

A Reference Guide for  
National and International  
Standards Activities

# The BlueBook

Standards for the Printing,  
Publishing and  
Converting Industry

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# Preface

The purpose of this handbook is to provide you with a reference to standards activities in the printing, publishing, and converting industry, both in the United States and internationally.

As with all ongoing activities, the status of the activities described is ever-changing. Please feel free to contact the APTEch Standards Department if you would like information relating to the current status of a project.

Please visit the Standards Workroom at

<https://www.printtechnologies.org/standards/standards-workroom/> for links to order forms for industry standards, meeting information and important industry updates.

This document presents an overview and is not exhaustive. Links to additional information are provided in the references section (appendix E).

Questions regarding standards activities can be directed to Debbie Orf, Senior Director of ICC and Standards APTEch, via Tel: 703-264-7200; Fax: 703-620-0994; or E-mail: [dorf@aptech.org](mailto:dorf@aptech.org).

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# Introduction

When most people hear the word standards, what comes to mind is rules – steps that must be followed. To view standards through a different lens – one that makes visible the benefit standards can provide your organization- is part of the aim of this Bluebook.

Before we delve into the who's and what's of standards work, we want to make clear why standards matter and why you should care.

## WHY STANDARDS MATTER

**Customers** – Deliver on expectations – Your customers want products and services that are high quality, reliable, consistent, and safe. Reliance on standards and conformity assessment activities helps to demonstrate these important characteristics in an impartial way, earning customer trust and loyalty.

**Common language** – Standards define terminology, measurement and testing methods that match the needs of the whole industry. This helps to ensure cross border transactions encounter fewer difficulties pertaining to misunderstandings of this nature.

**Your job** – and how you do it. Standards can affect the procedures followed in certain fields of work and provide industry best practices to stay at your optimal level of performance. A benefit to both you and your employer.

**Global acceptance** – International standards are based on the consensus of global expert opinion. Industry standards are widely accepted by commercial and consumer end-users, as well as governments across borders.

In the past, standards were thought of as being the lowest common denominator, restrictive, and of little importance. That has changed and is continuing to change for the better. Today, standards are recognized as being essential to helping companies innovate, reduce costs, improve quality, and maintain competitiveness in an international marketplace.

Standards for the printing, publishing, and converting industry will enable processes to run faster, more predictably, more efficiently, and be more cost effective by:

- providing uniform, defined procedures and tools which help users produce quality products for their customers;
- facilitating interconnectivity and process integration among systems, both CEPS and desktop;
- allowing users to communicate with one another easily;
- enhancing product quality and reliability at a reasonable price;
- increasing distribution efficiency and ease of maintenance; and
- improving health, safety and environmental protection, and reduction of waste.

Standards are no longer just for manufacturing. Whether you are a manufacturer, a reseller, a product user or a print buyer, standardization can be of benefit to you. You are encouraged to familiarize yourself with these industry standards, and to become actively involved in the development of new standards. It takes the cooperation of both equipment and product vendors and the users to develop standards which will best serve the industry. Even if you are unable to attend meetings, you can become involved by reviewing draft documents under development and providing comments. By familiarizing yourself with the standards for the industry, you can bring them to the attention of others, and encourage their implementation. Standards efforts to strengthen the industry can only be successful through the commitment of the industry to provide the technical personnel resources to develop and implement sound technical and safety standards.

Although personnel resources are stretched, it is increasingly important that U.S. manufacturers of equipment and technology, as well as the users of this equipment and technology, not only keep up-to-date on standards activities, but also become active participants in standards development. The time and cost are minimal relative to potential benefit for your business.

ISO was founded with the idea of answering a fundamental question: “what's the best way of doing this?”

# 1 Why Have Standards?

## OBJECTIVE OF STANDARDIZATION

The objective of standards documents is to specify clear and unambiguous provisions in order to help international trade and communication. The documents strive to be comprehensible to qualified people who have not participated in their preparation as well as provide a framework for future technological development. A document does not in itself impose any obligation upon anyone to follow it. However, an obligation can be imposed, for example, by legislation, in some countries, or by a contract which refers to the document. Standards are to be written using all available knowledge about the state of the art while considering the current market conditions.

A key goal of international standardization is to define requirements that products and services should meet to be acceptable in all markets. To ensure broad acceptance, members of the standards community have made considerable progress in establishing internationally accepted principles on how such standards should be developed.

## APTECH AND STANDARDS

APTech supports participation in ISO standards development on behalf of the printing industry as it endorses ANSI's platform that promotes policies and procedures in international forums that encourage the development of standards that are voluntary, consensus-based, market-driven, and globally relevant.

In addition, APTech supports and administers the activities of the ANSI-accredited Committee for Graphic Arts Technologies Standards (CGATS) as well as the ANSI-accredited B65 Committee, both of which develop national standards (some of which are later taken up by ISO at the global level).

