

International standardization for the printing industry

ISO TC 130

ISO TC 130 represents the international standardization body for the printing industry. International experts, active in terminology, prepress, printing, post press, climate neutrality, materials and certification, met in Seoul (Korea) in November 2015.

Minutes from Dr Andreas Kraushaar and Dr Uwe Bertholdt.

The following project descriptions cover the current status of the pertinent ISO standards. Please also consult earlier issues of ISO News, in particular ISO News 13, for an explanation of the abbreviations such as WD, CD, DIS etc.

Prepress (WG 2)

PDF/X-4 for packaging printing (ISO 19593)

PDF files typically contain page elements that are not intended to be printed but to be folded, cut, glued or embossed. Historically spot colour channels were used to store such processing steps termed “Varnish”, “Die” or “Embossing”. The idea is to put this information into optional content groups (structural layers) where the names are not defined, but the PDF metadata is defined. The proposal is complementary i.e. adding info to the PDF/X or any other PDF to make it more complete. A second CD was approved and the DIS ballot should be started. In order to be compatible with future changes, it was agreed to change ISO 19593 “Graphic technology – Use of PDF to associate processing steps and content data” to part 1 of a multi-part document. The new title would be ISO 19593-1 “Graphic technology – Use of PDF to associate processing steps and

content data – Part 1: Processing steps 2016”.

“PDF/X-6” is coming closer

It was discussed how to further develop PDF/X-4 and X-5 and how to rename them (proposals: PDF/X-6 or PDF/X-4:2016). It was quite clear that new versions would rely on PDF 2.0 (ISO 32000-2). The document is currently termed: “Part 9 – Complete exchange of printing data (PDF/X-6) and partial exchange of printing data with external profile reference (PDF/X-6p) using PDF 2.0”. With respect to PDF/X-5 flavours, only PDF/X-5n will be included and termed PDF/X-6n. This will allow covering multicolour (n-Channel) workflows in a predictable manner.

The current draft for ISO 32000-2 would disallow to embed n-Channel ICC profiles into an Output Intent which would require to carry them external to a PDF/X-6n file. Since this would be inconvenient and error prone, an initiative towards TC171 was started to modify the respective provisions in ISO 32000-2. Based on the results of discussions in TC171 the current draft of PDF/X-6 will be adapted before it can go to DIS.

It is planned to also create Application Notes for PDF/X-6 especially to support

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NEXT MEETING

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vendors who develop applications for PDF/X-6.

Future colour data exchange using XML (ISO 17972)

ISO 17972 represents a new standard that extends the storage of characterization data by providing a flexible schema to facilitate colour and process data exchange with the additional resources based on X-Rites CxF3 Standard (Colour Exchange Format – www.colorexchangeformat.com). Part one has been published in 2015. Part 2, covering scanner input target data, will be balloted as DIS (until 01-2016) and should be referenced in the new standard ISO 12641-2. Part 3 covers output target data and is intended to replace all the

calibrating scanners. However that last revision dates back to 1997 and for instance requires the storage on a floppy disk in MS-DOS format. The standard was updated and will be published in 2016.

Based on the input from Lasersoft imaging (Germany) a second part was initiated. It is termed: “Advanced Colour targets for input scanner calibration” and is based on the higher demands from scientific institutions, like museums, art and cultural heritage archives, special public administration applications for ID-documents that require more patches to achieve a better scanner colour characterization. The new work item ballot should be started after the coming Berlin meeting.

Tone response curve adjustment (carrying curves in a standardized way) (ISO 18620)

The standard is termed “Tone adjustment curves exchange”. It should be useful to unambiguously communicate tone adjustment curves defined as nominal percentage between workflow systems with and beyond a printing plant. It was hoped to throw away the plethora of proprietary standards for plate curves and move to a unified way of carrying plate curves. It was also agreed to use private name spaces for private tags. More information can be found at the LinkedIn group name “RIP DGC communication”. The DIS ballot was under way, hence no discussion in Seoul.

