Altona Test Suite 2.0

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ugra

Application Kit
Reference Data Files (Measure, Visual, roman16-1/2/3/4, Technical 1/2)
Reference Prints, Characterization Data, ICC Profiles, Documentation

Anwendungspaket
Referenzdateien (Measure, Visual, roman16-1/2/3/4, Technical 1/2)
Referenzdrucke, Charakterisierungsdaten, ICC-Profile, Dokumentation

Project Production Partner

Project Partner

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Deutsche Fassung ab Seite 79

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This work was developed by the German Printing and Media Industries Federation (bvdm), department of technology + research, Pre-Media committee, in cooperation with the project partners European Color Initiative (ECI), Berlin, Fogra Graphic Technology Research Association, Munich and Ugra, St. Gallen. Regular reports on the progress of the work were given to Pre-Media and Offset Printing committees of bvdm and in the ECI. Suggestions and requests from professionals involved in the practical work were taken into account.

Special thanks are due to the experts from ECI and the bvdm and to all project production partners for their great involvement in the development of the "Altona Test Suite 2.0" and the comprehensive support they gave to the work on the Altona Test Suite 2.0 Application Kit.

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CONTENT

1 Introduction

Altona Test Suite 2.0 | Application Kit
Reference Data Files (Measure, Visual, roman16-1/2/3/4, Technical 1/2)
Reference Prints, Characterization Data, ICC Profiles, Documentation

The “Altona Test Suite” (first edition 2004) is worldwide used as standard test tool. Media service providers, printers, suppliers and system developers employ the “Altona Test Suite” on a regular basis for systematic, comprehensive tests of digital proofing systems, workflow and output devices. The completely revised and extended second edition Altona Test Suite 2.0 Application Kit comprises reference data files for application tests, reference prints (offset), a comprehensive documentation and the standard printing conditions according to ISO 12647 (characterization data and ICC profiles). The PDF/X data files of “Altona Test Suite 2.0” are employed for the evaluation of digital output systems such as proofing solutions, CtP systems, conventional and digital printing systems. “Altona Test Suite 2.0” is used to check PDF/X compliance (PDF/X-4, PDF/X-3), rendering and colour accuracy in a composite PDF workflow for print production.

The Altona Test Suite 2.0 Application Kit comprises eight basic versions of Altona Test Suite reference data files (test forms A3):

ATS 2.0 Measure (update)	ATS 2.0 roman16-1 (new)
ATS 2.0 Visual (update)	ATS 2.0 roman16-2 (new)
ATS 2.0 Technical 1 (update)	ATS 2.0 roman16-3 (new)
ATS 2.0 Technical 2 (new)	ATS 2.0 roman16-4 (new)

The test form “Technical 2” is a new, important part of “Altona Test Suite 2.0”. “Technical 2” serves for the check of complex page layouts including transparencies, layers, which are frequently used by designers today (ISO 15930-7:2010, PDF/X-4). This is the systematic continuation from the existing “Technical 1” (ISO 15930-6:2003, PDF/X-3, overprints, fonts). The comprehensive and very sophisticated test form “Technical 2” comprises e.g. selected images and picture details as well as specially programmed colour patches, which allow the systematic check of rendering of transparencies and layers in output systems (digital proofing systems, CtP RIPs).

The four new test forms “ATS 2.0 roman16” comprise all “roman16 bvdm Reference Images”. They serve for a comprehensive visual and colourimetric evaluation of the complete colour space, of primary, secondary and tertiary colours, skin and hairtones, gradients, structure and detail reproduction. The test forms “ATS 2.0 roman16” are provided, like “ATS 2.0 Measure” and “ATS 2.0 Visual”, in different standard printing conditions for offset printing, coldset offset printing (newspaper) and gravure publication printing.

Reference data

The six basic versions “Measure”, “Visual”, “roman16-1/2/3/4” were used for the creation of reference data files for offset printing, coldset offset (newspaper) and gravure printing (standard printing conditions, ICC Profiles). The “Altona Test Suite” reference data files “Technical 1” and “Technical 2” are available in one version for all printing conditions.

Reference prints

Reference prints (sheetfed offset, heatset web offset) – with typical, process related variations of the print run – were carefully produced within the tolerances of ISO 12647-2. Two additional reference prints were produced with a digital printing system. Using six basic versions of “Altona Test Suite” reference data files and eight standard printing conditions, a total of 48 reference prints are available. The test forms “Technical 1” and “Technical 2” were produced in only one printing condition, two copies each.

Documentation, DVD

The documentation explains the elements of “Altona Test Suite 2.0” in detail, how to use it and provides information for standard process control in prepress and print. A DVD with reference data files and the pertinent characterization data, ICC profiles is part of the Application Kit.

The Altona Test Suite 2.0 Application Kit is a joint project of German Printing and Media Industries Federation (bvdm), Berlin, European Color Initiative (ECI), Berlin, Fogra Graphic Technology Research Association, Munich and of Ugra, St. Gallen. Printers, manufacturers of materials and systems (paper, printing machines) made profound contributions to the development of the Application Kit as project partners. Project management and editor: bvdm.

Special thanks are due to the experts from ECI and the bvdm and to all project production partners for their great involvement in the development of the “Altona Test Suite 2.0” and the support they gave to the work on the Altona Test Suite 2.0 Application Kit.

Berlin, October 2013
Bundesverband Druck und Medien e.V. (bvdm)
German Printing and Media Industries Federation (bvdm)

www.altonatestsuite.com www.roman16.com

2 Altona Test Suite 2.0 – Structure and Application

1.1 At a Glance

The “Altona Test Suite 2.0” comprises eight PDF files A3 each designed for specific purposes. The 87 reference data files and 52 reference prints (only offset) in the Application Kit have been carefully produced with standard printing conditions according to international standard ISO 12647-2 (offset printing), ISO 12647-3 (newspaper) and ISO 12647-4 (gravure).

Altona Test Suite 2.0 Measure (figure on next page)

Altona Measure contains test elements for setting up and checking output systems such as proofing systems or conventional or digital printing systems based on colorimetric and densitometric measurements.

Altona Test Suite 2.0 Visual (figure on next page)

Altona Visual is a PDF/X-4 file focusing on visual testing of the PDF/X compliance. As PDF/X-3 allows a colour-managed workflow, this page comprises not only CMYK and spot colour elements, but also several components containing device independent colours such as CIELAB and ICC based RGB. In conjunction with the reference prints, Altona Visual allows visually checking and adjustment of colour accuracy of press simulation on a proofing system.

