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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Graphic technology - Requirements for colour soft proofing
systems**

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foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1. Structure and Drafting Rules of Standardization Documents" drafted.

This document is equivalent to ISO 14861.2015 "System Requirements for Color Soft Proofing for Printing Technology".

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

Introduction

In the printing industry, the use of images displayed on color monitors to evaluate and accept print color is increasingly common (commonly referred to as "soft printing").

sample"). This requires a color display and associated viewing environment capable of simulating the final print as viewed under standard print viewing conditions

like appearance. We assemble the major components needed to do the job to create a soft proofing system, which typically includes a display,

Color measurement equipment, driver software (for calibrating, characterizing the display and displaying data) and viewing light box. The overall design and calibration of the system are

To control and consider the effects of ambient lighting.

With the increasing application of soft proofing, the demand for objective and vendor-neutral evaluation methods for soft proofing systems has also increased steadily.

Book

The document lays out requirements for systems that use digital data on electronic displays

to generate display images designed to simulate a set of

According to the defined characterization printing conditions and the spot color defined by the reference object.

This document is based on the display requirements specified in ISO 12646, the viewing light box requirements specified in ISO 3664, and the compliance requirements specified in ISO 12647-7.

Developed on the basis of hard copy proofing requirements.

There are three common soft proofing observation scenarios. The first scenario is that there is no associated observation light box, and the soft proofing sample is displayed in the display

The second scenario is that the observation light box is associated with the display; the third scenario is to install the display in the observation light box, and the display is the observation light box.

part of the light box. When testing how close the display image simulates the chromaticity data of the encoded original, it is not necessary to distinguish between the above three

Scenes. However, when evaluating the similarity of soft proofs to the reproduction of the reference print (as described in this document), it is necessary to observe a light box or controllable

interior lighting.

There are three steps to objectively evaluate the soft proofing display system. First, test the display and viewing light box to ensure that these components can produce high

quality soft proofs; second, to test the combined performance of the monitor and display driver software; third, to evaluate the ability to simulate a certain output condition

force, usually simulating a characteristic printing condition.

The data processing and display driving software considers the given chromaticity reference value of display driving and simulation separately, which are collectively called simulation. show

The main focus of the driver software is to accurately characterize the display, which is usually done using tactile measurement instruments.

When evaluating the display device itself, evaluate the display and any associated viewing light boxes (or indoor lighting capable of using the viewing light box).

light fixtures) and ambient light as a whole. The degree of simulation of the expected characterization printing conditions represents what is seen from the viewing position

Displays chromaticity values. Therefore, it is necessary to refer to the readings of the

remote spectroradiometer at this stage of evaluation.

Often in the absence of hard copy proofs, the evaluation of printed products such as newspapers or offset products against soft proof proofs can allow

Use the monitor and associated viewing light box, and/or use the monitor mounted in the viewing hard copy viewing light box. In view of this situation, the

When conducting research on how to reliably display specific documents so that they can play the role of contract templates, or as a reference when there is a color difference dispute, etc.

content research.

This document does not cover scenarios where the monitor is used alone in uncontrolled lighting conditions. Because it's the best way to judge soft proofs on monitors

The final visual appearance needs to take into account the influence of ambient light, even when viewing soft proofs alone and not with the real thing (such as proof prints, production prints, etc.).

The same is true when comparing products or product samples).

It is not easy to achieve the qualified simulation of the reference sample by the soft proofing proof. If you want to achieve accuracy, you must strictly control many aspects in the process

noodle. The main purpose of this document is to establish the criteria and tolerances required to evaluate a complete soft proofing system.

Printing Technology Color Soft Proofing System Requirements

1 Scope

This document specifies requirements for systems that use digital data to generate display images on electronic displays intended to simulate

Characterized printing conditions defined by a set of characterization data and spot colors defined by reference objects give information on equipment selection, setup, operation

Recommendations for operating and environmental conditions, and appropriate test methods related to these requirements are also specified.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document.

tions)

ISO 12639 Printing Technology Prepress Data Interchange Label Image File Format for Graphic Technology (TIFF/IT) [Graphic

Note. GB/T 22113-2008 Printing Technology Prepress Data Interchange Label Image File Format for Image Technology (TIFF/IT) (ISO 12639.

2004, IDT)

ISO 12646 Graphic technology-Displays for colour proofs

ISO 12647-7 Printing technology - Process control of halftone separations, proofs and production prints - Part 7.Direct use

Note. GB/T 17934.7-2021 Printing Technology Mesh Tone Color Separation Plates, Proofs and Process Control of Production Printed Matters Part 7.Direct Use Data

Proofing process of word data (ISO 12647-7.2013, IDT)

ISO 15930 Printing Technology Using PDF for Prepress Digital Data Exchange (Graphictechnology-Prepressdigital

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1

display

An electronic device that communicates information visually.

3.2

Defines the process control objectives of various printing conditions (offset printing, gravure printing, flexo printing, direct printing, etc.)

The conversion relationship between the tone value (usually CMYK value) and the chromaticity value of the printed image, and the conversion relationship is converted into an electronic file

save.

[Source. GB/T 27935.1-2016, 3.3, with modifications]