Print Quality eXchange (ISO 20616)

Brand owners and print buyers commission physical printing includes two things: On the one hand to define print requirements (PRX) and on the other to define the resulting image quality. The new standard is intended to facilitate the one-way transmission of performance data from print service providers to relevant stakeholders and brand owners for one or more printed samples from a single press run. PQX will be a simple 1-way XML message by using CxF (ISO 17972-2). The communication from the brand owner toward the print shop by means of print requirements exchange, which is termed PRX, should be covered in part 1 of this multi-part standard. The following two standards have been started. ISO 20616-1, Graphic technology – File format for quality control software and metadata – Part 1: Print requirements exchange (PRX) and Part 2: Print quality exchange (PQX). A working draft ought to be developed for both standards.

Committee work and Standardization		
Standardization efforts of Fogra		
DIN NA 017 (NDR)	ISO TC 130 Graphic Technology	
NA 017-00-02 AA Prepress and data exchange Convenor: Dr Andreas Kraushaar (Fogra)	WG 2 Digital prepress data exchange Fogra participation: Dr Andreas Kraushaar	
NA 017-00-03 AA Process control and related metrology Convenor: Dr Andreas Kraushaar (Fogra)	WG 3 Process control and related metrology Convenor: Dr Andreas Kraushaar (Fogra)	
NA 017-00-04 AA Media and materials Convenor: Dr Uwe Bertholdt (Fogra)	WG 4 Media and materials Convenor: Dr Uwe Bertholdt (Fogra)	
	WG 12 Print finishing Fogra participation: Florian Hirschhalmer	
Other Standardization Committees		
DIN NA 043-01-17-01 Test processes for identity cards Fogra participation: Arne Müller	DIN NA 043-01-17-03 Machine readable travel documents Fogra participation: Arne Müller	DIN NA 115-01-03-02 AK Features for tamper evidence medicine packaging Fogra participation: Arne Müller

Overview of those committees, in which Fogra personell is currently active.

existing formats (e.g. 12642 or 28178) to save characterization data sets. It is also under DIS ballot until 02-2016. The standard “Spot colour characterisation data (CxF/X-4)” that defines an exchange format for spectral measurement data of inks to provide a means to characterise spot colour inks was published.

Historical IT.8-7/1 target (input scanner target) will be updated

More than 1,000,000 targets, both light-transmissive and reflective, have been produced and used in the past decades for

Metadata proposal for proofing workflow (ISO 19445)

A draft document that was prepared by the Ghent PDF Workgroup was proposed to become an ISO document with the title “Graphic technology – Metadata for graphic arts workflow – Part 1: XMP metadata for image and document proofing”. A DIS ballot was positive and the final publication can be expected in 2016.

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ICC V5 becomes iccMAX (ISO 20677-1)

iccMAX is a new colour management system developed in ICC Labs, primarily by members of the Architecture Working Group, that goes beyond D50 colorimetry. The new specification will extend the current V4-Spec by providing many new features. The standard will be titled: "Image technology colour management -- Expansion of architecture, profile format, and data structure to enable development of advanced colour management systems" Please find more information online here: <http://www.color.org/iccmax/>

Process control and related metrology (WG 3):

Colour measurement standard (ISO 13655)

The standard has been published in 2009. For surface colours it comprises 4 different measurement modes namely "M0", "M1", "M2" and "M3". JWG8 has been reactivated to start a revision. Currently DIS ballot is under way and will end in February 2016.

Flexo printing (ISO 12647-6)

Unfortunately a minor revision (as planned in Beijing) was not possible for the deletion of the normative reference on ISO 2846-5 (removed flexo ink standard). Therefore a resolution has been drafted to have an amendment on ISO 12647-6. The standard has been published in October 2015.

Certification of Contract Proofing systems and proofing sites (ISO 12647-7)

The revision has been started and the CD ballot was positive. The comments have been discussed. The main discussion was about the transition from CIEDE1976 (ΔE^*_{ab}) values to CIEDE2000 tolerance values accompanied by a potential tightening of the tolerances. The revised document will be balloted for a second CD. It was also decided to include the requirements for the so called third level, i.e. contract proofs on a job by job level. In other words: a proof print of a typical job with a Fogra MediaWedge and the correct

status line and without a large ECI2002 test chart. This was so far only defined in the Media Standard Print and later in the ProcessStandard Digital (PSD).

The Softproofing systems standard continues (ISO 14861)

An agreement has been reached and the document is finally published. The FograCert Softproofing certification checks all requirements and hence makes sure that your system is meeting the rigorous ISO aims.