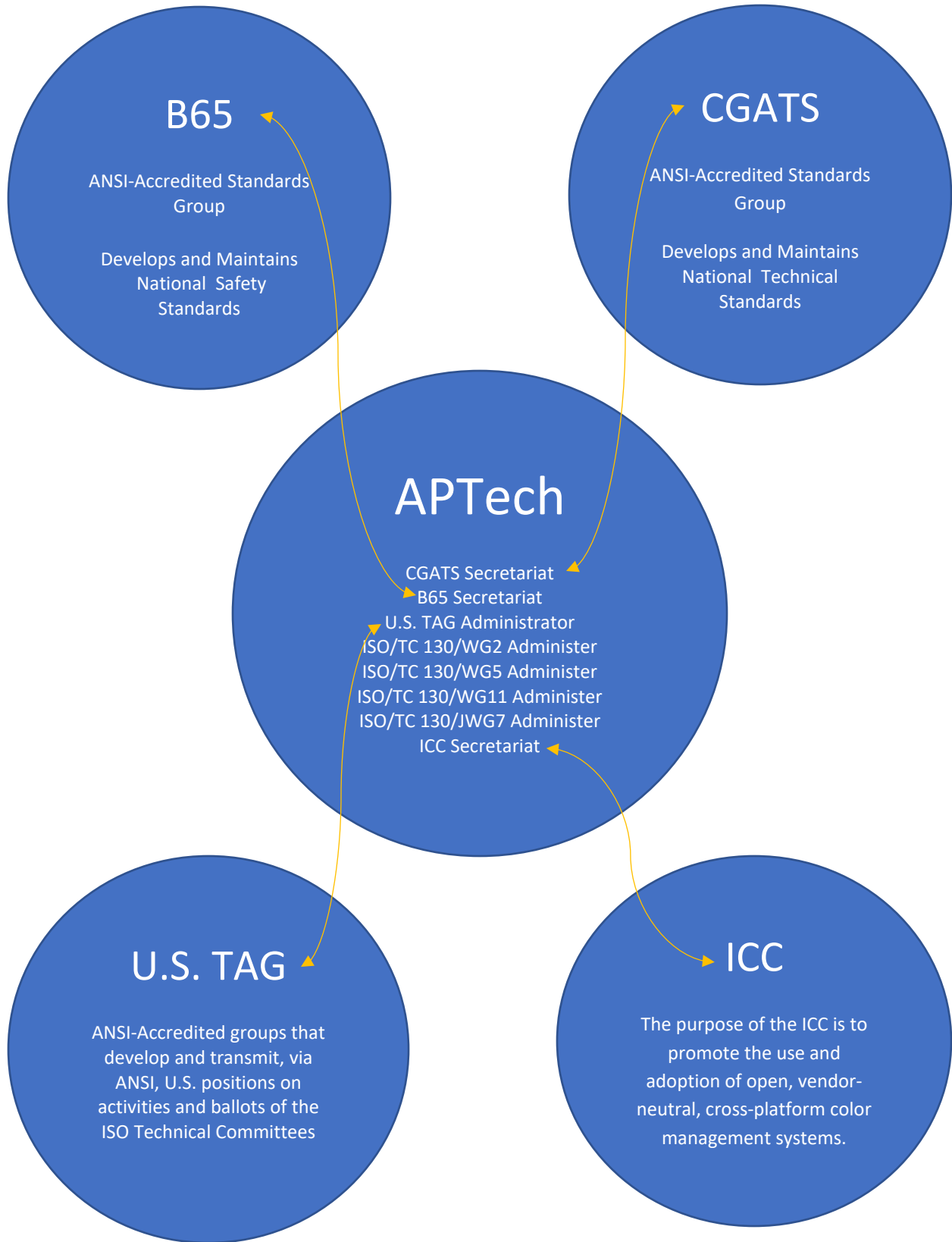
Whether at the global level, or the national level, important work gets done by these standards committees. Work that is volunteer-based and in support of improving outcomes for the printing industry.

## **HOW THE INDUSTRY CAN HELP**

To help ensure standards developers are on the right track, industry, government, and consumers should provide standards developers with feedback on their needs and how well standards developers are meeting those needs.

Industry should support standards development through participation of their experts, funding of research, and sharing of information useful in defining and setting standards requirements. They should also utilize, and support the use of, standards to produce goods, provide services, install products, and conduct all other aspects of business activity in their respective sectors.

*Source: The United States Standards Strategy [https://www.ansi.org/standards\\_activities/nss/ussr?menuid=3](https://www.ansi.org/standards_activities/nss/ussr?menuid=3)*





## What is an International Standard?

An International Standard is a document containing practical information and best practice.

It often describes an agreed way of doing something or a solution to a global problem.

# 2 ISO

## WHAT IS ISO?

The International Organization of Standardization (ISO) is an independent, non-governmental international organization with a membership of [164](#) national standards bodies, whose job is to make international standards. There is only one ISO member per country (ANSI is the ISO national standards body for the U.S.). Each member represents ISO in its country. Individuals or companies cannot become ISO members.

Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market relevant International Standards that support innovation and provide solutions to global challenges.

## WHAT IS AN INTERNATIONAL STANDARD?

An International Standard is a document containing practical information and best practice. It often describes an agreed way of doing something or a solution to a global problem.

## EXAMPLE OF AN INTERNATIONAL STANDARD

Standards for paper sizes (A4 family) make life easier for printer, photocopier and office supplies manufacturers, because they know their products will work with available paper formats.

## WHY IT WORKS

ISO standards development takes place in a neutral environment. The knowledge and best practice of leading experts around the world are taken into consideration when developing a standard. Harmonizing regulations across countries is also a key benefit of standardization.

## HOW ARE INTERNATIONAL STANDARDS MADE?

International Standards are created by the people who will use and be impacted by them. ISO calls them 'experts' and they come from industry, government, consumer organizations, academia, nongovernmental organizations, and more. ISO provides a neutral platform for experts to get together and achieve consensus. See Annex B for more on the stages of standards development.

## HOW ARE INTERNATIONAL STANDARDS KEPT UP-TO-DATE?

To ensure that they remain up-to-date and globally relevant, standards are reviewed at least every five years after publication through ISO's Systematic Review process. Through this process, national standards bodies review the document and its use in their country (in consultation with their stakeholders) to decide whether it is still valid, should be updated, or withdrawn.

## WHAT ISO DOES NOT DO

Provide certification of conformity to its standards. This is performed by external certification bodies. However, ISO's Committee on Conformity Assessment ([CASCO](#)) has produced several standards related to the certification process, which are used by certification bodies.

## ISO/TC 130 GRAPHIC TECHNOLOGY

ISO/TC 130 addresses standardization in the field of printing and graphic technologies. This field covers all phases of the process, where graphic elements (image, text, line art, pattern and others) are created, manipulated, assembled, communicated, and finally delivered electronically as digital products or physically to substrates using inks, toners and other marking or functional materials, and finished as demanded by the end applications.

ISO/TC 130 standards include but are not limited to those of terminology, evaluation of visual appearance and product quality, data exchange, process control, management, conformity assessment, impacts on the environments as well as requirements on and testing of the related materials, equipment and systems.

Click [here](#) to see the ISO/TC 130 Catalogue of Standards.

See Annex D for Liaison Committees to ISO/TC 130.

See Chapter 6 for more on how the U.S. participates in the work of ISO/TC 130.

## What is an International Standard?

An International Standard is a document containing practical information and best practice.

It often describes an agreed way of doing something or a solution to a global problem.

# 3 ANSI

## WHAT IS ANSI?

The American National Standards Institute (ANSI) is the U.S. member body to ISO (see ch2 for more on ISO). ANSI does not develop standards, but rather oversees the creation, promulgation, and use of thousands for standards, guidelines, and conformity assessment activities directly impacting businesses and consumers in nearly every industry and product line. ANSI is a dual-role organization, overseeing domestic standards development as well as providing the means by which the U.S. can participate in ISO work.

## WHAT IS A NATIONAL STANDARD?

ANSI facilitates the development of American National Standards (ANS) by accrediting the procedures of standards developing organizations (SDOs – e.g., APTech). These organizations work cooperatively to develop voluntary national consensus standards. See ANSI's brochure for more on the value of the ANS designation.