Altona Test Suite 2.0 roman16-1/2/3/4 (figures on pages 20–21)

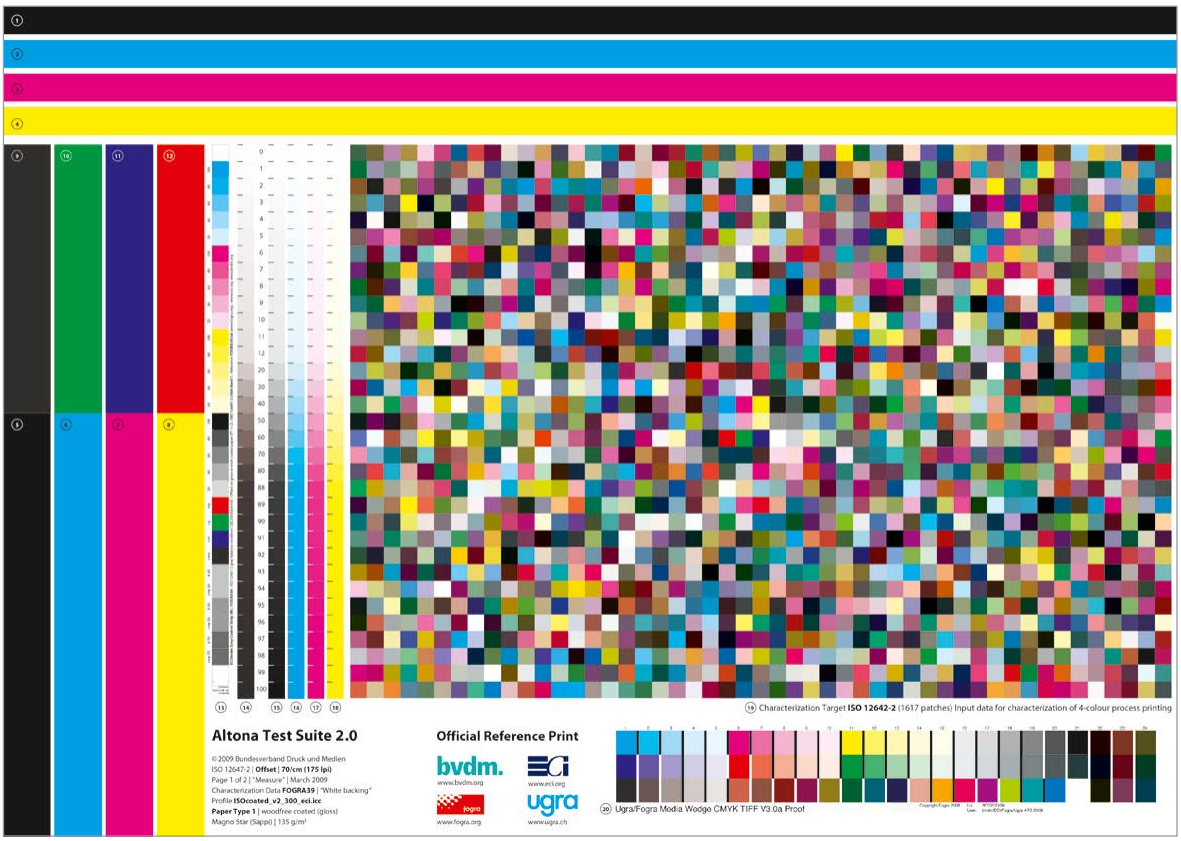
The four new ATS 2.0 reference data files A3 using the roman16 bvdm Reference Images allow comprehensive visually checking and adjustment of colour accuracy of press simulation on a proofing system.

Altona Test Suite 2.0 Technical 1 (figure on page 24)

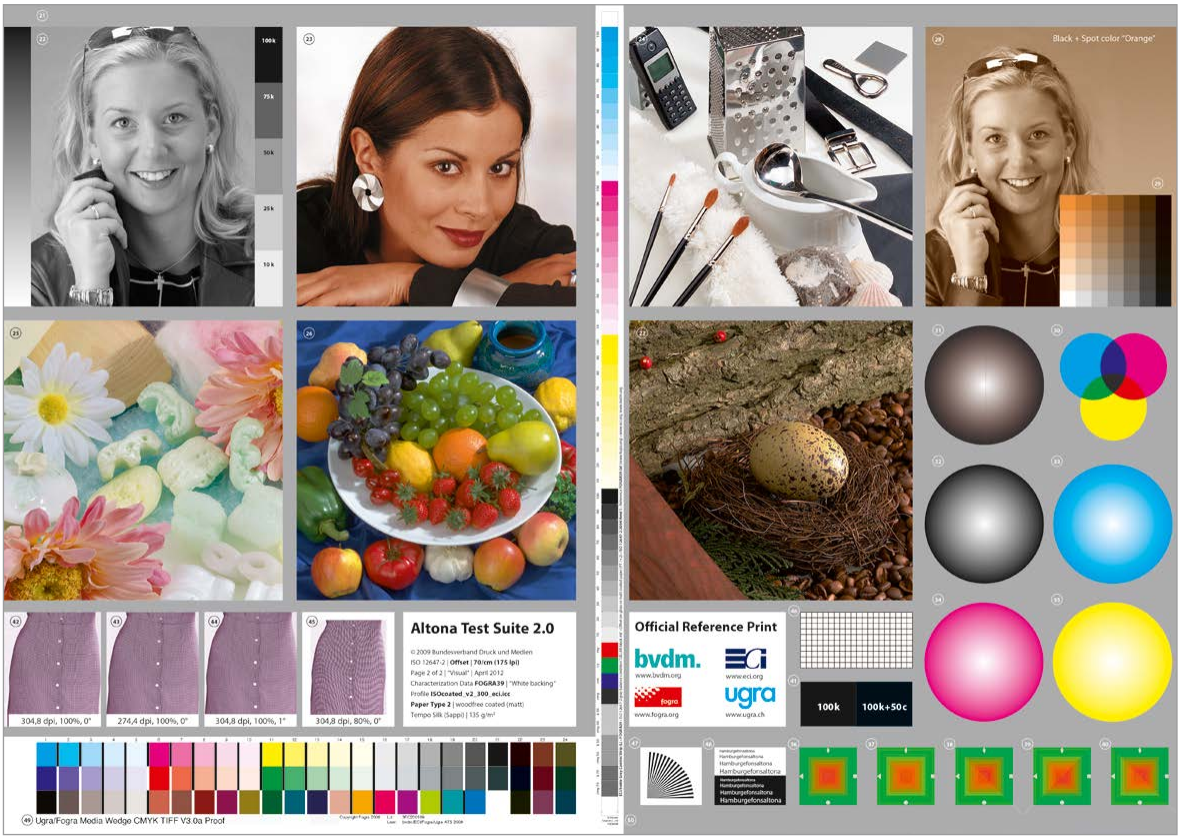
“Technical 1” addresses overprinting and font formats from a technical perspective. “Technical 1” contains 864 carefully structured patches for a thorough evaluation of overprinting (rendering in a CtP RIP).

