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AMERICAN NATIONAL STANDARD

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

Part 3:

Complete exchange suitable for color-managed workflows (PDF/X-3)

SECRETARIAT
NPES THE ASSOCIATION FOR SUPPLIERS OF PRINTING, PUBLISHING
AND CONVERTING TECHNOLOGIES

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CGATS



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This standard is an identical adoption of ISO 15930-3:2001, an International Standard that was developed under ISO Technical Committee 130, Graphic Technology.

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Foreword

ANSI CGATS/ISO 15930-3 is an identical adoption of ISO 15930-1:2003. ISO 15930-3 was prepared by ISO Technical Committee 130, *Graphic technology*, with the support of the ANSI Committee for Graphic Arts Technologies Standards (CGATS).

Minor edits have been made to this standard to prepare it as an ANSI CGATS standard. No technical changes have been made.

The CGATS consensus body approved the national adoption of ISO 15930-3 for issuance as CGATS/ISO 15930-3 in accordance with the *ANSI Procedures for the National Adoption of ISO and IEC Standards as American National Standards* and the CGATS Operating Procedures.

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CGATS/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 3: Complete exchange suitable for color-managed workflows (PDF/X-3);

Part 4: Complete exchange of CMYK and spot color printing data using PDF 1.4 (PDF/X-1a);

Part 5: Partial exchange of printing data using PDF 1.4 (PDF/X-2)

Part 6: Complete exchange of printing data suitable for color-managed workflows using PDF 1.4 (PDF/X-3)

Introduction

CGATS/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 CGATS/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 CGATS/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 CGATS/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 CGATS/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 CGATS/ISO 15930. Other exchanges may be more appropriately restricted to CMYK data only; such exchanges are accommodated in CGATS/ISO 15930-1.

Although re-purposing of data is not a primary consideration or requirement of this part of CGATS/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.

This is a preview of "ANSI CGATS/ISO 15930...". [Click here to purchase the full version from the ANSI store.](#)

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

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

1 Scope

This part of CGATS/ISO 15930 specifies the use of the Portable Document Format (PDF) for the dissemination of complete digital data, in a single exchange, that contains all elements necessary for final print reproduction. These exchanges will support both colour-managed workflows and traditional CMYK workflows.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15930. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15930 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ICC.1:1998-09, *File Format for Color Profiles*, International Color Consortium

Adobe Portable Document Format, Version 1.3, second edition, 2000, Adobe Systems Incorporated (ISBN 0-201-61588-6)

Adobe Technical Note #5413 — *Recording Output Intentions for Color Critical Workflows*, 22 January 2001, Adobe Systems Incorporated

3 Terms and definitions

For the purposes of this part of ISO 15930, the following terms and definitions apply.

3.1

bleed

additional printing area outside the nominal printing area necessary for the allowance of mechanical tolerance in the trimming process

NOTE The bleed area includes the area that may be printed but does not include printers' marks of any kind.