## WHY IT WORKS SO WELL

The ANSI process serves all standardization efforts in the United States by providing and promoting a process that withstands scrutiny, while protecting the rights and interests of every participant. ANSI standards help pave the way for quicker market acceptance of products while making clear how to improve the safety of those products for the protection of consumers. Integrity and inclusiveness of the ANS process result in high quality standards that help to protect the public interest and foster commerce

## **HOW ARE NATIONAL STANDARDS MADE?**

Like International Standards, National Standards are created by the people who will use and be impacted by them. Those that participate in the work of standards development come from industry, government, consumer organizations, academia, nongovernmental organizations, and more. These experts from the industry form the consensus body which comes together to achieve consensus on technical and safety solutions for the printing, publishing and converting industry.

## **HOW ARE NATIONAL STANDARDS KEPT UP TO DATE?**

American National Standards shall be kept current and relevant by means of timely revision, reaffirmation or action to stabilize by review of the entire document and action to revise or reaffirm it on a schedule not to exceed five years from the date of its approval as an American National Standard. Obsolete standards shall be withdrawn.

## **HOW DOES APTECH PARTICIPATE?**

APTech administers two standards development committees accredited by ANSI that develop national standards specifically for the printing, publishing, and converting industry. The Committee for Graphic Arts Technologies Standards (CGATS. See CH: 4) develops technical standards (see Annex A for definition) and the B65 Committee develops safety standards (see Annex B different types of standards)

## **ANSI AND THE LAW**

ANSI's ANS process provides potential legal safeguards: avoid antitrust and tort liability issues (see [www.standardslearn.org](http://www.standardslearn.org) for "Legal issues in standards setting"). The use of standards is voluntary, in principle, although standards can be cited in legislation or in legal contracts.

## **ANSI AND INTERNATIONAL STANDARDS**

ANSI promotes the use of U.S. standards internationally, advocates U.S. policy and technical positions in international and regional standards organizations and encourages the adoption of international standards as national standards where they meet the needs of the user community. Through ANSI, the U.S. has immediate access to the ISO standards development processes. Part of its responsibilities as the U.S. member body to the ISO include accrediting U.S. Technical Advisory Groups (U.S. TAGs), whose primary purpose is to develop and transmit, via ANSI, U.S. positions on activities and ballots of the international Technical Committee.

## CGATS PARTICIPATION

Participation on CGATS committees and at meetings is open to anyone having an interest. Apply for CGATS membership.

[Membership application](#)

[Meeting calendar](#)

# 4 CGATS

## COMMITTEE FOR GRAPHIC ARTS TECHNOLOGIES STANDARDS (CGATS)

CGATS was accredited by ANSI in 1989 and is charged with the overall coordination of graphic technology standards activities and the development of graphic technology standards that meet the identified goals of the industry. CGATS is the parent committee comprising Participating (voting) members and Observing (non-voting) members, along with the following subcommittees (SC) under its domain.

## CGATS SUBCOMMITTEES (SC) WORKING GROUPS (WG)

**SC 3 – Metrology and Process Control** develops standards for the measurement of optical characteristics (e.g., densitometry, colorimetry, etc.) of graphic arts images and materials, as well as standards that support the application of printing process control (e.g., process definition, characterization, analysis, control tools, etc.). SC 3 also reviews other national and international work in the area of densitometry, metrology and process control that may impact graphic arts, and provides comments when appropriate. SC 3 also functions as an advisory task force to the US TAG to ISO TC 130 in this subject area and maintains interaction with other U.S. and international organizations.

**SC 6 WG 1 - PDF/X** developed a set of standards to be used for the electronic exchange of files using Adobe's Portable Document Format (PDF). This work was done in cooperation with ISO TC 130 WG2TF2 and resulted in a series of ISO standards (ISO 15930).

*Currently in standby mode and will be reactivated for periodic maintenance of standards.*

**SC 6 WG 2 - Variable Data Exchange**, developed a standard relating to the creation and exchange of documents that combine

both database information and variable content. The standard defines the use of content from current design applications and variable information from common database applications.

*Currently in standby mode and will be reactivated for periodic maintenance of standards.*

**SC 6 WG 3 - Diecutting Data (IT8.6)** maintains IT8.6-2002, Graphic technology - Prepress digital data exchange - Diecutting data (DDES3). First issued in 1991, revised in 2002 and again in 2017, this standard establishes a data exchange format to enable transfer of numerical control information between diecutting systems and between diecutting systems and electronic prepress systems.

*Currently in standby mode and will be reactivated for periodic maintenance of standards.*

**SC 9 WG 1 - Electronic Design Workflow for Packaging** develops standard industry practices that encompass the entire packaging workflow, regardless of printing process. This includes the identification of a model, or reference, workflow for the package development process, from the identification of a project through preparation of an approved production file. Although the work defines the set of information that needs to be addressed in a workflow, it allows for variations based on individual needs, and is intended to be used as a reference in the creation of workflow procedures for specific organizations or products.

*Currently in standby mode and will be reactivated for periodic maintenance of standards.*

**SC 9 WG 2 - Ink and Color Characterization for Packaging** focused on the development of a procedure to characterize package printing of standard and non-standard process colors. This includes the development of standardized color targets, as well as other tools and guidelines.

*Currently in standby mode and will be reactivated for periodic maintenance of standards.*

CGATS has standards covering pallet loading of printed materials, metrology, terminology, plates, process control, electronic transmission of publication ads, digital data exchange, color data definition, design workflow for packaging, and ink and color characterization for packaging.

CGATS works to improve efficiency of national standards development, facilitates information exchange, coordinates multi-discipline standards activities and provides liaison for international standards development.

## APPROVED CGATS AND IT8 TECHNICAL STANDARDS

A current catalog of available [Technical](#) and [Safety](#) Standards can be downloaded from the APTEch [website](#). Copies of these standards can be purchased by contacting the APTEch Standards Department, Tel: 703-264-7200; or by contacting Debbie Orf at [dorf@aptech.org](mailto:dorf@aptech.org).

## SAFETY FIRST

The B65 Committee is focused on the safety of graphic technology equipment and Systems.

The B65 Committee also provides input to the international activities on issues relating to safety.

# 5 B65

### WHAT IS THE B65 COMMITTEE?

The B65 Committee is a standards-developing committee accredited by the American National Standards Institute ([ANSI](#)). It has been in existence since the early 1950's. The purpose of the B65 Committee is to develop ANSI safety standards for printing presses, bindery machines and other printing equipment. Work relates to the design, arrangement, designation, and color scheme of controls and signaling devices, as well as to guarding and interlocking of guards. Also addressed are other mechanical safety devices, symbology and safe practices as they apply to printing equipment.

