Second edition
2004-11-15

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

Part 2:
Offset lithographic processes

Technologie graphique — Maîtrise des procédés pour la fabrication des séparations de couleur en ton tramé, des épreuves et des tirages en production —

Partie 2: Procédés lithographiques offset

Reference number
ISO 12647-2:2004(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.

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 part of ISO 12647 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 12647-2 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

This second edition cancels and replaces the first edition (ISO 12647-2:1996), which has been extensively revised. The revisions include the following:

a) introduction of digital data as input;

b) reduction of the tone value increase by roughly 3 %;

c) changes in the colouration of the primary and secondary solids (Table 2);

d) introduction of an additional measurement condition with a specified white backing;

e) general clean-up.

In view of the misconceptions about the use of density and grey balance values, it was decided to move this information to an informative annex.

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

— *Part 1: Parameters and measurement methods*

— *Part 2: Offset lithographic processes*

— *Part 3: Coldset offset lithography and letterpress on newsprint*

— *Part 4: Publication gravure process*

— *Part 5: Screen printing*

— *Part 6: Flexographic printing*

Introduction

Part 1 of ISO 12647 serves to provide definitions, the general principles, the general order of the material to be covered in the subsequent parts 2 to 6, the definition of the data, the measurement conditions and the reporting style.

This part of ISO 12647 lists values or sets of values of the primary parameters specified in ISO 12647-1 and related technical properties of a half-tone offset lithographic print. Primary parameters include the screening parameters, the tone value increase, the colours of the solids and the print substrate. Conformance to the specified values in proof and production printing assure, in principle, a good visual match between specimens produced. Exceptions from this general observation are discussed in the following paragraph.

The purpose of a proof print is to simulate the visual characteristics of the finished print product as closely as possible. In order to visually match a particular print, off-press proofing processes often require values for solid-tone coloration and tone-value increase that 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 colorant), metamerism and transparency. Such differences are likely for those off-press proofing processes in which the print substrate, the colorants and the technology for applying them are significantly different from offset press printing. In such cases the user or the supplier needs to ensure that appropriate corrections are specified.

Another problem area is the matching of a digital off-press proof on an opaque substrate to a double-sided print on a less-than-opaque, lightweight printing paper as used in heat-set web printing. If the proof is made with colour management profiles based on measurements with white backing, there will be an unavoidable difference between proof and production prints, placed on a black backing in accordance with the specifications of this part of ISO 12647. The possible occurrence of such differences needs to be well communicated, in advance, to the parties concerned.