Altona Test Suite 2.0 Technical 2 (figure on page 39)

“Technical 2” addresses transparencies, layers (PDF/X-4) and font formats from a technical perspective. “Technical 2” comprises numerous, carefully structured, and complex patches for a thorough evaluation of the rendering of transparencies and layers in a proofing system RIP or CtP RIP.



Altona Test Suite 2.0 Measure



Altona Test Suite 2.0 Visual

2.1 Structure in Detail – Test Elements of Altona Test Suite 2.0 Measure

Note: Control elements marked with **[PDF/X]** are used for the evaluation of PDF/X compliance of RIPs and workflow systems and as a tool for system configuration for an error-free output of PDF/X files. For a complete observance of the PDF/X standard not only the requirements explicitly given in the PDF/X standard (ISO 15930) text must be granted, but also all normative references (specifications) of the standard. This applies especially to Adobe's specification of the Portable Document Format (PDF), and the ICC specification of the file format for colour profiles.

Control elements marked with **[PRINT]** are used for adaptation and checking of colour appearance of printed output. They also serve as evaluation criteria for details in image reproduction of proofs and production prints.

① to ④ Solid strips [PRINT]

Solid strips of the process inks Cyan, Magenta, Yellow and Black to help press operators equalize ink flow in all colour zones.

⑤ to ⑧ Colour specimens [PRINT]

These printed process colour specimens will help press operators to visually adjust the solids of the four process colours according to the printing conditions as defined in the normative part of International Standard ISO 12647.

⑨ to ⑫ Colour patches Green, Blue, Red [PRINT]

The patches "Green" (Cyan/Yellow), "Blue" (Cyan/Magenta) and "Red" (Magenta/Yellow) are intended to be evaluated visually and based on colourimetric measurements with respect to the colour values as defined in ISO 12647.

⑬ ECI/bvdm Gray Control Strip "M"

The ECI/bvdm Gray Control Strip "M" (195 mm × 10 mm) is positioned vertically in the Altona Test Suite 2.0 Measure. The ECI/bvdm Gray Control Strip has been developed for printers as an aid to help balance the press process in the best possible way by utilizing a standardized proof. The true grey (K) and chromatic grey (CMY) patches are mainly used for visual evaluation of grey balance. The solid tone patches (overprint C+M+Y, Blue, Green, Red) and the halftone step wedges of primary colours including solids are mainly used for measurements (CIELAB values of solids, tone value increase). A comprehensive documentation of ECI/bvdm Gray Control Strips is part of the "Support Files" on the DVD.

⑭ Step wedge, CMY [PRINT]

The step wedge is for a visual reference for evaluation of proof and press run. The resulting colour is not neutral grey since the patches are defined with equal tone values of the process colours Cyan, Magenta and Yellow.

⑮ to ⑱ Step wedges process colours [PRINT]

The step wedges of the process colours Cyan, Magenta, Yellow and Black are intended for the adjustment of film exposure and conventional platemaking or CtP platemaking in order to archive tonal transfer according to the standard. The numbers to the left of the wedges indicate the tone values as defined in the file. Fine graduation in steps of 1 percent in light (0 to 12

percent) and dark (88 to 100 percent) areas allow for precise tonal transfer adjustments. The respective ranges of tonal values are known to be critical for accurate gradation and colour reproduction.

(19) ECI 2002 characterization target [PRINT]

The characterization target can be used to create ICC profiles for proofing devices and non-standard printing conditions. The target contains all patches of the ISO 12642 chart (IT8.7/3).

Note: The target as printed in the reference prints is for visual evaluation only and should not be used creating characterization data or profiles. Characterization data for creating ICC profiles according to standard printing conditions as defined in ISO 12647-2 are available in this Application Kit on CD-ROM and for download at www.fogra.org.

(20) Ugra/Fogra media wedge CMYK [PRINT]

Colour measurements of the control wedge allow an unbiased evaluation, of whether a given proof is in compliance with international standard printing conditions or not. The German Fogra institute (Graphic Technology Research Association, www.fogra.org) provides reference colour values for the patches of this control wedge matching standard offset printing conditions as defined in ISO 12647-2 (Offset printing). Fogra provides characterization tables for numerous common printing conditions, conforming to the ISO 12647 series of process standards, from which the aim values for the patches may be taken. For visual evaluation, the visual match of the Ugra/Fogra Media Wedge CMYK, especially of the grey scales, with the respective reference print should be judged.

2.3 Structure in Detail – Test Elements of Altona Test Suite 2.0 roman16-1/2/3/4

The roman16 bvdm Reference Images are specially created test motifs for visual assessment, processing and output in premedia and printing. They allow comprehensive statements to be made about colour reproduction and details of the image reproduction in the production process. For the Altona Test Suite 2.0 Application Kit the 16 reference images were used for the creation of four new test forms "ATS 2.0 roman16" – to be applied for visual and colourimetric evaluation. Thus, the "ATS 2.0 Visual" with only a few small reference images was comprehensively complemented.

The roman16 bvdm Reference Images (RGB data etc.) are available as separate publication. Information and ordering: www.roman16.com

The publication consist of digital data on DVD-ROM and documentation. The DVD-ROM contains data sets of the images in ECI RGB colour mode and as CMYK separations at a resolution of 700 ppi. The CMYK files are available as 16 bit and 8 bit data. They were converted in Adobe Photoshop CS with the Adobe (ACE) CMM (Color Management Module) and perceptual rendering intent into ISO Coated v2 (ECI). The current FOGRA39 characterization data, the current ISO Coated v2 (ECI) and the RGB profile eciRGB v2 are also on the DVD-ROM.

The series of roman16 bvdm Reference Images from the Bundesverband Druck und Medien e.V. (bvdm) has been created to allow the whole print and, in particular, premedia production sequence to be checked and assessed. The objective was to develop a series of motifs that formed an aesthetically unified family whilst on the other hand displaying image criteria that are important for their intended purpose as a test system. Long experience has shown that images with a small number of objects are suitable for test purposes. It is important that the problem points are readily and quickly apparent even to new users without words and long searches. The Reference Images reflect this.

In order to be able to bring out differences in colour harmonies and their depiction a reduced image language has been chosen. What this means is that the same image formats, details, lighting, subject distance and the same proportion of person and background are used. Besides the colours, close attention has also been paid to optimal image definition in all areas, fine details and image sharpness.