### WHY IS IT IMPORTANT?

As the printing machinery industry becomes more globally oriented, it becomes increasingly important to have uniform international safety standards for the machinery. This allows manufacturers to design and build equipment to a single set of safety standards, regardless of the country of import/export. Thus, the B65 Committee is attempting to coordinate with similar activities in the European community and with other countries through participation in related work in the International Organization for Standardization ([ISO](#)).

### IS THE WORK LIMITED TO US NATIONAL STANDARDS?

The B65 Committee provides input to international activities on issues relating to safety. ISO TC 130, the technical committee for the graphic arts within ISO, has a working group (WG5) that deals with ergonomics and safety. The United States, in the form of APTEch, administers this international working group and is responsible for the management of work done by that committee. The B65 Committee provides technical experts to attend the meetings of ISO TC 130 WG 5, and reviews and comments on the international work.

The B65 subcommittee members also serve as advisors to the US TAG (technical advisory group) to ISO TC 130, advising on the U.S. position on international safety standards. National standards developed by the B65 committee have been moved into ISO and published as international standards.

## WHAT IS THE STRUCTURE OF THE B65 COMMITTEE?

The B65 committee is broken down into subcommittees (SC), with the responsibilities divided as follows

**SC 0 – General Requirements:** concerned with the design and construction of new equipment used in prepress systems, printing press systems, binding and finishing systems, converting systems and stand-alone platen presses. This includes equipment used in stand-alone mode or in combination with other machines, including ancillary equipment, in which all the machine actuators (e.g. drives) of the equipment are controlled by the same control system.

**SC 1 - Printing Press Safety:** concerned with design and use of web-fed and sheet-fed printing press systems, including drive controls, safety signaling systems, mechanical safety devices, warning labels and symbology.

**SC 2 - Bindery Systems Safety:** concerned with design of binding and finishing systems, including drive controls, safety signaling systems, mechanical safety devices, warning labels and symbology.

**SC 3 - Bindery Cutting Machines Safety** is concerned with safety standards for machines with cutting knives, including guillotine cutters and bindery trimmers.

**SC 4 - Platen Press Safety** is concerned with safety standards for the design and use of stand-alone platen press systems intended for die-cutting, embossing, foil stamping and/or printing.

**SC 6 - Safety of Ink-Making Equipment** is concerned with the revision of B65/NAPIM 177.1, Safety standard - Three-roller printing ink mills and B65/NAPIM 177.2, Safety standard - Printing ink vertical post mixers.

## PUBLISHED B65 SAFETY STANDARDS

A current catalog of available Safety Standards can be downloaded from the APTech website. Copies of these standards can be purchased by contacting the APTech Publications Department, Tel: 703-264-7200; E-mail [dorf@aptech.org](mailto:dorf@aptech.org), or by using the Order Form for Standards.

## HOW ARE B65 STANDARDS KEPT CURRENT?

In accordance with ANSI procedures, all standards undergo a periodic review every five years to determine whether to reaffirm, revise or withdraw the standard.



## **YOU CAN BE INVOLVED IN STANDARDS DEVELOPMENT!**

Membership on B65 and its subcommittees is open to anyone having an interest. To apply for B65 membership please use a photocopy of the membership application in this book or download a membership application from <http://www.npes.org/programs/standardsworkroom.aspx>.

Standards result from extensive technical discussions to find solutions to meet identified needs. Much of the work is developed in face-to-face meetings, supplemented by conference calls and e-mail exchanges. However, even if you are not able to travel and attend meetings, you can contribute your expertise to the standards development process by reviewing and commenting on documents.

## **TO LEARN MORE ABOUT B65**

You can get further information on the B65 committee and download a membership application by visiting the Standards Workroom.

## How does the U.S. participate in the development of International Standards?

ANSI accredits U.S. Technical Advisory Groups (U.S. TAGs). The primary purpose of these groups is to develop and transmit, via ANSI, U.S. positions on activities and ballots of the ISO Technical Committees. These technical issues include the approval, reaffirmation, revision and withdrawal of ISO standards.

# 6 U.S. TAG

## WHAT IS THE U.S. TAG?

The primary purpose of U.S. Technical Advisory Groups is to develop and transmit, via ANSI, U.S. positions on activities and ballots of the ISO Technical Committees and Subcommittees (See Chapter 1 for more on ISO). These technical issues include the approval, reaffirmation, revision and withdrawal of ISO standards.

## THE U.S. TAG COMPRISES

The U.S. TAG consists of experts from the industry who provide guidance to ANSI on the development of the U.S. position on international standards relating to the graphic arts.

## WHO IS RESPONSIBLE FOR DEVELOPING INTERNATIONAL STANDARDS?

The International Organization for Standardization ([ISO](#)) Technical Committee (TC) 130, Graphic Technology ([ISO/TC 130](#)), is the international technical committee that develops International Standards relating to printing, publishing and the graphic arts industry. The U.S. TAG functions as the U.S. mirror committee to ISO/TC 130 and provides the U.S. voice in discussions of international standards activities.

## WHAT AREAS OF INTEREST IS THE U.S. TAG WORKING ON?

The work of International Standards is done in ISO Working Groups (WG), Joint Working Groups (JWG), and Task Forces (TF). Currently, ISO/TC 130 is structured as follows:

WG 1 – Terminology

WG 2 – Prepress data exchange

WG 2 TF 1 – TIFF/IT

WG 2 TF 2 – PDF/X

WG 2 TF 3 – VDX

WG 2 TF4 – XMP

WG 2 TF5 – Common PDF Metadata

WG 3 – Process control & related metrology

WG4 – Media and materials

WG5 – Safety - Ergonomics

JWG 7 – Colour Management (with ICC)

WG 10 – Management of security printing processes

WG 11 – Environmental impact of graphics technology

WG 12 – Postpress

WG 13 – Printing certification requirements

JWG 14 – Print quality measurement methods (with TC42)

Task Force 3 – Workflow standards roadmap

## **I WANT TO BECOME INVOLVED IN THE WORK OF THE U.S. TAG**

Membership in the U.S. TAG to ISO/TC 130 is open to all U.S. organizations and individuals who have an interest, and who may be directly and materially affected by the standards work. Members are expected, at a minimum, to review and comment on documents under development that fall into their areas of interest and expertise. The current roster and a USTAG application form can be found in the Standards Workroom of the APTEch website. Please direct any USTAG membership questions to APTEch Senior Director ICC and Standards, Debbie Orf at [dorf@aptech.org](mailto:dorf@aptech.org).

