for this certification scheme.

4.3 Additional requirements

In addition to the requirements of [5.1](#), the organization shall:

- a) maintain records needed to provide evidence that individual printed products meet the referenced ISO colour quality standard requirements;
- b) where appropriate, ensure adequate control over outsourced printing processes through identification and use of suppliers with valid certification through this scheme, when printing products intended to be compliant with the requirements of this scheme and THE REFERENCED STANDARD;
- c) determine if the customer requires a product to be printed in accordance with a specific ISO standard and that the organization is capable of producing a complaint product (e.g. the printed matter) according to this standard. Where product requirements are such that the organization cannot meet the requirements of THE REFERENCED STANDARD, this shall be communicated and explained to the customer prior to order acceptance;
- d) determine and implement effective methods for communicating with customers and suppliers in relation to:
 - acceptability of artwork and/or proofs supplied (for example by providing artwork guides and references to referenced standards), and
 - printed product being in accordance claims on delivery notes, invoices and other customer related documentation.

- e) ensure that only authorized and competent personnel have access to systems and files, and that only authorized users are able to access and manipulate data files. All changes to data files should be documented and fully attributed to those making the changes;
- f) ensure the provision and maintenance of necessary and appropriate controlled lighting conditions, and access to and use of appropriate colour measuring equipment and software.

4.4 Print(s) being in accordance and certification claims

4.4.1 Claims of conformity

Where the printed matter is claimed to be in accordance with THE REFERENCED STANDARD as defined by this scheme, the organization can make a claim to the customer, and if so, then shall use only the following wording:

“this print is <ISO STANDARD> in compliance (accredited certification: certification body name; certificate number)”*

The wording shall be legible and shall be used on invoices, delivery notes, quotations, and other customer related documentation, and will distinguish between compliant products and others identified on the documentation.

*in this example the language is English, but this can of course be in the local language.

4.4.2 Certification marks

The organization may make use of the relevant marks and logos supplied by the certification body as proof of being certified, but only in the way specified by that body.

Claims regarding certification shall only be made in terms that state that:

- the certified organization is capable of consistently printing to meet the requirements of THE REFERENCED STANDARD (s).
- the certified organization operates a colour quality and production management system, to ensure that, where required, products are compliant with THE REFERENCED STANDARD(s).

4.5 Outsourced printing

For organisations which outsource the printing of a product(s) and intend to claim that the print(s) are in accordance, there shall be assurance of that printed matter being in accordance. The organization shall ensure that:

- a procedure for ensuring the accurate identification of the validity of the certification of the outsourced supplier is documented and implemented;
- the organization providing the printed product has a valid, accredited and current certification to THE REFERENCED STANDARD under this scheme and for the relevant printing process at the time of production;
- records are kept of the validation of the certification of the relevant outsourced suppliers;
- other relevant scheme requirements are met.

4.6 Colour quality policy

The colour quality policy represents the quality policy as far as the colour quality system is concerned. Senior management shall ensure that the colour quality policy covers, where applicable:

- the ISO standards, and methods of production, within the scope of the certification and the method of demonstrating to be in accordance;
- the development and maintenance of the competence of all personnel within the scope of the colour quality and production management system;
- the provision of the necessary infrastructure and equipment necessary for the production of compliant products and the review of the capabilities of such infrastructure and equipment in the light of technological and other changes;
- the method for external publication of the Colour quality policy to interested parties.

4.7 Colour champion

The organization shall ensure that there is a colour champion, or equivalent, who fulfils the role of management representative in relation to the colour quality system, appointed with authority to manage, monitor, evaluate and coordinate the colour quality and production management system. The colour champion may also be the organization's management representative, but shall have responsibility and authority which includes:

- ensuring that processes needed for the colour quality system are established, implemented and maintained,
- periodic reporting to senior management on the performance of the colour quality system and any need for improvement or additional resources,
- ensuring the promotion of awareness of the requirements of THE REFERENCED STANDARD through the organization
- ensuring that necessary training is provided and adequately resourced, keeping up to date with technology and market developments which can have an impact upon the effectiveness or currency of the organization's methodologies to be in accordance;
- advising senior management of developments relevant to being in accordance, or to improving working methods,
- maintaining contact with production and customer services (or equivalent) staff in order to monitor customer relations, and
- making recommendations for customer communications to help customers improve the quality of data files delivered for compliant production workflows.