Contents, material nature and plasticity were all made easily readable in a modern and reduced form. The primaries, secondaries and tertiaries are represented in an attractive way through people, accessories, fashion and backgrounds. The human eye is used as the key judge of the quality of images. For the images in the ECI RGB colour space chromatic tone angles were chosen that approximately corresponded to the off set corner colours. The images are somewhat more colourful but not extremely so, rather they correspond to real scene colours. All the basic colours are covered, especially those where colour deviations can easily have a disruptive effect. These areas lie outside most CMYK colour spaces and are therefore usually adjusted in the separations. When converting into a relatively small colour space, tonal value and detail can be lost and certain areas of the image can appear flat. Tonal value jumps and similar irregularities in smooth gradations are the results of an irregular tonal value distribution. An appropriate gradation is not only present in most of the image. An image in colour and one in black and white (BW) are devoted to each of the highlight, midtone and shadow regions, in order to be able to check the grey axis. In addition,

ATS 2.0 roman16-1 (new)

ATS 2.0 roman16-2 (new)

one representative image apiece is devoted to the brown, olive and pastel tones and there is also a highly coloured image. The result is that the roman16 bvdm Reference Images provide a good overview of all the important colour tones of a colour space. In addition, the images contain the broadest possible range of skin tones, where even slight colour deviations can quickly be detected.

The RGB versions of the three black and white images can be used for assessing the grey reproduction and the black composition of CMYK printing profiles. Advertisements with black and white subject matter that are four colour printed for better contrast are an example of where this might be useful.

ATS 2.0 roman16-3 (new)

ATS 2.0 roman16-4 (new)

The CMYK versions of the three black and white images, separations with ISO Coated v2 (ECI), can for example be used for unified evaluation of grey reproduction of a print run and to assess the process calibration (tonal value spread, ink trapping). The grey scale versions of the three black and white images can also be used to assess the black simulation of a digital proof printing system. Besides black ink, such systems also use the chromatic colours for the simulation of single colour printing with black ink. This can lead to different colour casts in different tonal value ranges of the proof print.

The primary purpose of the roman16 bvdm Reference Images is to check the conversion of RGB data to CMYK data for the chosen printing process.

The four new ATS 2.0 reference data files A3 using the roman16 bvdm Reference Images are composed as follows: The images are numbered (1) to (16). To achieve better colour combination the images are arranged in different order than the original image numbers of roman16 images. Remarks point to features, provided exclusively for the users of Altona Test Suite 2.0 Application Kit.

Image number, reference data file	Remarks
Altona Test Suite 2.0 roman16-1	
(1) roman16 07 red	Face zoomed (skin tones, visual appraisal)
(2) roman16 08 green	
(3) roman16 09 blue	
(4) roman16 11 brown	Face zoomed (skin tones, visual appraisal)
Altona Test Suite 2.0 roman16-2	
(5) roman16 04 cyan	
(6) roman16 06 yellow	
(7) roman16 05 magenta	Face zoomed (skin tones, visual appraisal)
(8) roman16 10 olive	
Altona Test Suite 2.0 roman16-3	
(9) roman16 01 highkey	
(10) roman16 13 coloured	Face zoomed (skin tones, visual appraisal)
(11) roman16 02 midtone	
(12) roman16 03 lowkey	
Altona Test Suite 2.0 roman16-4	
(13) roman16 14 highkey BW cmyk	Grey image (only K)
(14) roman16 12 pastel	
(15) roman16 15 midtone BW cmyk	Grey image (KCMY)
(16) roman16 16 lowkey BW cmyk	Grey image (KCMY)

Two parallel ECI/bvdm Gray Control Strips (17) are positioned in the centre of the test form according to the pertinent printing condition. They serve for visual appraisal (grey patches) and for measurements (tone value increase patches, solids). See comprehensive documentation on DVD.

The images on reference data files Altona Test Suite 2.0 roman16 are belted by a unified grey background (18) for better image evaluation. Same grey values for all printing conditions (CMYK 18/14/14/13).

2.4 Structure in Detail – Test Elements of Altona Test Suite 2.0 Technical 1

Page 3 of the "Altona Test Suite" focuses on two areas of rendering of PDF/X files: (1) fonts and (2) objects that are set to overprint or knock out other objects underneath. Both font and overprint patches are using as many of the features in PDF 1.3 – which is the basis for PDF/X – as feasible. Fonts are included in all relevant font types. The overprint patches use most of the relevant colour spaces in a selection of combinations that is believed to cover most real world situations.

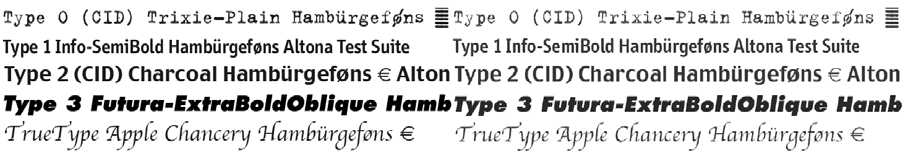
Test criteria

To find out whether a given device or process handles this test page correctly it will be easiest to have a reference print at hand and compare patch by patch. This documentation gives some pointers to what might be causing a problem if the result of the device or process investigated does not match the reference print.

Without a reference print at hand it will be necessary to closely follow the discussion of patches in this documentation and thus find out, whether a given process or output device is having any problems with this test page.