Display requirements for softproofing (ISO/DIS 12646)

An agreement has been reached and the document is finally published. So when purchasing a high quality softproofing monitor please check ISO 12646 conformance (class A or B). This conformance is tested by the FograCert monitor programme.

Printing of digital data, Part 1: Basic principles (ISO 15339-1/2)

The FDIS ballot was negative. It was then decided to publish the document as technical specification (TS). This was also negative. Then it was decided to publish the document as a PAS (Public Available Specification). The required simple majority was achieved. According to the ISO directives this is not an option in this scenario, thus DIN applied for an appeal. The appeal was not accepted hence both parts will be published as a PAS.

The digital production printing standard (ISO 15311)

Part 1 of that multipart standard defines metrics to measure important print image quality attributes. It was agreed to vote one more time on a slightly revised version. A publication as a technical specification (TS) can be expected for end of 2015.

The agreement for part 2 (digital commercial printing) is much less. Here the group discussed different approaches. Thanks to the great patience's and passion of the editor (Larry Warter from FujiFilm, US) another version of the current document will be developed and discussed at the next meeting.

The specification for part 3 (large format signage printing) originates from work of Fogra Digital Printing Working Group (DPWG). After many discussions it was felt by the group that it would be difficult to gain consensus around many of the details and that this would be better as an industry specification in the first instance. Working group experts were not clear about its intended audience, the scope and use. For this reason ISO was asked to pause the ISO project (ISO/DTS 15311-3) and to develop a Fogra specification in the short term to show how this standard can be used in practice. When it has been demonstrated that the ideas are workable (and perhaps some of the tolerances adjusted) we plan to restart this work in ISO TC130 WG3. The FograSpec can be downloaded from the Fogra webpage free of charge.

Measurement of image quality attributes (ISO/TS 18621 family)

The newly established joint working group (JWG 14) between TC130 and JTC1 SC28 WG4 also met in Seoul. The metrics have been discussed and further developed. It was discussed to not create a joint working group with TC42 (WG5) regarding the integration of permanence requirements such as light stability and scratch resistance. Here a separate JWG27 will be established. Currently round robin tests have been conducted for M-Score, L-Score and P-Score. Based on the feedback the metrics will be fine-tuned and hopefully published in 2016 or 2017.

Spot Colour Tone Value (SCTV) (ISO 20654)

Based on the work by the so called "SCHMO" group, a candidate document was presented that should be used to derive a perceptual uniform way to calculate tone values for spot colours (between substrate and colour) where Murray Davies formulae is known not to work correctly. A new work item ballot will be started soon and the tentative title is "Management and calculation of spot colour tone value (SCTV)".

New project – Multicolor printing

Based on increased usage of multicolour printing ("4C+") a group of experts, led by Elie Khoury, was formed to start work on

that matter and collect potential aspects to be covered by the committee.

Media and materials (WG 4)

APCO test paper for printing ink tests in ISO 2846-1

The APCO II/II test paper was used for many years to test the colour coordinates, transparency and film thickness ranges of process inks. It is no longer manufactured. There is only some remaining stock. IGT (Amsterdam) has developed and ordered the production of a successor paper which is now in stock. All colour aims for process inks developed for APCO II/II are still valid for the new substrate. The preparation of the new draft for the revision of this Standard has been prepared too short to be discussed in the meeting. The substrate may already be ordered at IGT in Amsterdam

Lightfastness testing (ISO 12040)

This standard should be expanded by information concerning the irradiation doses necessary for the individual wool scale levels. According to experiences of Fogra this might be difficult. Other industries were unable to accomplish this goal. An improved harmonization with ISO 105 B02 the correspondent Standard for textiles could be achieved.

Alkali resistance of labels (future ISO 12632)

A new draft developed by Fogra basing on DIN 16524-6 and DIN 16524-7 has been finally accepted. The standard is published.

Tack measurement (ISO 12634)

A new draft combining elements of the existing standard with elements of a new US testing method was also delivered too late to be discussed in Seoul. Germany will not agree to the new draft to enforce the consideration of its technical comments concerning the test regime.