## **THE TWO LEVELS OF U.S. TAG MEMBERSHIP**

The U.S. TAG to ISO/TC 130 offers two classes of membership – Participating member or Observing member. Participating members have voting rights and are required to vote for all ballots brought before the U.S. TAG. In addition, participating members are expected to attend U.S. TAG meetings (either in person or remotely). Observing members are kept informed of the work being done in the working groups where they participate and are encouraged to provide input to the appointed technical experts.

## What is an ICC Profile?

ICC profiles help you to get the correct color reproduction when you input images from a scanner or camera and display them on a monitor or print them. They define the relationship between the digital counts your device receives or transmits and a standard color space defined by ICC and based on a measurement system defined internationally by CIE.

Visit the official ICC website [here](#) for a wealth of information on color management.

# 7 ICC

## WHAT IS THE ICC?

APTech serves as Secretariat to the International Color Consortium (ICC), an organization devoted to the promotion of the use and adoption of open, vendor-neutral, cross-platform color management systems. The ICC was formed in 1993 by eight vendors in order to create an open, vendor-neutral color management system which would function transparently across all operating systems and software packages. It has since grown to include some 60+ members.

## THE ICC COMPRISES –

The ICC consists of companies, organizations, and academia, who are involved in some aspect with color management.

## WHAT IS THE ICC WORKING ON?

The ICC specification, published as ISO 15076, undergoes continuous upgrading and improvement. The latest version of the ICC spec (iccMAX) has been published as ISO 20677.

## ICC AND ISO?

ICC is liaison member to four ISO committees –

ISO/IEC JTC 1/SC 28, Office equipment

ISO/IEC JTC 1/SC 28/AG, Advisory Group

ISO/TC 42, Photography

ISO/TC 130. Graphic technology

## **I WANT TO BECOME INVOLVED IN THE WORK OF THE USTAG**

The ICC is open to corporate members who work in fields related to color management. Members must sign the ICC Membership Agreement, Promoters agreement and pay the annual dues.

[Click here](#) to learn more about the benefits of joining ICC.

## What is an ICC Profile?

ICC profiles help you to get the correct color reproduction when you input images from a scanner or camera and display them on a monitor or print them. They define the relationship between the digital counts your device receives or transmits, and a standard color space defined by ICC and based on a measurement system defined internationally by CIE.

Visit the official IEC website [here](#) for more information.

# 8 IEC

## WHAT IS THE ICC?

The International Electrotechnical Commission is the leading global organization that publishes consensus-based International Standards and manages conformity assessment systems for electric and electronic products, systems and services.

IEC publications serve as a basis for national standardization and as references when drafting international contracts.

The IEC's members are [National Committees](#), and they appoint experts and delegates coming from industry, government bodies, associations and academia to participate in the technical and conformity assessment work of the IEC in.

The U.S. National Committee of the International Electrotechnical Commission ([USNC/IEC](#)) serves as the focal point for U.S. parties who are interested in the development, promulgation and use of globally-relevant standards for the electrotechnical industry. The Committee is also engaged in the assessment of conformance to standards, undertaking work in areas such as testing, certification and accreditation.

IEC work is carried out by technical committees, their subcommittees and working groups (similar to ISO). Some 200 such committees span virtually all

electrotechnical sectors as well as associated disciplines such as terminology, symbols, safety and performance.

The responsibilities of IEC cover the field of electrical and electronic engineering, with all other subject areas being attributed to ISO. When necessary, attribution of responsibility for work programs to ISO or IEC is made by mutual agreement. In specific cases of mutual interest, joint technical bodies or working groups are set up. Common working procedures ensure efficient coordination and the widest possible global application. ISO and IEC have been working to develop joint procedures and formats.

IEC standards are widely adopted as the basis of national or regional electrotechnical standards and are often quoted in manufacturers' specifications and by users when stating their requirements. This widespread adoption facilitates international trade in the electrical and electronic engineering sectors.

## **U.S. PARTICIPATION IN IEC**

ANSI is the sole U.S. representative to the IEC through the [United States National Committee](#) (USNC). Just as ANSI accredits U.S. Technical Advisory Groups (U.S. TAGs) to ISO, it also accredits USNC Technical Advisors (TAs) to IEC. The TA's primary purpose is to develop and transmit, via ANSI, U.S. positions on activities and ballots of the international technical committee.

## **HOW IS IEC RELEVANT TO PRINTING, PUBLISHING, AND CONVERTING STANDARDS?**

ISO documents reverence IEC standards when covering requirements for electrotechnical matters. Many ISO standards for the printing, publishing, and converting industry include normative references to IEC developed standards.

## WHAT IS JDF?

**JDF** provides a single common language that supports the comprehensive lifecycle of a print job.

**JMF** is the message format for sending feedback back from devices to controlling software.

**XJDF** is a new, simplified standard that has recently been released and incorporates developments in XML and related tools.

**XJMF** is the message format that is aligned with XJDF.

Source:  
<https://www.cip4.org/>

## 9 CIP4

### INTERNATIONAL COOPERATION FOR THE INTEGRATION OF PROCESSES IN PREPRESS, PRESS AND POSTPRESS (CIP4)

[CIP4](#), an international association located in Switzerland, with representatives from 31 countries. CIP4's membership is organizational and boasts a diverse membership that includes printers, prepress companies, publishers, vendors of graphic arts systems and software, integrators, distributors, consultants and educators. The purpose of the association is to encourage computer-based integration of all processes that have to be considered in the graphic arts industry, in particular the specification of standards.

CIP4 is the successor of CIP3, which started in 1995 as a joint initiative of vendors for the graphical arts industry. Since then CIP3 has developed the Print Production Format which is today implemented in many applications.

CIP4 develops and promotes vendor independent standards for the graphic arts industry, such as the new Job Definition Format (JDF – see sidebar).

CIP4 runs several working groups in order to develop new extensions of JDF and to discuss future use cases. This is intended to be an ongoing process.

### HOW DOES JDF RELATE TO OTHER STANDARDS?

CIP4 has formal and informal cooperation with many other groups. Together, we are building bridges between islands of automation. CIP4 has formal and informal liaison with ISO TC 130, ICC, Idealliance, IFRA, PODi, Ghent Working Group, and UP3i. The standards can work together.



## MEMBERSHIP IN CIP4

[Membership](#) is open to any company involved in the graphic arts, and “meetings” are primarily held via internet meeting and conference call software, for the convenience of everyone involved.

See the complete list of [CIP4 members](#).

Can an American National Standard (ANS) become an International Standards (IS)?

Yes

U.S. standards are taken forward to ISO, through ANSI, where they are adopted in whole or in part as international standards.