1 The font patches

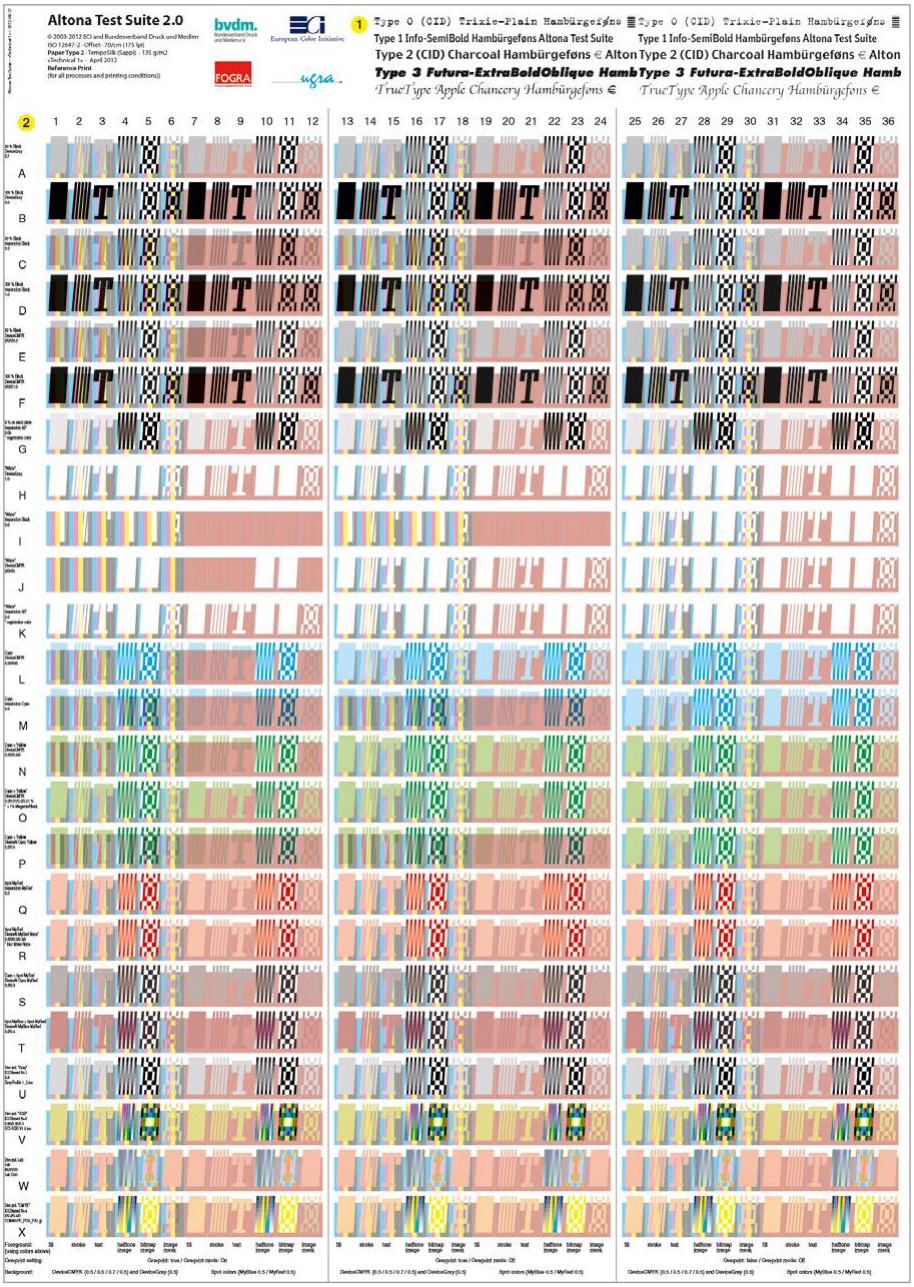
The font patches in the upper right corner of the test page are divided into two groups: the group of five lines of text on the left hand is actually using those fonts indicated in each line of text (all fonts are embedded in the PDF file). The group of five lines of text on the right hand side actually is a grey scale image, visualizing what the left group should look like of rendered properly. Thus it will be very easy to find out whether the actual text lines on the left hand side are imaged properly.



The font patch consists of two halves: the left part contains actual text, using various types of fonts and font formats (Type 0 CID, Type 1, Type 2 CID, Type 3, TrueType), whereas the right part contains an image that visualizes what the left part should look like when rendered correctly.

Possible problems

Under some circumstances the spacing of characters on a line is different from what it should be (horizontally "dancing" characters). This is typically happening if the output device is not using the font embedded in the PDF file but some other font (nearly always with the same name, but possibly a different version or vendor) that is locally resident or is still in the font cache of the output device. It is urgently recommended for a reliable PDF/X oriented workflow to always use the fonts embedded in the PDF file, and to turn font caching off in the RIP. It is actually a useful approach to not have any other fonts available to the RIP than Courier. Also, when using Acrobat, always turn off "Use local fonts".



Altona Test Suite 2.0 Technical 1

Note: Please also take into account the various pieces of text serving as explanations for the overprint patches. They all use Helvetica, and the Helvetica used is also embedded in the PDF file. Often printing processes or devices substitute a standard font like Helvetica with a similar font. This often leads to less than perfect character spacing and sometimes slightly different character shapes.

If any or all of the lines of text in the left hand group of the font patches is missing completely this can have two reasons. First, the process or device may not be prepared to handle that type of font. In that case it has to be said that the process or device is not fully PDF 1.3 (or PostScript 3) compliant. Second, as the font patch is incorporated into the page as a Form XObject (a PDF mechanism that is somehow similar to importing an EPS into a layout

page) it may drop out altogether, as some processes or devices are not able to handle Form XObjects properly. A workaround may be to not process the PDF directly, but to print/convert to PostScript 3 and then process the resulting PostScript file.

2 The overprint patches

At first glance the section with the overprint patches may be a bit overwhelming with its 36 by 24 (that is 864) single patches. Nevertheless, the overprint section has been organized in a way that will help reduce complexity when verifying the output of a process or device.

Three main columns

The overprint patches are divided into three main columns. The left main column – comprising columns 1 through 12 – covers overprinting objects, with the Illustrator overprint mode enabled (OPM is set to 1). The middle main column – with columns 13 through 24 – also deals with overprinting objects, but with Illustrator overprint mode disabled (OPM set to 0). Finally, in the right main column – columns 25 through 36 – all objects are set to knock.

What is Illustrator overprint mode?

Illustrator overprint mode (OPM) influences, how DeviceCMYK objects that are set to overprint are handled when printed on top of elements using process colours. It never applies to images or smooth shades (only to vector objects, text and image masks), and it never affects overprinting objects using colour spaces other than DeviceCMYK or objects that are not set to overprint, and it only affects the colour channels in the DeviceCMYK object that are 0%. If a colour channel in a DeviceCMYK object that is set to overprint is zero, it will not erase the colour that has already been painted in that same colour channel before, if and only if Illustrator overprint mode is enabled (OPM = 1). Otherwise that colour channel using 0% will paint 0%, thus erasing the colour in the same colour channel.

Example: Given a rectangle has been filled with 50% Cyan and 100% Yellow and 0% each for Magenta and Black (resulting in a light green). Next, an overprinting circle that overlaps this rectangle is filled – using DeviceCMYK – with 0% Cyan, 50% Magenta, 100% Yellow and 0% Black. The result will depend on the currently active Illustrator overprint mode. If it is disabled (OPM = 0 or not defined at all), the 0% Cyan in the circle will knock out the Cyan in the rectangle‘s area underneath it. Painting 50% in the Magenta channel and 100% Yellow in the Yellow channel (erasing the Magenta or Yellow that has been there before) will result in kind of orange. (Black does not play a role here as it is 0% for both objects.) Opposed to this, if Illustrator overprint mode is enabled, the 0% Cyan in the circle will be ignored, that is it will not erase the Cyan already imaged in that area. The behaviour for all DeviceCMYK channels that are not 0% remains the same as described before. Thus the result will be a brownish colour.

2.5 Structure in Detail – Test Elements of Altona Test Suite 2.0 Technical 2

Background

When version 1.0 of the "Altona Test Suite" was released, it addressed the all new PDF/X standard – most importantly how to find out whether output from a PDF/X file was correct or not. The "Altona Test Suite" turned into a powerful tool for many participants of the print production food chain:

- to find out whether a given product would live up to their expectations,
- for users to ensure their entire workflow could and did handle PDF/X files correctly,
- for associations to develop best practice guidelines.

