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Third edition
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Graphic technology — Process control for the production of half-tone colour separations, proofs and production prints —

Part 6: Flexographic printing

*Technologie graphique — Contrôle des processus de confection de
sélections couleurs tramées, d'épreuves et de tirages —*

Partie 6: Processus flexographique



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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 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*.

This third edition cancels and replaces the second edition (ISO 12647-6:2012), which has been technically revised. It also incorporates the Amendment ISO 12647-6:2012/Amd 1:2015.

The main changes compared to the previous edition are as follows:

- the intent of the document has been changed from a process control definition to a specification of the way to exchange the information necessary to define the printing characteristics of the desired product. To do this, it has built on colour management technology and the exchange of colour characterization data.

A list of all parts in the ISO 12647 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

Historically, the ISO 12647 series of International Standards established the process control parameters and their aim values and tolerances for the most important professional printing processes of the graphic arts industry. The initial concept was that the groundwork for the series was laid down in ISO 12647-1. This document differs from that concept because flexographic printing has changed significantly since the ISO 12647 series was initially conceived.

This current edition differs from the earlier edition by not defining specific printing condition aims, but instead requiring that a specific reference printing condition (characterization data set) be specified. Flexographic printing differs from other printing procedures by using a variety of printing machine architectures, ink sequence, ink types, anilox rollers, substrate types, etc. Each of these involve different printing condition and process control aims. This document requires that the colour of the printed product match a characterization data set or a printing condition agreed upon by the provider and the receiver. It specifies minimum requirements and tolerances to be communicated and produced.

The purpose of a proof is to simulate the visual characteristics of the finished printed product as closely as possible, which often becomes a contractual agreement between the provider and the receiver. ISO 12647-7 defines a process where colour characterization data are used to produce a contract proof.

Defined output intent should be a smooth data set, it is recommended to use an industry accepted Reference characterization data set. The use of a data set from an old flexographic press results in a lumpy characterization data, and consequently problematic transforms. The goal for most packaging is to render all print to a similar appearance, typically the same aim reference characterization data set is used for flexographic, offset, gravure, and digital printing.

This market also uses colour proofing on electronic displays. The International Standards for colour proofing on electronic displays are ISO 14861 and ISO 12646.

Spot colour management is defined in this document to utilize spectral data in an XML schema defined by ISO 17972-4. ISO 17972-4 includes exchange specifications for spot colour characterization data to facilitate the communication of spot colour data.

There are many cases in this document where the provider and the receiver communicate. Modern flexography has the capability to align with most other printing aims, however there are some conditions based on substrate, applications, printing forme technology where aligning to providers aims cannot be met. [Table 5](#) list all attributes that should be discussed for these exceptions.