# 10 National Adoptions

## ISO PUBLISHES AN INTERNATIONAL STANDARD, THEN WHAT?

Once ISO has published a standard, ANSI will have the option to adopt the standard as a national standard. An International Standard is a standard that is adopted by ISO and made available to the public. A National Standard is a standard that is adopted by a national standards body (e.g., ANSI) and made available to the public.

ANSI accredited standards developers (SDO) should take ISO standards into consideration and should, if appropriate, base their standards on or consider the adoption of an ISO standard as an American National Standard (ANS).

Once the decision is made by an SDO to proceed with a national adoption, ANSI is notified, and a notice will be placed in ANSI's Standards Action for public review. During the public review process, the SDO undertaking national adoption shall provide all public review comments to the US TAG for consideration. Once it is determined that there are no conflicting standards in use, the Standard will be adopted as ANS. For more on the national adoption process, please ANSI's [website](#).

## ONCE ADOPTED, IS THE STANDARD MANDATORY?

American National Standards are voluntary and serve U.S. interests well because all impacted stakeholders are invited to work together to create them. ANSI-approved standards only become mandatory when, and if, they are adopted or referenced by the government or when market forces make them imperative.

# Annex A

## Glossary of standards terms and acronyms

### **ANS - American National Standard**

Designation for standards developing process ensuring that the standard was developed according to the ANSI Essential Requirements. ANS are not developed by ANSI but rather by ANSI accredited Standards Developing Organizations (e.g., APTech). ANS is a Voluntary Consensus Standard (VCS) developed in accordance with the “ANSI Essential Requirements: Due process requirements for American National Standards” and subject to ANSI’s unique: 1) accreditation of consensus procedures; 2) neutral oversight; 3) approval process; 4) appeals process; and 5) procedural audit. ANS are maintained on a regular cycle to ensure currency. ANS designation indicates market and stakeholder recognition and acceptance

### **ANSI Essential Requirements**

Requirements for receipt of the ANS designation including due process, openness, balance, and consensus

### **ASD**

ANSI-accredited standards developers (ASD). Only ASDs may submit standards for approval as ANS. APTech is an ASD. All ASDs are subject to ANSI’s neutral third-party oversight including a regular procedural audit to ensure evidence of procedural compliance with ANSI’s Essential Requirements.

### **B65 Committee**

The B65 Committee is a standards-developing standards body accredited by the ANSI

### **CD**

Committee draft

### **CGATS**

Committee for Graphic Arts Technologies Standards – an ANSI-accredited standards body responsible for developing national standards for the US printing and publishing industry.

### **Conformity assessment**

Process of determining whether someone or something meets the requirements of a standard

**Consensus**

The goal of any technical committee: general agreement where there is no sustained opposition to substantial issues by any important part of the concerned interests, in a process that seeks to consider the views of all parties concerned

**Convenor**

Person who leads a Working Group (WG) towards consensus, making sure projects are properly managed and delivered on time. Usually from the sector or industry concerned

**DIS**

Draft international standard

**Draft**

Any document that is not yet a standard is “draft” or “proposed”

**Expert**

Person from a field or industry who contributes to the development of a standard

**FDIS**

Final draft international standard

**International Standards (capitalized):**

A trademarked term referring to standards developed by the International Organization for Standardization (ISO)

**ISO Central Secretariat (ISO/CS)**

ISO headquarters in Geneva where everything from IT helpdesk and editing to TPMs and membership are based

**ISO/IEC Directives**

Rules covering the work of ISO and the IEC. Part 1 covers procedures for standards development; Part 2 provides instruction on drafting standards

**Joint Working Group (JWG)**

In special cases a joint working group (JWG) may be established to undertake a specific task in which more than one ISO technical committee or subcommittee is interested

## **Liaison**

Agreement which might be between two ISO committees, an ISO committee and a corresponding IEC committee or an ISO committee and an external organization where they share expertise and relevant documents. There are different categories of external liaison with varying eligibility criteria, but all must be non-profit.

## **National Mirror Committee (NMC)**

National structure set up to mirror the work of an ISO Technical Committee within a National Standards Body. The NMC brings together stakeholders to establish a national consensus position on the work.

## **National Standards Body (NSB)**

National equivalent of ISO (e.g. ANSI in the United States, BSI in the United Kingdom, NEN in the Netherlands, SABS in South Africa). NSBs are members of ISO and responsible for voting on standards in ballot for their country.

## **NP**

New work item proposal

## **O-Member**

Observer member of a committee who follows the work and can comment but not vote or nominate an expert in a Working Group.

## **P-Member**

Participating member of a committee who takes part in the work, is obliged to vote and can nominate an expert in a Working Group.

## **Project stage**

Stage of a project's development, corresponding to an associated document:

Preliminary stage = Preliminary work item (PWI)

Proposal stage = New work item proposal (NP)

Preparatory stage = Approved work item (AWI) until there is a Working draft (WD)

Committee stage = Committee draft (CD)

Enquiry stage = Enquiry draft (ISO/DIS)

Approval stage = Final Draft International Standard (ISO/FDIS)

Publication stage = International Standard (ISO)

Example: a document at enquiry stage would be designated e.g. ISO/DIS xxxx.

### **Publicly Available Specifications (PAS)**

A Publicly Available Specification is published to respond to an urgent market need, representing either the consensus of the experts within a working group, or a consensus in an organization external to ISO. As with Technical Specifications, Publicly Available Specifications are published for immediate use and serve as a means to obtain feedback for an eventual transformation into an International Standard. Publicly Available Specifications have a maximum life of six years, after which they can be transformed into an International Standard or withdrawn.

### **PWI**

Preliminary work item

### **Standards:**

Standards are developed and defined through a process of sharing knowledge and building consensus among technical experts nominated by interested parties and other stakeholders - including businesses, consumers and environmental groups, among others.

Standards are a recognized unit of comparison by which the correctness of others can be determined. A standard may also be defined as a set of characteristics or qualities that describes features of a product, process, or service.

According to the World Trade Organization Technical Barriers to Trade (WTO / TBT) Agreement, Annex 1, a standard is “a document, established by consensus, that provides rules, guidelines, or characteristics for activities or their results” or “a document that provides, for common and repeated use, rules, guidelines or characteristics for products or related process and production methods, with which compliance is not mandatory.”

Standards are voluntary which means that there is no automatic legal obligation to apply them. However, laws and regulations may refer to standards and even make compliance with them compulsory.

### **Standards Developing Organizations (SDOs):**

SDOs include professional societies, industry and trade associations and membership organizations that develop standards within their area of expertise. They may develop standards with their own members or in cooperation with other SDOs and interested parties. SDOs in the United States may choose to develop standards that are submitted to ANSI for approval as American National Standards (ANS). They may also develop standards outside the ANSI accreditation and approval process.