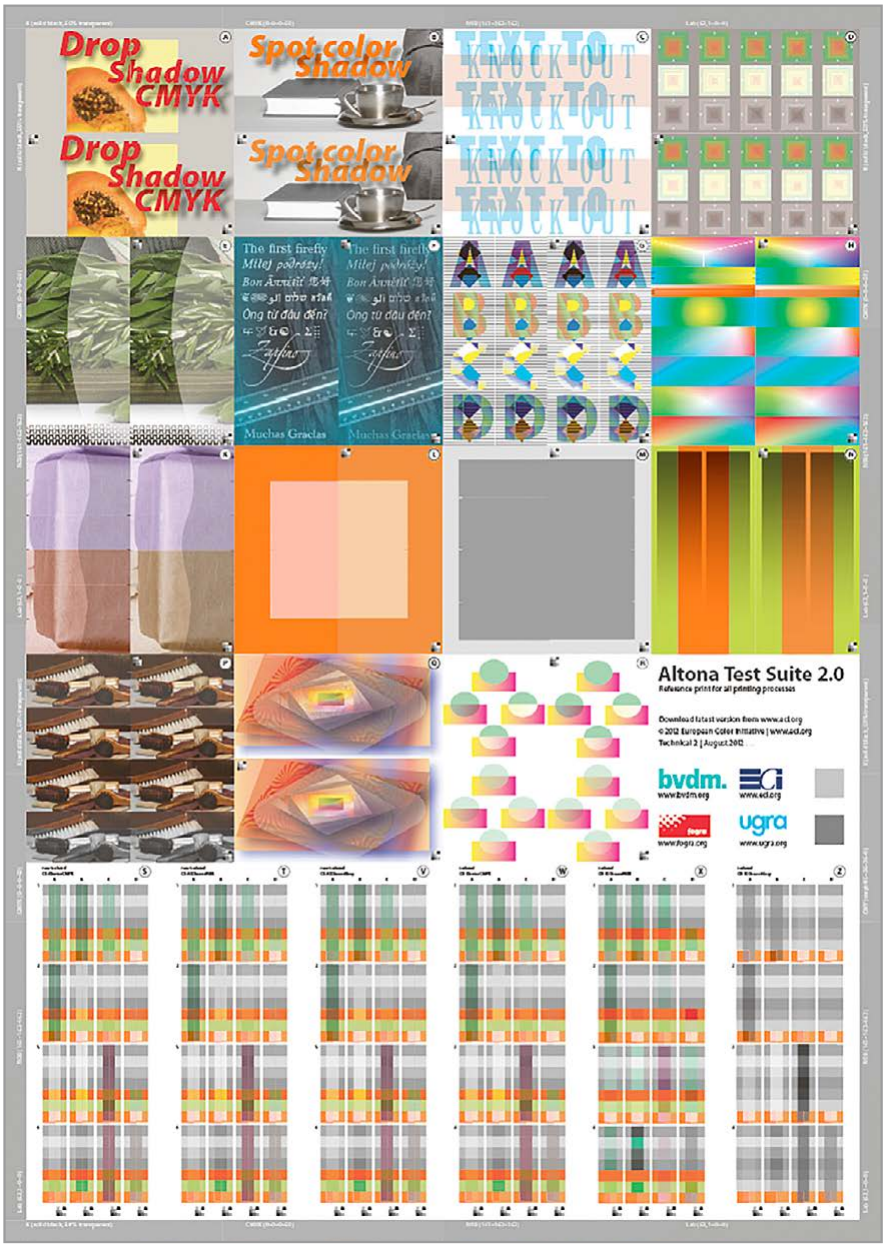
The first international PDF/X standard was released in 2001 (PDF/X-1a, followed by PDF/X-3 in 2002). PDF/X has since turned into the predominant file exchange format in the printing industry. A decade later we find ourselves in a situation, where substantial new features have been introduced into the PDF format. A new part of the PDF/X standard has been released in 2008: PDF/X-4, finally supporting transparency, OpenType fonts, optional content (layers), page sizes beyond 5 by 5 meters, JPEG2000 compression and more. Its companion standard, PDF/X-5, was developed in the same time, standardizing incomplete or partial file exchanges, targeting very specific needs in niche markets.

Some of the features defined in newer versions of the PDF syntax and standardized in PDF/X-4 have proven to be more demanding for implementers than others:

Transparency introduced a completely new dimension of complexity – any combination of object type, colour space, blend mode, opacity, nesting of transparency groups and so forth can be used, and actually is used by adventurous and demanding designers who in turn are driven by their insatiable customers longing for ever more enticing designs. Quite a number of developers found it less than trivial to cope with the challenges of such added complexity, both in terms of performance as well as correctness of the produced results.

Optional content (often referred to as layers) has been around in the PDF format for a number of years but so far is only supported by a small number of PDF vendors. It allows the creation of PDFs for which a user can switch between views, for example between different language versions of a text document, or between different instances of a PDF for packaging, where each instance reflects a different flavour or colour of a product package, while all instances share the common graphic elements. In addition, some page content can be turned on or off on an as needed basis – like measurement information, cut lines, identifying information or human readable instructions in a packaging file.

The **OpenType** font format – an industry standard that has also been adopted as an ISO standard that uses the term Open Font Format (ISO/IEC 14496-22) – constitutes a consolidated font format building on both the PostScript and TrueType font formats, fully supporting Unicode as well as allowing intelligently for even the most complex scripts like Thai or classical Mongolian.



Altona Test Suite 2.0 Technical 2

JPEG2000 (ISO 15444) is an extremely flexible compression format for continuous tone images. It is not to be mixed up with JPEG, as it uses a completely different architecture and algorithms. While JPEG is always lossy, JPEG2000 can be used in a lossless way, on average offering better compression than ZIP. In addition it supports a wide variety of colour spaces and bit depths. Finally, it also provides options to decode images progressively – very convenient for very large and data intensive images.

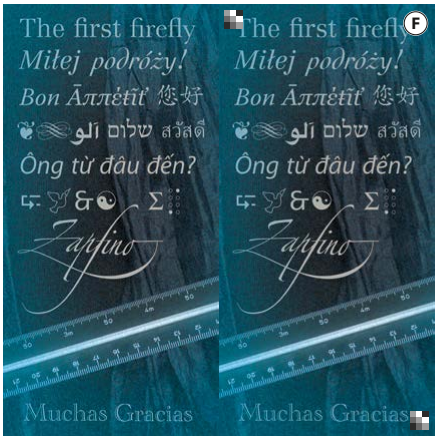
Page size in PDFs can now easily exceed the original implementation limit of roughly 5 by 5 meters – using a parameter called UserUnits current implementations support page sizes of up to 381 kilometres by 381 kilometres. While rarely in use so far, this very specific new feature is a nice approach to make handling of large page sizes that are not uncommon in very large format printing more elegant.

Evaluating the test page

The Technical Page has been designed for a visual evaluation. Each patch is split in two sections. One section contains “live content” while the other section provides a reference image with the expected “correct result” result. The reference image is marked by two icons in the upper left and lower right corner.