4.8 Press and digital output device maintenance

The organization should ensure maintenance and servicing in accordance with the manufacturer's recommendations, records of maintenance are kept, and appropriate checks are carried out for colour quality control.

Products utilized, and batch numbers shall be recorded, including information relevant to the fulfilment of THE REFERENCED STANDARD, for example for:

- ink;
- substrate;
- toners;

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- ink jet cartridges;
- other manufacturer specific digital printing consumable items;
- fountain solution (if used);
- blanket type and construction;
- rollers;
- plates;
- press chemicals.

Records of lithographic press fountain solution shall include

- conductivity,
- PH readings,
- tank maintenance,
- IPA levels (if used),
- temperatures in the press room, and
- humidity in the press room

(Frequency of measurement, targets and tolerances);

Records of Offset blankets shall include

- blanket changes (dates and times),
- blanket age,
- impression count, and
- torque wrench settings.

Records of printing rollers shall include the following:

- roller setting;
- roller maintenance;

(Frequency of measurement, targets and tolerances);

Records for digital presses shall include the following:

- duty cycle periods for replaceable parts,
- proof of adherence to this duty cycle periods,
- manufacturer specific maintenance areas and items,
- colour calibration and the target output standards.

NOTE The above list is not exhaustive and can be expanded on where and when necessary depending on the printing technology used.

4.9 Purchasing

4.9.1 Purchasing of consumables

Where consumables are required to be in accordance with the scheme requirements the organization shall ensure and verify that inks/toners used comply with THE REFERENCED STANDARD, if applicable, for those inks/toners, and shall monitor and evaluate the continuing capability of inks/toners to enable the production of compliant products.

4.9.2 Selection and purchase of measuring equipment

The organization shall determine and record the criteria and justification for the selection and purchase of measuring equipment, to demonstrate fitness for purpose of such equipment.

4.10 Identification and traceability

4.10.1 Identification and records

The organization shall identify and record each product intended to comply with the THE REFERENCED STANDARD by suitable means throughout the production process, and shall identify its status with regards to conformity following production.

4.10.2 Proof verification

All work proofed to customers shall have proof verification or full report on being in accordance to THE REFERENCED STANDARD and the relevant printing condition attached. For example, ISO 12647-7 or ISO 12647-8 can be used for this.

4.10.3 Control of measuring equipment

The organization shall have available at all times the measuring equipment required to fulfil the requirements of the certification scheme, subject to periodic maintenance and calibration activities which may occur offsite.

4.10.4 Measuring equipment

All measuring equipment shall be:

- calibrated or verified, or both, annually, or according to manufacturer's recommendation;
- adjusted or re-adjusted as necessary;
- have identification in order to determine its calibration status;
- safeguarded from adjustments that would invalidate the measurement results;
- protected from damage or deterioration during handling, maintenance and storage;
- in accordance with ISO 13655 for colorimetry.

If there is a recommendation for this from the vendor – use this, or build a checklist from the list provided above.

4.10.5 Maintenance activity

Any maintenance activity which can affect the measurement performance of the measuring equipment in determining product being in accordance (including servicing, re-calibration and certification) should be conducted by an accredited testing laboratory (ISO/IEC 17025), whose accreditation scope

shall cover the equipment concerned and all aspects of spectral and density measurement relevant to that equipment.

Where it is physically impractical to return instrumentation to an ISO/IEC 17025 accredited testing laboratory, such as in the case of in-line devices on presses, the devices shall be maintained according to the manufacturer's recommendations and in accordance with [4.10.7 a\)](#).