**state of the art**

developed stage of technical capability at a given time as regards products, processes and services, based on the relevant consolidated findings of science, technology and experience

**Task force (TF)**

Group set up to act on future and/or standards development in a certain area.

**Technical Specifications (TS)**

A Technical Specification addresses work still under technical development, or where it is believed that there will be a future, but not immediate, possibility of agreement on an International Standard. A Technical Specification is published for immediate use, but it also provides a means to obtain feedback. The aim is that it will eventually be transformed and republished as an International Standard. TSs are normative documents that contain requirements.

**Technical Report (TR)**

A Technical Report contains information of a different kind from that of International Standards or Technical Specifications. It may include data obtained from a survey, for example, or from an informative report, or information on the perceived “state of the art”. TRs are informative documents that do not contain requirements.

**TC 130**

ISO/TC 130 is the ISO technical committee that addresses standardization in the field of printing and graphic technologies. This field covers all phases of the process, where graphic elements (image, text, line art, pattern and others) are created, manipulated, assembled, communicated, and finally delivered electronically as digital products or physically to substrates using inks, toners and other marking or functional materials, and finished as demanded by the end applications.

**TC 130 Standards (International Standards)**

ISO/TC 130 standards include but are not limited to those of terminology, evaluation of visual appearance and product quality, data exchange, process control, management, conformity assessment, impacts on the environments as well as requirements on and testing of the related materials, equipment and systems.

**USTAG**

The US TAG to TC 130 consists of experts from the industry who provide guidance to The American National Standards Institute (ANSI) on the development of the US position on International Standards relating to the graphic arts.

**WD**

Working draft

**Working Group (WG)**

Specialized group within a committee that is responsible for drafting a standard or set of deliverables. It is composed of experts and headed by a convenor.



# Annex B

## Stages of the Development of International Standards

International standards are developed by ISO technical committees (TC), subcommittees (SC) and working groups (WG) by a six-step process. The standardization process has several definite steps or stages which can be used both to describe the process and to indicate where in the process any one item has reached. If a document with a certain degree of maturity is available at the start of a standardization project, for example a standard developed by another organization, it is possible to omit certain stages. The following is a summary of each of the six stages with the associated document in parentheses:

- **PROPOSAL STAGE (NEW PROPOSAL - NP)** The first step in the development of an International Standard is to confirm that an International Standard is needed. A new work item proposal (NP) is submitted for vote by the members of the relevant Technical Committee to determine the inclusion of the work item in the program of work. The proposal is accepted if a majority of the participating (P) members of the Technical Committee vote in favor, and at least five P-members declare their commitment to participate actively in the project. At this stage, a project leader responsible for the work item is normally appointed.
- **PREPARATORY STAGE (WORKING DRAFT - WD)** A working group of experts prepares working drafts of the standard. Successive working drafts may be considered until the working group is satisfied that it has developed the best technical solution to the problem being addressed. At this stage, a Committee Draft (CD) is forwarded to the Technical Committee for the consensus-building phase.
- **COMMITTEE STAGE (COMMITTEE DRAFT - CD)** Once a Committee Draft is received by the TC Secretariat, it is registered by the ISO Central Secretariat. It is distributed to the P-members of the TC for a eight week ballot. Successive committee drafts may be considered until consensus is reached on the technical content, after which the text is finalized for submission as a Draft International Standard (DIS).
- **ENQUIRY STAGE (DRAFT INTERNATIONAL STANDARD - DIS)** The Draft International Standard (DIS) is circulated to all ISO member bodies by the ISO Central Secretariat for voting and comment within a period of 12-weeks. It is approved for submission as a FDIS (see Approval stage) if a two-thirds majority of the P-members of the TC/SC are in favor and

not more than one-quarter of the total number of votes cast are negative. If the approval criteria are not met, the text is returned to the originating TC/SC for further study and a revised document will be circulated for voting and comments as a DIS. DIS approval requires two-thirds of the votes cast by the P-members are affirmative, and no more than one-fourth of the votes cast are negative.

- **APPROVAL STAGE (FINAL DRAFT INTERNATIONAL STANDARD - FDIS)** The Final Draft International Standard (FDIS) is circulated to all ISO member bodies by the ISO Central Secretariat for a final Yes/No vote within a period of eight weeks. If technical comments are received during this period, they are no longer considered at this stage, but are registered for consideration during a future revision of the International Standard. The text is approved as an International Standard if a two-thirds majority of the P-members of the TC/SC are in favor and not more than one-fourth of the total number of votes cast are negative. If these approval criteria are not met, the standard is referred back to the originating Technical Committee for reconsideration in light of the technical reasons submitted in support of the negative votes received. This stage may be omitted if there are no negative votes at the Enquiry (DIS) stage.
- **PUBLICATION STAGE (APPROVED INTERNATIONAL STANDARD - IS)** Once a FDIS has been approved and all editorial changes have been made, the final text is sent to the ISO Central Secretariat, which publishes the International Standard. An international standard is the result of an agreement between the member bodies of ISO. It may be used as such, or may be adopted as a national standard by a country (SEE XXX for more on national adoptions)

# Annex C

## Development of other ISO deliverables

### **TECHNICAL SPECIFICATIONS**

Technical Specifications may be prepared and published under the following circumstances and conditions. When the subject in question is still under development or where for any other reason there is the future but not immediate possibility of an agreement to publish an International Standard, the technical committee or subcommittee may decide, by following the procedure set out in 2.3, that the publication of a Technical Specification would be appropriate. The decision to publish the resulting document as a Technical Specification shall require a two-thirds majority vote of the P-members voting of the technical committee or subcommittee.

When the required support cannot be obtained for a final draft International Standard to pass the approval stage or in case of doubt concerning consensus, the technical committee or subcommittee may decide, by a two-thirds majority vote of P-members voting, that the document should be published in the form of a Technical Specification.

When the P-members of a technical committee or subcommittee have agreed upon the publication of a Technical Specification, the draft specification shall be submitted electronically by the secretariat of the technical committee or subcommittee to the office of the CEO within 16 weeks for publication. Competing technical specifications offering different technical solutions are possible if they do not conflict with existing International Standards.

Technical Specifications shall be subject to review by the technical committee or subcommittee not later than 3 years after their publication. The aim of such review shall be to re-examine the situation which resulted in the publication of a Technical Specification and if possible to achieve the agreement necessary for the publication of an International Standard to replace the Technical Specification. In IEC, the date for this review is based on the stability date which shall be agreed in advance of the publication of the Technical Specification (review date).