Some patches are split horizontally with the reference image in the lower part:

Reference image marked by ▚-icons in upper left and lower right corner.



Other patches are split vertically with the reference image in the right hand sided section.

The reference images of the patches S through Z are mirrored to the right making it easier to evaluate the result of the live part. Due to space restrictions, the reference images are marked by single icons, which are located at the bottom of the respective patch.

As it is not trivial to provide a “correct result” of this test page that will look correct under all circumstances, and can be achieved in exactly the same way by an output device, evaluating output of the test page most often will not be a yes or no test. Rather, under many circumstances very small variations will have to be considered acceptable and equivalent to an officially correct result.

In order to make evaluations as comparable as feasible, the evaluation table on the next page is recommended. For carrying out an evaluation of the output of the test page, the schematic structure of the test page on the page after the evaluation table may be used.

The following classification should be used for tracking evaluation results in the table

- no issues
- Very small deviations, but still acceptable
- Deviations that may or may not be acceptable
- Clearly unacceptable deviations
- Some or all of the patch not rendered at all

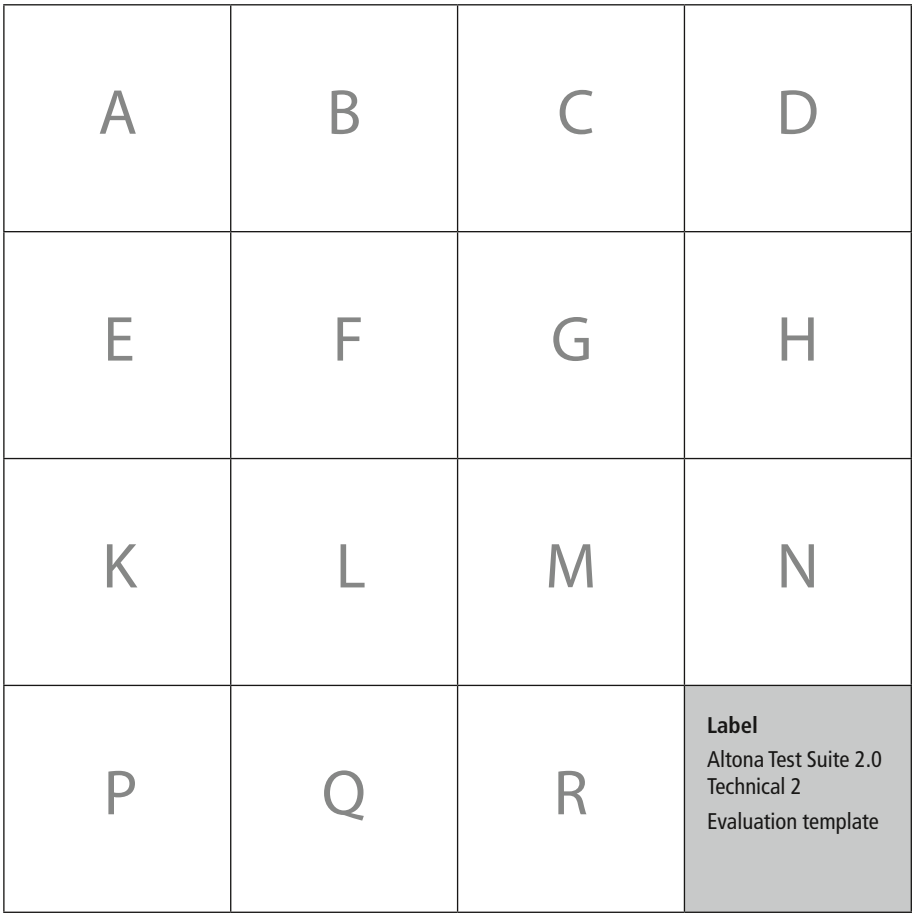
When carrying out an evaluation using the schematic structure, issues should be indicated by using “O” or an appropriate number of “X”:

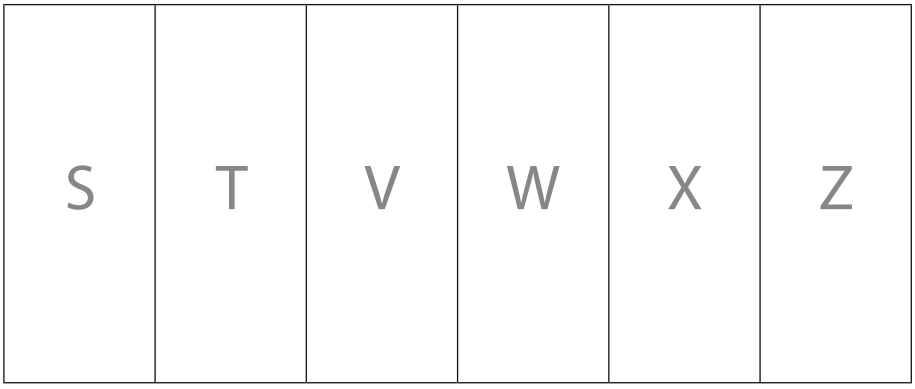
O	no issues
X	Very small deviations, but still acceptable
XX	Deviations that may or may not be acceptable
XXX	Clearly unacceptable deviations
XXXX	Some or all of the patch not rendered at all

Note: When doing a visual assessment, significant colour differences between spot colour objects in the live part of a patch versus their appearance in the reference image do not indicate an error!

Evaluation template Altona Test Suite 2.0 Technical 2

Patch	No issues	Very small deviations, but still acceptable	Deviations that may or may not be acceptable	Clearly unacceptable deviations	Some or all of the patch not rendered at all	Remarks
A						
B						
C						
D						
E						
F						
G						
H						
K						
L						
M						
N						
P						
Q						
R						
S						
T						
V						
W						
X						
Z						
Label						
Pageframe						
Σ						

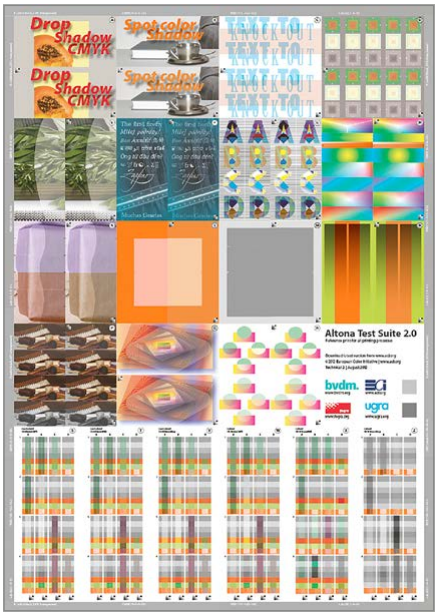




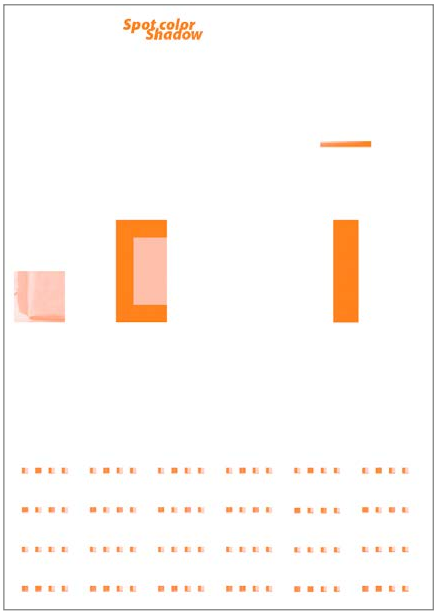
Pageframe

O	No issues
X	Very small deviations, but still acceptable
XX	Deviations that may or may not be acceptable
XXX	Clearly unacceptable deviations
XXXX	Some or all of the patch not rendered at all