Blankets (ISO 12636)

The US and European blanket manufacturers involved still aim on a revision of this Standard. Meanwhile Japan accepted the German-US-proposal in principal. During the last semester the Japanese delegation

still blocked the start of the revision. However, the official start of the revision was initiated in Seoul.

Environmental aspects of graphic technology (WG 11)

Guideline for the measurement of energy efficiency of digital printing

Evaluation of deinkability of printed products

A new proposal on the deinkability of prints led to intensive discussions between print and paper experts during the Bologna meeting. The heated debate was continued in Seoul. Eventually a consensus could be found by changing “deinkability of prints” to “deinkability potential of



presses (ISO 20690)

After presenting the result of the finalized Fogra research project 35.006 a new work item ballot was accepted as well as the following CD ballot. Many comments from the Japanese Delegation have been received, though it was decided to conduct many WebEx meetings between Seoul and Berlin meeting. It is anticipated to get a candidate document for a second CD ballot before the Berlin meeting. Tim Deeming (Ricoh) was elected the co-editor.

prints”. However there are many open issues. Since this standard covers the evaluation of dinked pulp, there are concerns due to a potential disconnect with the actual deinking method used (which varies across the world). It remains to be seen when the group is ready to start the ISO clock ticking.

Postpress (WG 12)

Graphic Technology – Postpress – General Requirements (ISO CD 16762)

This future Standard shall ensure information exchange of postpress requirements (e.g. folding and cutting schema) to all responsible for print job planning and preliminary production steps. Additional requirements will be on incoming goods, general requirements on post press operations and on the definition on responsibilities between individual process steps. The document was accepted as a Committee Draft. Numerous comments were discussed and will be incorporated into a revised draft. The former project leader from the United Kingdom has retired. The responsibility was taken over by Ms. Prof. He Xiahui (China).

Graphic technology – Postpress – Requirements for bound products (ISO DIS 16763)

This draft defines quality requirements of bound products. Besides, “Guidelines for the production of books and brochures” are available (only in German) from the German Print and Media Industries Federation (bvdm). Fogra favours and recommends for this application the bvdm publication. Because these bvdm guidelines already exist, but are copyright protected, Fogra itself will not be active in the context of this ISO standard.

Pull test method (ISO CD 19549)

Fogra developed a draft for the Standardization of the pull test basing on the results of its research project 70.004. It deals with upwards pulling devices only. The draft has been accepted as a Committee Draft and was intensively commented. Especially in Japan the draft is rejected since the local devices differ. The Fogra experts answered all comments and will further improve the draft for the next voting.

Printing conformity assessment requirements (WG 13)

WG13 is currently working on three standards (ISO/WD 16761-1, ISO/WD 16761-2, and ISO/NP 19301) on conformity assessment requirements in Graphic Technology. There was confusion whether these stand-

ards should be schemes or scheme guidelines. There was hope to better align these standards to avoid overlaps and conflicts. A conformity assessment survey was proposed in the Bologna meeting and implemented thereafter. The survey results were used to develop a proposal, called “WG13 Standards, a New Vision.” The proposal, as listed below, was presented at the Seoul meeting.

- ISO 16761-1 specifies tone and colour reproduction conformity requirements.
- ISO 16761-2 specifies packaging and label printing conformity requirements.
- ISO 19301 specifies colour quality management system conformity requirements and supplier’s declaration of product quality.

Plenary meeting

The plenary meeting in Seoul was conducted by the new Chairman Prof. Pu Jialing from Beijing (China) for the first time. There were no contradicting opinions on the short term plans for individual projects and working groups. Bruno Mortara was appointed to be the new convener of WG 13 – for the first time a Brazilian. Following the cancellation of the spring meeting in Stockholm the venue substitution to Berlin was as highly appreciated as the invitation to conduct the autumn meeting in San José, (California, USA). Indonesia has invited for the second semester 2017. There were different preferences according to the future meeting culture. The majority of the delegates prefer detailed meetings held twice each year despite the financial burden for the organizers resulting in the lack on invitations and the withdrawal of already given invitations.

INFORMATION

Fogra data-sets and ECI profiles available

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Direct link: www.fogra.org/en/fogra-standardization/fogra-characterizationdata/fogra-characterizationdata-download/

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participants registered!

Munich, 6 / 7 February 2014