### **PUBLICLY AVAILABLE SPECIFICATIONS (PAS)**

A PAS may be an intermediate specification, published prior to the development of a full International Standard, or, in IEC may be a “dual logo” publication published in collaboration with an external organization. It is a document not fulfilling the requirements for a standard. A PAS is a normative document. Normally, the decision to develop a PAS should be agreed at the outset, i.e. simultaneously with the approval of the new work item proposal.

A proposal for submission of a PAS may be made by an A-liaison or C-liaison or by any P-member of the committee.

The PAS is published after verification of the presentation and checking that there is no conflict with existing International Standards by the committee concerned and following simple majority approval of the P-members voting of the committee concerned. Competing PAS offering different technical solutions are possible if they do not conflict with existing International Standards.

A PAS shall remain valid for an initial maximum period of 3 years. The validity may be extended for a single period up to a maximum of 3 years, at the end of which it shall be transformed with or without change into another type of normative document or shall be withdrawn.

## **TECHNICAL REPORTS**

When a technical committee or subcommittee has collected data of a different kind from that which is normally published as an International Standard (this may include, for example, data obtained from a survey carried out among the National Bodies, data on work in other international organizations or data on the “state of the art” in relation to standards of National Bodies on a particular subject), the technical committee or subcommittee may decide, by a simple majority vote of P-members voting, to request the Chief Executive Officer to publish such data in the form of a Technical Report. The document shall be entirely informative in nature and shall not contain matter implying that it is normative. It shall clearly explain its relationship to normative aspects of the subject which are, or will be, dealt with in International Standards related to the subject. The Chief Executive Officer, if necessary, in consultation with the technical management board, shall decide whether to publish the document as a Technical Report.

When the P-members of a technical committee or subcommittee have agreed upon the publication of a Technical Report, the draft report shall be submitted electronically by the secretariat of the technical committee or subcommittee to the Chief Executive Officer within 16 weeks for publication.

It is recommended that Technical Reports are regularly reviewed by the committee responsible, to ensure that they remain valid. Withdrawal of a Technical Report is decided by the technical committee or subcommittee responsible. Technical Reports are not subject to systematic revision.

# Annex D

## Liaison Committees to ISO/TC 130

### Liaison Committees to ISO/TC 130

The committees below can access the documents of ISO/TC 130:

Reference	Title	ISO/IEC
IEC/TC 100	Audio, video and multimedia systems and equipment	IEC
IEC/TC 119	Printed Electronics	IEC
<a href="#">ISO/IEC JTC 1/SC 28</a>	Office equipment	ISO/IEC
<a href="#">ISO/IEC JTC 1/SC 29</a>	Coding of audio, picture, multimedia and hypermedia information	ISO/IEC
<a href="#">ISO/TC 6</a>	Paper, board and pulps	ISO
<a href="#">ISO/TC 6/SC 2</a>	Test methods and quality specifications for paper and board	ISO
<a href="#">ISO/TC 35/SC 9</a>	General test methods for paints and varnishes	ISO
<a href="#">ISO/TC 42</a>	Photography	ISO
<a href="#">ISO/TC 122/SC 4</a>	Packaging and the environment	ISO
<a href="#">ISO/TC 207/SC 7</a>	Greenhouse gas management and related activities	ISO
<a href="#">ISO/TC 292</a>	Security and resilience	ISO

## Liaison Committees from ISO/TC 130

ISO/TC 130 can access the documents of the committees below:

Reference	Title	ISO/IEC
<a href="#">CIE</a>	International Commission on Illumination	ISO
IEC/TC 119	Printed Electronics	IEC
<a href="#">ISO/IEC JTC 1/SC 28</a>	Office equipment	ISO/IEC
<a href="#">ISO/IEC JTC 1/SC 29</a>	Coding of audio, picture, multimedia and hypermedia information	ISO/IEC
<a href="#">ISO/TC 6</a>	Paper, board and pulps	ISO
<a href="#">ISO/TC 6/SC 2</a>	Test methods and quality specifications for paper and board	ISO
<a href="#">ISO/TC 35/SC 9</a>	General test methods for paints and varnishes	ISO
<a href="#">ISO/TC 42</a>	Photography	ISO
<a href="#">ISO/TC 46/SC 4</a>	Technical interoperability	ISO
<a href="#">ISO/TC 122/SC 4</a>	Packaging and the environment	ISO
<a href="#">ISO/TC 171/SC 2</a>	Document file formats, EDMS systems and authenticity of information	ISO
<a href="#">ISO/TC 207/SC 7</a>	Greenhouse gas management and related activities	ISO
<a href="#">ISO/TC 292</a>	Security and resilience	ISO

## Organizations in liaison (Category A and B)

Acronym	Title	Category
<a href="#">ADDS</a>	Association for Digital Document Standards e.V. - ADDS	A
<a href="#">CEPE</a>	European Council of the Paint, Printing Ink and Artists' Colours Industry	A
<a href="#">CEPI-CTS</a>	CEPI Comparative Testing Service	A
<a href="#">CIE</a>	International Commission on Illumination	A
<a href="#">CIP4</a>	International Cooperation for the Integration of Processes in Prepress, Press, and Postpress Organization	A
<a href="#">ERA</a>	European Rotogravure Association	A
<a href="#">ICC - color/couleur</a>	International Color Consortium	A
<a href="#">Idealliance</a>	Idealliance	A
<a href="#">WAN-IFRA</a>	WAN-IFRA	A

## Organizations in liaison (Category C)

C liaisons participate at the level of a Working Group

Acronym	Title	Category
<a href="#">Ecma International</a>	Ecma International	C

# Standards Resources

ANSI FAQs

[https://www.ansi.org/about\\_ansi/fags/fags?menuid=1](https://www.ansi.org/about_ansi/fags/fags?menuid=1)

APTech Standards Workroom

<https://www.printtechnologies.org/standards/standards-workroom/>

ISO/TC130 Graphic Technology

<https://www.iso.org/committee/52214.html>

ISO/TC 130 Working Area

<https://isotc.iso.org/livelink/livelink?func=ll&objAction=browse&objId=8821265>

ISO Resources webpage

<https://www.iso.org/resources.html>

ISO's Youtube Channel

<https://www.youtube.com/user/PlanetISO>

ISO's good things for SMEs

<https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100283.pdf>

List of ANSI-Accredited Standards Developers (ASD) with a scope and contact

<http://www.ansi.org/asd>

List of proposed ANS. See ANSI Standards Action for open public comment opportunities

<http://www.ansi.org/StandardsAction>

ANSI Public Review & Comment

[https://www.ansi.org/standards\\_activities/public\\_review/overview?menuid=3](https://www.ansi.org/standards_activities/public_review/overview?menuid=3)