4.10.6 Records of measuring equipment

Records of the results of calibration and verification, and in-house accuracy and repeatability (frequency of measurement, targets and tolerances) shall be maintained for all measuring instruments.

4.10.7 Monitoring accuracy of equipment

The organization shall implement a process for monitoring the accuracy of its measuring equipment, which shall include:

- a) the use of a master or reference equipment or set of measured data;
- b) a definition of the tolerance of error against the reference equipment or data;
- c) appropriate periodic checks of the accuracy of instrumentation;
- d) a process for maintaining the accuracy of measurements taken in the event of the failure of any of the organization's measuring equipment;
- e) an immediate withdrawal and quarantine of any measuring equipment found to be out of the defined tolerance.

In addition, the organization shall assess and record the validity of the previous measuring results if the equipment is found not to conform to requirements. The organization shall take appropriate action with the equipment and any product affected.

4.10.8 Fitness for purpose of computer software

When used in the monitoring and measurement of specified requirements, fitness for purpose of computer software for the intended application shall be confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

4.11 Customer complaints

Where a product compliant claim for a product has been made, records of customer complaints relating to that product shall be available and provided to the certification body upon request.

4.12 Internal audit

The organization shall conduct internal audits performing sufficiently regular checks of product conformity to THE REFERENCED STANDARD, to all the requirements of this scheme and to the organization's own colour quality and production management system. Internal auditors shall be competent to perform effective audits.

4.13 Monitoring and measurement of the product

4.13.1 Evidence of product conformity

Where a product compliant claim is made, the organization shall provide evidence of product conformity, to the certification body on a quarterly basis, or according to the period specified by the certification body.

4.13.2 Dry back

Where appropriate, the organization shall provide evidence of an appropriate dry back calculation for relevant printing conditions and shall review the calculations as appropriate.

The method used to calculate the wet ink measurements and their relationship to the dry measurements needed to determine that the product is in accordance shall be clearly defined, documented and demonstrated to the satisfaction of the certification body.

4.14 Provision of infrastructure

The organization shall ensure the appropriate provision of:

- a) colour viewing lighting conditions to ISO 3664 in the relevant areas, where visual colour judgements are made;
- b) colour accurate computer monitors to ISO 12646, where colour judgements are made on the basis of computer generated images; monitors shall be able to display at least 90 % of the main colour data set or ICC profile data set based gamut, and the monitor profile should be validated on a regular basis, with this validation recorded (frequency of measurement, target and tolerances). For other ISO printing conditions using smaller CMYK gamuts (such as used within THE REFERENCED STANDARD) the relevant data set or ICC profile can be used and the monitor shall be able to display 90 % of the gamut of this chosen profile.

4.15 Monitoring and measurement of process

The organization shall establish and maintain:

- a documented colour management workflow covering all production software components that can influence the colour appearance of the printed product;
- digital proofing control, calibration and recording to comply with THE REFERENCED STANDARD and records kept of calibration showing conformity (frequency of measurement, targets and tolerances);
- regular calibration of the plate making process (when relevant) and records kept of the calibration and validation results (frequency of measurement, targets and tolerances);
- press process control methods for both conventional and digital presses, calibration and recording shall comply with THE REFERENCED STANDARD for the production method;
- pre-press personnel shall ensure that the use of colour profiles in all software and workflows is controlled and not subject to corruption or unintended replacement.

4.16 Competence, training and awareness

4.16.1 Knowledge of ICC profiles

Pre-press personnel shall have sufficient knowledge of ICC profiles and their use with images and within software, in relation to the organization's Colour quality policy. This shall also apply to the use of colour management checks within all forms of pre-flighting software, PDF creation, computer to plate workflows and digital printing devices that are within the scope of certification.

4.16.2 Colour champion

The colour champion shall demonstrate specific competence in the following areas (unless excluded from scope):

- standard requirements;

- colour theory;
- technical pre-press activities;
- technical press activities;
- measurement and product conformity.

Competence shall be demonstrated by training, skills, knowledge and experience or through an appropriate personnel certification scheme for colour management competence.

