INTERNATIONAL STANDARD

ISO 12642-3

First edition
2021-09

Graphic technology — Input data for characterization of 4-colour process printing —

Part 3: Extended data set including near neutral scale

Reference number
ISO 12642-3:2021(E)

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Published in Switzerland

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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).

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For an explanation of 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 www.iso.org/iso/foreword.html.

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

A list of all parts in the ISO 12642 series can be found on the ISO website.

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.

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Introduction

The characterization target ink value combinations defined in ISO 12642-2, have proven very effective for use in characterizing various printing processes. When the ISO 12642-2 and its predecessor the ISO 12642-1 target were introduced, there was a need for a visual layout and manual reading of the target. This led to the need to have some ink value combinations repeated in both single-colour scales and in various overprint combinations. This resulted in 29 duplicate patches in the ISO 12642-2 data sets.

Although a totally revised and/or expanded target has been proposed at various times, the size of the existing ISO 12642-2 target and its patch size have been accepted by the industry and most scanning spectrophotometers contain drivers that accept this format. This led to the decision that the most useful way forward was to simply replace the duplicate patches with new ink value combinations. Because of the increased use of neutral scale calibration, it was felt that these patches would be more useful as additional black only patches and near-neutrals. The ISO 12642-3 target described in this document represents the implementation of these proposals. Some of the removed patches were used in other systems, while duplicate patches were used to verify consistency. The use of multiple targets, averaged measurements and printing of targets along with the ISO 12642-3 are processes that can be used for the capture of the desired data.

There is no required layout or patch size defined for this data set. Users are free to randomize the layout and/or “fit” it to the space available. However, the members of the graphic arts community believe strongly that an example layout should be provided as a guide to the user. Because of the removal of the 29 patches that “filled out” the symmetrical colour layout, no “visual” layout is provided. One randomized example layout is provided.

The needs of publication, commercial, and package printing with offset lithography, gravure, flexography, and other printing processes have been considered.

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Graphic technology — Input data for characterization of 4-colour process printing —

Part 3:
Extended data set including near neutral scale

1 Scope

This document defines a data set of ink value combinations that can be used to characterize four-colour process printing. This data set is not optimized for any printing process or application area but is robust enough for all general applications. While it is primarily aimed at process colour printing with CMYK inks, it can also be used with any combination of three chromatic inks and a dark ink.

This document is an alternative to the ISO 12642-2 data set where more neutral scale data are desired. It is not designed as a replacement for ISO 12642-2.

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 12642-2, *Graphic technology — Input data for characterization of 4-colour process printing — Part 2: Expanded data set*

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 https://www.electropedia.org/

3.1
data set
total collection of independently identified ink value sets

Note 1 to entry: The terms “patch” and “target” are deliberately avoided because they imply a physical object or layout. This document only defines the data values that users are free to arrange in any target layout that meets their needs, using patches of any size compatible with their measuring equipment.

3.2
ink values
digital value that represents the amount of a colorant required in a rendering process, which, for the halftone printing process, is equivalent to the tone value/dot area expressed as a percentage

3.3
ink value set
set of four *ink values* (3.2) representing the amount of the four colours to be used in a process colour area

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