

# ISO/TC 130/WG 4 N 603



**ISO/TC 130 N 1767**

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[ISO/TC 130](#)

Graphic technology

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## **Minutes WG4 2010-10-15 Sao Paulo1**

Date of document	2010-12-17
Expected action	Info
Source	ISO/TC 130 (ISO/TC 130/WG 4 N 603)

## **Minutes of the 40th meeting of ISO TC 130 WG4 "Media and Materials", 2010-10-15 in Sao Paulo, Brazil**

### **1 Opening of the meeting**

The meeting opened at 9:02.

Uwe Bertholdt (convenor) thanked the Brazilian experts for hosting the meeting and their fine hospitality.

### **2 Roll call of delegates**

A roll call of experts was performed and an introduction was given (see annex).

### **3 Approval of the agenda (N 592)**

The agenda was presented and the convenor suggested that the order be changed to accommodate the travel requirements of some experts. The change in order will move 8.5, 8.4, 8.2 to the beginning of the agenda.

### **4 Approval of the minutes of last meeting (N 570)**

The minutes of the last meeting (St. Gallen, April 2010) were approved without changes.

### **5 Action items from the last meeting (N 571)**

Action 09-08 This is completed and so closed.

Action 10-01 This is completed by Matsuo but still open for Rich and Claypole

Action 10-02 Fogra was unable to assess film thickness of gravure prints. closed

Action 10-03 Rich to provide updated draft 2846-5. Draft is prepared so action is closed

Action 10-04 Completed

Action 10-05 This is still open as no solution has been found yet.

Action 10-06 NWI Proposal 15397 submitted so action is closed.

Action 10-07 Postponed until Berlin meeting in the spring – action item is open

### **6 Identification of new documents**

New documents to be added during the meeting: N 594 - N 598.

### **7 Report of the convenor on activities since the last meeting**

No official issues to be reported at this meeting.

## 8 Projects

### 8.1 ISO/TR 12705 *Graphic technology – Laboratory method for Chemical Ghosting* (N 581)

A report was made by Uwe Bertholdt on the status since the meeting in St. Gallen. DIN will start the ballot of the new Technical Report immediately after the TC 130 meetings in Sao Paulo.

### 8.2 ISO/PWI 15341 *Measurement system for radii of printing cylinders* (N 579, N 580)

The draft document is out for ballot which closes by Dec 2010. Mr. Barros reviewed the contents of the document under ballot. He highlighted the change from a multi-part document to a document with multiple annexes. The document shows the apparatus being referenced by the standard and how to calibrate it, take readings and make reports. The resolution of comments will be performed in Berlin (2011).

### 8.3 ISO 2846-3 *Graphic technology – Colour and transparency of printing ink sets for four colour printing – Part 3: Gravure printing* (N 583, N 585)

Uwe Bertholdt presented this new draft document N583. This document now describes two different ink sets. German rotogravure ink suppliers felt that a single point aim was not acceptable. So a new method is proposed that uses three L\* levels and then computes theoretical a\*,b\* pairs for these L\* levels using polynomial equations. Conformation testing requires comparison of calculated and measured a\*b\*-values. No data yet for gamut type 1, convener requests US and Japan to supply multiple sets of data for Gamut type 1, CMY gravure inks. Transparency determination is considered problematic especially since inks with small regression slopes but large colour differences to non-overprinted black are evaluated to have higher transparency than inks with steeper slopes but overall smaller colour differences to non-overprinted black. The new draft therefore suggests to use a single point color difference instead of the traditional transparency evaluation. Uwe Bertholdt also commented that values for APCO II/II stock are intended to be maintained in an Annex while new proofing stocks are identified and documented. The data are documented in earlier WG4 documents.