5 Template for requirements of demonstration of product conformity

5.1 Certification body product test

The organization should pass an audit product test carried out by the certification body in order to be certified. Tests are carried out prior to certification and on an annual basis thereafter, unless otherwise specified by the certification body. The certification shall comply with the requirements for certification bodies as specified by this scheme. For the certification body's product test, the organization shall ensure that the product being tested achieves conformity with THE REFERENCED STANDARD.

A test form, or acceptable production job, shall be used and shall include the elements as required by THE REFERENCED STANDARD, and as defined by the certification body.

5.2 Product conformity in day-to-day production

In day-to-day production, where a product compliant claim is made to the customers, conformity shall be demonstrated by

- conformity with THE REFERENCED STANDARD or,
- appropriate on-press closed-loop system reports.

All measurements should normally be taken in a dry state, however, where this is not possible; an appropriate dry back calculation should be applied. A documented analysis of such wet to dry measurements shall be provided.

To determine conformity, at least 68 % of the sampled sheets shall be validated to be within the tolerances. This is in line with the requirements in ISO 12647-2:2013, 4.3.2.3.

The sheet/impression sampling requirement is based on sheets printed from a set of plates and is as shown in [Table 1](#).

It is recognized that some on-press closed loop ink control systems are capable of reporting on ISO standard conformity. Printers using these systems should ensure that the figures and data captured from them record at least the CMYK primaries and TVI. For information it's also of value to report RGB secondaries and Grey balance. Such reports should comply with scheme requirements and be comprehensible for audit purposes.

5.3 Declaration of product conformity method

Where applicable, the method to be used for demonstrating on-going product conformity for day to day production shall be declared by the organization to the certification body prior to the certification, and the organization shall notify the certification body in advance of any change in the method used.

5.4 Sampling requirements: day-to-day production

5.4.1 Defining the sampling regime

The organization shall define a sampling regime for products where a compliant claim is intended to be made.

An example of such sampling regime is shown in [Table 1](#).

Table 1 — Sample regime for runs up to 30,000 impressions

Length of Run	Number of Sampled sheets
1 to 50 sheets/impressions ^a	1 sheet ^b
51 to 1 000 sheets/impressions ^a	2 sheets – pass sheet and one at 50 % of run ^b
1 001 to 2 000 sheets/impressions ^a	3 sheets – pass sheet and one at 750 and one at 1 500
Next 5 000 sheets/impressions ^a	2 further sheets – 3 000 and 4 500
Next 10 000 sheets/impressions ^a	2 further sheets
For every extra 10 000 sheets/impressions ^a	1 further sheet
^a For sheets that are perfected inline, both sides shall be sampled and recorded.	
^b For very short runs it's not possible to calculate variation in a meaningful way.	

For runs over over 30 000 impressions:

- the pass sheet and then one sheet every 15 min through the press run;
- for sheets that are perfected inline, both sides shall be sampled and recorded.

5.4.2 Sampling

Sampling shall also be conducted according to customer requirements, where defined by the customer, and where this produces a sample in excess of the minimum requirements as defined above.

5.4.3 Reporting

Identify and define the printing condition as follows:

Printing according to: Standard (e.g. THE REFERENCED ISO STANDARD)

Description of the process:

Platemaking modes:

Substrate/paper type:

Identify target TVI curves for Cyan, Magenta, Yellow and K (this may not be relevant for certain types of printing technologies. For presses with other TVI, or no TVI, than assumed by this document, for example digital presses, adjustments to, or simulation of, the expected TVI in this document shall be implemented to ensure that the tone levels are reproduced in the same way.)

Conformity to maximum colour deviation allowed: (e.g. THE REFERENCED ISO STANDARD)

Conformity to maximum deviation from target TVI: (e.g. THE REFERENCED ISO STANDARD)

5.4.4 Test print

5.4.4.1 Overview

The test print shall consist of a test run (see also [6.5](#)).

