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Graphic technology — Prepress digital data exchange — Use of PDF —

Part 3: Complete exchange suitable for colour-managed workflows (PDF/X-3)

Technologie graphique — Échange de données numériques de préimpression — Emploi de PDF —

Partie 3: Échange de fichiers complets aptes à la gestion des couleurs (PDF/X-3)

Reference number
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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 3.

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 15930 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15930-3 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

ISO 15930 consists of the following parts, under the general title *Graphic technology — Prepress digital data exchange — Use of PDF*:

— *Part 1: Complete exchange using CMYK data (PDF/X-1 and PDF/X-1a)*

— *Part 2: Guidelines for partial exchange of printing data (PDF/X-2)*

— *Part 3: Complete exchange suitable for colour-managed workflows (PDF/X-3)*

Annexes A to D of this part of ISO 15930 are for information only.

Introduction

ISO 15930 defines methods for the exchange of digital data within the graphic arts industry and for the exchange of files between graphic arts establishments. It is a multi-part document where each part is intended to respond to different workflow requirements. These workflows differ in the degree of flexibility required. However, increasing flexibility can lead to the possibility of uncertainty or error. The goal throughout the various parts of ISO 15930 has been to maintain the degree of flexibility required while minimizing the uncertainty.

Many printed documents are assemblies of partial pages and/or pages created at different locations and by different organizations. The merging of these individual elements into the final printing form and the subsequent printing may take place at different locations. Some of these elements may also be routed to multiple sites for incorporation into other documents. Each of these elements is referred to in ISO 15930 as a compound entity.

A variety of data formats and structures are used for the creation of this type of material, but with two prevalent kinds of underlying data structures. These are vector-based data for the encoding of line art and textual information; and raster-based data for the encoding of image information, including previously rasterized line art and textual information. Both kinds of data structures are required along with page description information in an open electronic workflow. The exchange of raster-based data using the TIFF/IT file format is defined in ISO 12639. The subject of ISO 15930 is a format for the exchange of object-based data where individual objects may be in either vector or raster data structures.

This part of ISO 15930 complements the other parts by defining a data format and its usage to permit the predictable dissemination of a compound entity to one or more locations, as colour-managed data and/or CMYK data, in a form ready for final print reproduction, by transfer of a single file. This file must contain all the content information necessary to process and render the document, as intended by the sender, coded inside a single PDF file. No other parts – neither external files nor internally embedded files – are required or permitted. This exchange requires no prior knowledge of the sending and receiving environments and is sometimes referred to as “blind” exchange. It is platform and transport independent.

These goals are accomplished by defining a specific use of the publicly available Adobe Portable Document Format as specified in Version 1.3. In order to achieve a level of exchange that avoids any ambiguity in interpretation of the file, it identifies a limited set of PDF objects which may be used and adds restrictions to the use, or form of use, of those objects, and/or keys within those objects.

Whereas PDF/X-3 specifies the exchange of complete material, with all elements present, there are occasions where this is not appropriate. In certain workflows some or all of the referenced elements may be more logically present at the receiving site, or may be exchanged at a different time. These include fonts, high resolution contone image files, or line art files. These exchanges will generally require prior agreement between sender and receiver. The requirements for such situations are addressed in other parts of ISO 15930. Other exchanges may be more appropriately restricted to CMYK data only; such exchanges are accommodated in ISO 15930-1.

Although re-purposing of data is not a primary consideration or requirement of this part of ISO 15930, maximum flexibility will be maintained so that future requirements for re-purposing may be accommodated.

It is anticipated that a variety of products will be developed around PDF/X, such as readers (including viewers) and writers of PDF/X files, and products that offer combinations of these features. Different products will incorporate various capabilities to prepare, interpret and process conforming files based on the application needs as perceived by the suppliers of the products. However, it is important to note that a conforming reader must be able to read and appropriately process all files conforming to a specified conformance level.