### 8.4 ISO 2846-5 *Graphic technology – Colour and transparency of printing ink sets for four colour printing – Part 5: Flexographic printing* (N 594, N 597)

Carlo Carnelli presented new approaches for the colour definition in ISO 2846-5 (N 594). He tried to assess the film thickness using the Hannetek instrument but the instrument could failed on the standard paper substrate. Supporting ink manufacturers suggested to specify ink film thickness ranges and viscosities. For more convenience in using different flow-cups an annex on the differences between viscosity cups should be added. Mr. Carnelli developed a method to determine the amount of ink transferred to the testing paper by printing on OPP, weighting a known area and then removing the ink from the substrate using a compatible solvent that does not attack OPP. Color readings made only on paper stocks (Leneta or Byk)

but the film thickness is done on OPP film only. The method seems to work for solvent and water but not for UV flexo ink as the UV inks are more viscous and can be printed using an offset printability tester. Mr. Carnelli reported suggested aim values that are different than the current ISO 2846-5 specifications, mainly in hue angle. After Mr. Carnellis presentation a discussion around the data reduction methods started. It seems that prints at different concentrations were averaged together. There were also discussions whether the tolerances to hue angle were as precise as single point  $L^*a^*b^*$  aims. This would seem to be appropriate for process controls (ISO 12647-6) but perhaps not for ink specification (ISO 2846-5). There were concerns that ISO 2846-5 and ISO 12647-2 may diverge but the project team from WG3 is firm that this will not happen if ISO 2846-5 and ISO 12647-6 are being revised together. Uwe Bertholdt pointed out that the new draft of ISO 2846-3 applies a new method of assessing ink conformance that uses a range of points rather than a single point aim. Therefore the question arises whether we would like to issue two standards for liquid inks that are tested by different methods.

The discussions were continued by a presentation by Danny Rich on revisions to ISO 2846-5. He showed the current draft of the document. Some issues are still not resolved. The data in this draft are very consistent with the data reported by the Italian TAGA group and with data collected by the US Flexographic Technical Association (FTA) at Clemson University. The present draft, the Italian study and the Clemson study all use a newer commercial contrast substrate. A new substrate or range of substrates will be entered into the next revision of the WD. Two open issues were raised. A new method of assessment is being proposed for ISO 2846-3 and an action item was given to D. Rich to assess this new method for use in flexographic ink testing. Also an action was given to D. Rich and S. Smiley to determine a better method for the assessment of transparency.

## **8.5 ISO/PWI 15397** Communication of optical and surface properties of printing substrates (e.g. fluorescence, gloss, colour) N 577, N 578, N 593

The voting period of the NWI is still running (November 2010). Preliminary US-comments were circulated prior to the meeting (N593). Luc Lanat presented the content of N 578 on behalf of the Paperdam Group. He listed the summary of the properties documented in the draft of the NWI 15397. He emphasized the need to document whiteness with D65 rather than D50. He discussed the issue of geometry and quoted a paper from Midsweden University (ISO TC 130 WG 3 N 1006) that indicates that geometry is less critical than to have the correct (calibrated) lighting in the instrument (D65 or D50 or incandescent). This was questioned and Mr. Lanat was asked to make this document available to the committee. Probably that conclusion is only valid for near-white papers read with d:0 and 45:0 geometries. The US commented that the document has too few requirements and too many recommendations. A discussion about what constitutes a requirement and what a recommendation (shall versus should) emerged and whether the tables of properties should be only informative. Josef Bernard (ERA) requested the incorporation of specifications on the toluene trapping behavior of the paper. There are tremendous differences between paper grades for gravure printing and recently the printers have to try paper grades with respect to the production of critical jobs. Better information would help the market acceptance of gravure printed products. Luc Lanat answered that additional bilateral information is always possible.

Paperdam does not intend to set tolerances or specifications on paper requirements. There

was a comment about the index of opacity – the one cited here does not have good agreement to the index recommended in ISO 13655. Luc Lanat suggests that TC 130 revise standards that reference paper properties with the aim to cite the NWI. Uwe Bertholdt asked for the incorporation of colour measurement data according to ISO 13655 for information only. He recognized the variability among these devices and accepted to avoid colorimetric specifications for paper using devices according to ISO 13655 but also fears confusion in the printing industry if colourimetric data of white paper were only given according to the paper industries standard (ISO 5631 series). Luc Lanat rejected to give data according to ISO 13655 even for pure informative purposes.

