

Certification program

Premedia/Publishing

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PDF/X, Colour management, Display, Softproof, ugra.swiss, swissPSO

Related documents

U/TD 17.0	Certification system
ISO 15930	Prepress digital data exchange using PDF
ISO 15076	Image technology colour management -- Architecture, profile format and data structure
ISO 12646	Displays for colour proofing -- Characteristics
ISO 14861	Graphic technology -- Requirements for colour soft proofing systems

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1 Scope

Basis of the specified requirements are the following International Standards and specifications:

- ISO 15930 Prepress digital data exchange using PDF
- ISO 12646 Displays for colour proofing – Characteristics
- PDFX-ready CREATOR specification.

Unless otherwise noted, the specified requirements of the standards apply.

2 Specified requirements

2.1 Preflight

- A1. The organization shall conduct a systematic checking of all incoming and outgoing data.
 - a. PDF/X
 - b. proprietary document format standards such as InDesign or ArtPro
 - c. text and images
- A2. The organization shall define and document the inspection process.
- A3. The inspection process shall be carried out with a validation software (preflight software).
- A4. The organization shall describe preventive and/or corrective actions, how to handle non-validated documents and whether they are corrected.

2.2 Data creation

- A5. Exercise during the audit: A specialist of the organization shall create a layout page with given instructions. A validated PDF/X file shall be created using the layout application according to the guidelines of PDFX-ready.
The PDF/X document shall meet the requirements of ISO 15930. The PDF/X standard introduced in the organization shall be applied.
- A6. Exercise during the audit: A specialist of the organization shall output the created test page as a contract proof according to ISO 12647-7.
The test page shall be integrated subsequently in the printing layout for the test print.
- A7. Exercise during the audit: A specialist of the organization shall analyze digital image data, detect errors contained and assess them.
- A8. Exercise during the audit: A specialist of the organization shall demonstrate knowledge about color management:
 - a. ICC profiles
 - b. ICC and device link colour transformations
 - c. UCR/GCR and/or color server applications
 - d. Characterisation data and standardised ICC profiles
- A9. The organization should be certified according to PDFX-ready CREATOR.
- A10. The organization should be certified according to PDFX-ready OUTPUT.

Table 1 – Applied PDF/X standards

Specified requirement	Basis	Output intent	Test method	Preflight profile
validated PDF/X-1a document	ISO 15930-4	Sheetfed Web offset Digital printing Newspaper	PDF preflight with validation ¹	PXR certification V4.0
validated PDF/X-4 document	ISO 15930-7	Sheetfed Web offset Digital printing Newspaper	PDF preflight with validation ¹	PXR certification V4.0
1) For the purpose of validation it is recommended that the certified organization uses the PDFX-ready preflight profiles. 2) For the purpose of validation Ugra uses the preflight profiles of PDFX-ready according to the underlying output condition of the PDF/X document .				

2.3 Display

- A11. The screen shall display an image at a resolution of 1280 pixels x 1024 pixels without interpolation. The screen shall display an image having a diagonal of at least 43 cm and a height of at least 22 cm.
- A12. The luminance of the white screen (R = G = B = 255) should be at least 80 cd/m², but preferably between 120 cd/m² and 160 cd/m².
- A13. The screen should have a uniform luminance. The measurement is performed based on 9 measurement positions. The luminance of all measurement positions shall be within 10% and should be within 5% of the luminance of the screen center.
- A14. The screen shall be placed in a way, for example at an angle of 90° to the window, that no direct incidence of light and no reflection is given.
- A15. The auditor checks
- a. the ambient light conditions of the workstation with a light meter, i.e. the illuminance and the color temperature.
 - b. the screen using the software UDACT Ugra Certify Display.
The test result of the evaluation shall meet the requirements.
- A16. An expert of the organization shall proof that the screen is regularly, i.e. in periodical intervals, checked and/or calibrated. The expert shall demonstrate the checking and/or the calibration of the screen according to the internal standard working procedure.
- A17. For calibration, characterization and profiling as well as checking of the screen a measuring device with an appropriate software shall be used. The measuring equipment shall be checked and calibrated regularly. If possible, a valid calibration certificate for the measuring device should be presented. All protocols of these activities shall be archived digital or analog.
- A18. For the simple screen display the ambient light of the workstation shall comply with the following requirements according to ISO 12646:
- a. the illuminance of the ambient light of the screen should not be greater than 20% of the luminance of the screen white point (orientation value 50-200 Lux),
 - b. the illuminance of the ambient light on the screen surface in switched-off mode shall not be greater than ¼ of the luminance of the screen white point, should not be greater than ⅙ of the luminance of the screen white point.
 - c. Ambient light incident on the screen shall be eliminated.

- A19. For the comparison of the screen display with physical prints such as design or digital proofs, and products or other materials with color surfaces for color matching, a desktop colour viewing booth shall be placed next to the screen. The ambient light of the workstation shall comply with the following requirements according to ISO 12646:
- a. the illuminance of the ambient light on the screen surface in switched-off mode shall not be greater than $\frac{1}{4}$ of the luminance of the screen white point, should not be greater than $\frac{1}{8}$ of the luminance of the screen white point.
 - b. the color temperature of the ambient light should be within ± 500 K of the color temperature of the colour viewing booth standing alongside,
 - c. the illuminance of the ambient light of the screen shall not be greater than $\frac{1}{10}$ of the luminance of the screen white point,
 - d. the colour viewing booth shall comply with the requirements P2 according to ISO 3664:2009,
 - e. the colour viewing booth shall not emit direct light on the screen,
 - f. incidence of extraneous light on the objects in the colour viewing booth shall be eliminated.
- A20. The immediate area of the workstation shall comply with the following requirements:
- a. no colored wall surfaces, curtains, blinds.
 - b. no colored tables, piece of furniture or other furnishings.
 - c. Equipment for protection against incidence of light.
- A21. The operator working at the workstation shall wear color-neutral, i.e. gray or black clothes.

3 Conformity testing

The conformity testing of the specified requirements laid down in Chapter 2 shall be carried out by means of the following measures:

1. Inspection during audit
2. Interview (Q&A) during audit
3. Proof of competence by qualified person of the organization

All non-conformities are logged by the auditor and documented as open requirement. The organization must remedy the the non-conformities in due time but at the latest until the next surveillance audit.

3.1 Non-conformities

Non-conformities are documented by the auditor according to the following classification:

Table 1 – Classification of non-conformities

Classification of Non-conformities (NK)	Description
Critical non-conformity	A normative requirement is not compliant. Conformity must be mandatory complied to confirm the certification.
Major non-conformity	A normative or specified requirement is not compliant and therefore leads to a non-conformity.
Minor non-conformity	A normative or specified requirement is partially not compliant and therefore leads to a non-conformity.
Recommendation	A requirement is compliant, but can be optimized by means of recommended measures.

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