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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 12647-6 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This second edition cancels and replaces the first edition (ISO 12647-6:2006), which has been technically revised. This revision of this part of ISO 12647 has changed the intent of the document 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.

ISO 12647 consists of the following parts, under the general title *Graphic technology — Process control for the production of half-tone colour separations, proofs and production prints*:

- *Part 1: Parameters and measurement methods*
- *Part 2: Offset lithographic processes*
- *Part 3: Coldset offset lithography on newsprint*
- *Part 4: Publication gravure printing*
- *Part 5: Screen printing*
- *Part 6: Flexographic printing*
- *Part 7: Proofing processes working directly from digital data*
- *Part 8: Validation print processes working directly from digital data*

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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 part of ISO 12647 differs from that concept because flexographic printing has changed significantly since ISO 12647 was initially conceived.

This edition of this part of ISO 12647 differs from the earlier edition by not defining specific printing condition aims but instead requires 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 part of ISO 12647 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 and 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 provider and receiver. In order to visually simulate a particular printed product, off-press proofing processes might require values for various process control aims (e.g. solid tone colouration, tone value increase) which are different from those of the printing process they are meant to simulate. This is caused by differences in phenomena such as gloss, light scatter (within the print substrate or the colourant), ink trap or overprint efficiency, metamerism and transparency. Such differences are likely for those off-press proofing processes in which the print substrate, the colourants and the technology for applying them are significantly different from flexographic printing. In such cases the user or the supplier needs to ensure that appropriate corrections are specified.

Although this market uses colour proofing on electronic displays, and it was the intent of the authors to reference the requirements for such proofing techniques, ISO/TC 130 has not yet defined a standard in this area that can be referenced. It is hoped that such work will progress and be available in the near future.

In addition, work has started on ISO 17972, *Graphic technology — Colour data exchange format*. ISO 17972-4 will include exchange specifications for spot colour characterization data to facilitate the communication of spot colour data.