The resolution of comments will be performed in Berlin (2011)

## 9 Future projects

### 9.1 ISO 2846-1 Graphic technology – Colour and transparency of printing ink sets for four colour printing – Part 1: Offset printing **substrate and measurement conditions**

N 0586, N0587, N0588

A presentation by Masaaki Matsuo on investigations of test substrates for ISO 2846-1 was given (N 586). Gerd Carl commented that the coating on APCO II/II is special, containing only clay, compared to modern papers that contain mixtures of calcium carbonate and clay. Modern coatings will impact the absorption of ink on the coatings but also give a more neutral shade of color. Similar experience was reported by China that they had trouble getting paper stock that had neutral color. Paper makers indicate that non-commercial papers cannot be supplied by large commercial paper makers. Gustavo Barros puts a challenge to the Paperdam Group to define a new paper. They will take the specifications of APCO II/II and make recommendations for having paper made specifically for this application. D. Rich commented that there are many commercial contrast cards that have similar specifications. He was given an action item to prepare a report for the next meeting.

An additional presentation was given by Masaaki Matsuo on the effect of ISO 13655 measurement conditions. Condition M2 gives the most viable result, moving the curves of testprints with different ink film thickness close to the APCO values, compared to M1 and M0. Test results on APCO II/II were compared to a typical OBA containing printing paper (P1). Based on this work, M0, M1 give very similar results on a white paper, but M2 moves the data toward APCO.

A presentation by Konica Minolta was given on the new Virtual Fluorescence Standard (VFS) method for evaluation of fluorescence (N 588). This method can correct readings of OBA containing substrates to within 0.5 CIEDE2000 units. The market introduction of a new device capable of ISO 13655 M1 measurements was announced.

## 9.2 Systematic Reviews in 2010:

- **ISO 12636:1998** Graphic technology – Blankets for offset printing N 0569

Masaaki Matsuo presented new and additional measurement methods for a revision of ISO 12636 on printing blankets. These were to be added to the section 4 on compression properties. This could be a third method for compressibility. Also a new Surface Texture Analysis method was presented to possibly be incorporated also in section 4. Uwe Bertholdt asked for the Japanese intentions with respect to requirements on surface texture to be specified in section 3. The Japanese delegation will develop the corresponding input for the Berlin meeting.

- **ISO 2846-2:2007** Graphic technology – Colour and transparency of printing ink sets for four-colour printing – Part 2: Coldset offset lithographic printing N 0589

- **ISO 2846-4:2007** Graphic technology – Colour and transparency of printing ink sets for four colour printing – Part 4: Screen Printing N 0591

Netherlands voted to revise ISO 2846-2 and -4 and by inference -3 and -5 to require the use of measurement condition M1 of ISO 13655. D. Rich objects since this decision should be based on experience which is still not acquired. WG4 attendees agree with D. Rich and a resolution will be prepared to reapprove 2846-2, 2846-4 using M0 and an investigation on the use of M1 will be performed during the revision of 2846-3 and 2846-5, currently in process.

- **ISO 2834-2:2007** Graphic technology – Laboratory preparation of test prints — Part 2: Liquid printing inks N 0590

WG4 submits a resolution to add a requirement to 2834-2 to include a film thickness reading. C. Carnelli was asked to deliver the necessary data for the determination of film thickness of liquid ink test prints to Uwe Bertholdt.

## 10 Requirements concerning a subsequent meeting

One meeting day is required during the Berlin meeting session of TC 130 in April 2011.

## 11 Any other business

NEW ACTION ITEMS from this meeting

- 10.08 D. Rich to check the ink color description on ISO 2846-5 in light of ISO 2846-3.
- 10.09 D. Rich and S. Smiley to come up with a better description of transparency for all ISO 2846 standards.
- 10.10 C. Carnelli to develop data on determination of film thickness for liquid ink prints.
- 10.11 U. Bertholdt to incorporate the data of 10.10 into a revised document ISO 2834-2.
- 10.12 M. Matsuo to specify a requirement on surface texture in clause 3 of ISO 12636.

10.13 D. Rich to prepare a review on test substrates for ISO 2846.

The meeting was closed around 4:00 p.m.