- 1) The initial "pass sheet" shall adhere to the ISO Standard tolerances, with two TVI measurement patches to be agreed with the certification body. For presses with other TVI, or no TVI, than assumed by this document, for example digital presses, adjustments to, or simulation of, the expected TVI in the standard shall be implemented to ensure that the tone levels are reproduced in the same way.
- 2) See [5.4.4.2](#) and [5.4.4.3](#) for the number of measurement areas for differing press a) sizes and types.
- 3) A minimum of 10 sheets will be sampled from the test run in addition to the pass sheet, as agreed with the certification body. Using the "pass sheet" as normative, these will be measured using the tolerances in the ISO Standard.)

5.4.4.2 Press size requirements for measurement areas

- 1) Up to B3 size presses. These require 2 areas where measurements shall be taken.
- 2) From B3 up to B2 size presses. These require 4 areas where measurement shall be taken.
- 3) From B2 up to B1 size presses. These require 6 areas where measurements shall be taken.
- 4) From B1 up to B0 size presses. These require 8 areas where measurement shall be taken.
- 5) For presses over B0 size, the measurement areas shall be agreed with the certification body.

5.4.4.3 Press size requirements for conformity

- 1) Up to B3 presses. 100 % of all readings (in the 2 areas) shall be within the tolerances of THE REFERENCES STANDARD.
- 2) From B3 up to B2 presses. 98 % of all readings (in the 4 areas) shall be within the tolerances of THE REFERENCES STANDARD.
- 3) From B2 up to B1 presses. 95 % of all readings (in the 6 areas) shall be within the tolerances of THE REFERENCES STANDARD.
- 4) From B1 up to B0 presses. 93 % of all readings (in the 8 areas) shall be within the tolerances of THE REFERENCES STANDARD.
- 5) Over B0 presses. 90 % of all readings (in agreed number of areas) shall be within the tolerances of THE REFERENCES STANDARD.

In all other cases, or where the above is not possible, the number of measurement areas and sample size shall be agreed with the certification body in conjunction with the scheme steering group/owner.

Where not covered by the conformity requirements stipulated above or in THE REFERENCED STANDARD, conformity required shall be determined by the certification body in conjunction with the scheme steering group/owner.

NOTE A press for the purposes of this appendix can be a printing device covered by THE REFERENCED STANDARD and digital printing devices capable of achieving tolerances as defined by THE REFERENCED STANDARD.

6 Certification for accredited bodies

6.1 General

The certification body shall meet all the requirements of ISO/IEC 17065. Only accredited certification bodies shall perform third party certification for the scheme, and under the conditions shown in this clause.

NOTE This clause describes certification for accredited bodies operating the certification of colour quality and production management system conformity in the organization.

6.2 Accreditations

The certification bodies shall be accredited by accreditation bodies meeting ISO/IEC 17011.

The accreditation body assessing to the relevant accreditation standard for this scheme should be used to assess the certification body. A schema writer/owner may choose not to adhere to this stringency, but then it should be made clear that the schema and certificate is not meeting the requirements of this scheme.

6.3 Certification body competences

6.3.1 General

Certification bodies shall employ audit teams ensuring that auditors, technical experts and reviewers are suitably competent and qualified to work in this area.

6.3.2 Auditor competence

Minimum competence for qualified auditors should be as follows:

- demonstrable work experience in the print and/or graphic arts sector for a period of 3 years within the past 10 years;
- colour management experience or appropriate colour management training;
- good knowledge of the THE REFERENCED STANDARD;
- ISO 9001 Lead Auditor certified;
- third or second party auditing experience of at least 10 days within a print and/or graphic arts environment;
- appropriate spectrophotometer training.

Trainee auditors should only be accepted by the certification body if the above criteria are met and after successful review of performance by a qualified auditor.

6.3.3 Technical expert competence

Technical experts should demonstrate:

- A minimum of 5 years recent work experience in a colour management environment;
- Detailed knowledge of the THE REFERENCED STANDARD;
- Knowledge of ISO 9001;
- Detailed knowledge of spectrophotometers and/or appropriate spectrophotometer training.