Visual reference: Separations

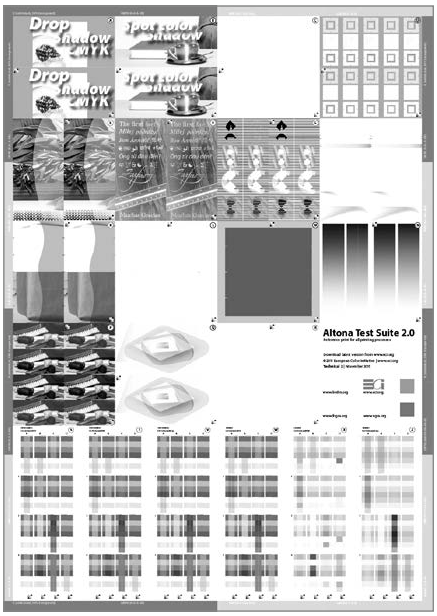


Process colours "CMYK" and spot colour "Orange"



Spot colour "Orange"

Process colours "CMY"



Process colour "K"

3 Altona Test Suite 2.0 – Application

1.1 [PDF/X-4], [PDF/X-3]

A central application of the “Altona Test Suite” is to test output systems in relation to the processing of PDF/X files. In addition, the “Altona Test Suite” can be used to test DTP programs and workflow systems. This is important in view of the fact that PDF objects are mostly imported into the pages of layout and graphics programs.

The control resources to test PDF/X compatibility can be found on the pages Altona Visual and Altona Technical. Basically they cover the areas of colour management, overprinting, transparencies and type coding. The control resources such as images and test patches are structured so that if the output is defective, clearly recognizable effects – e. g. a clear change in the colour representation – occur. To simplify the evaluation, all components of the “Altona Test Suite” which must be output correctly have been marked with PDF/X in the description. Faulty output means either that the RIP settings must be adjusted or that the output system does not comply with the standards for the output of PDF/X data.

In the evaluation, please take into account how the PDF/X file was output. The output can be different on one and the same output system, depending on whether you print the PDF/X file directly (via hot folders) or from a program (typically Adobe Acrobat). When the output is from a program, the print options and printer driver used will affect the result:. When a monitor display is evaluated, display options such as overprint preview and proof settings play a role.

1.2 Digital Proofing Systems [PRINT]

Background

The purpose of a proof is to make the anticipated quality for production printing visible as accurately as is technically possible at a certain stage or after the completion of the prepress work. The standardized proof supplied with the finished data is regarded as confirmation that the existing image impression can also be achieved in standardized production printing. The footer of the proof must show the file name and date, the names of the source profiles and print profiles used or the names of the characterization tables on which the output profiles are based (example: FOGRA39). As far as possible, the digital proof should be screened with the same screening program and the same image orientation which are planned for production printing.

Reliability of the proofs

The data for the proof must fulfill the following conditions: It should be in the form of a composite file of PDF/X format. The proof must bear a Ugra/Fogra Media Wedge 3.0 Proof. Its CIELAB colour values must correspond to the printing conditions planned for production printing. A general visual check is possible under 5000 K illumination with the aid of the pertinent reference print, see Working Instructions 2. Where higher demands are placed on the colour reliability, colourimetric measurements are necessary; measurements with a densitometer are not sufficient, see Working Instructions 3. Specific functions of the RIP and its adjustment are tested in the output of the pages Altona Technical 1 and 2, see section 2.5.

5

5 Terms of Use

5.1 Altona Test Suite – Application Kit

The Altona Test Suite Application Kit consists of reference data on DVD, reference prints and the documentation. The DVD contains data files of the "Altona Test Suite" (Measure, Visual, roman16-1/2/3/4, Technical 1/2) in various standard printing conditions, and it also contains characterization data and ICC profiles.

The "Altona Test Suite" does not claim to be suitable for any specific purposes. The user shall use the "Altona Test Suite" at its own risk at all times. The editor and publisher provides no guarantee for the correctness of the "Altona Test Suite" and of the documentation. The editor and publisher accept no liability for any direct damage or loss or any consequential damage or loss which may arise from the use of the Altona Test Suite Application Kit.

Right of use in the framework of business applications

The data files for the "Altona Test Suite" contained on the DVD can be used to create digital proofs or prints for the user's own purposes in the framework of the normal business activities of a user involved in print production. Prints prepared by the user must be created from the unchanged data of the Application Kit and thus clearly distinguishable from the official reference prints in the Altona Test Suite Application Kit.

The purchaser of the Altona Test Suite Application Kit shall acquire a simple, non-transferable right of use in the framework of normal business activities for the components of the Application Kit (reference data, reference prints, documentation). The right of use shall cease in the event of any violation of the conditions of use.

Exclusion of commercial exploitation

It is prohibited to distribute commercially the provided "Altona Test Suite" data files or any prints created thereof, to exploit data or prints singly or in combination with other products (bundling) or to market components of the "Altona Test Suite" in whatever manner.

Any commercial use of the "Altona Test Suite", for example by system manufacturers, distribution companies and consulting companies (service, support) shall require a separate written agreement with the holders of the rights (bvdm).

5.2 Characterization Data, ICC Profiles

The characterization data FOGRA39 to FOGRA47 are available for use on the Fogra website, www.fogra.org, and can be freely used by anyone as long as no changes are made to the data and they are not passed on to third parties. The copyright of the data is held by Fogra Forschungsgesellschaft Druck e.V., Munich.

The ICC profiles “ISO Coated v2 300 % (ECI)” etc. are available for use on the ECI website, www.eci.org, and can be freely used by anyone as long as no changes are made to the data and they are not passed on to third parties. The copyright of the data is held by ECI European Color Initiative, Berlin.

5.3 ICC Profiles (Software)

The ICC profiles used in the Altona Test Suite 2.0 Application Kit were created on the basis of the Characterization Data (11.2) with the latest version of profile software “Prinect Color Toolbox” of Heidelberger Druckmaschinen AG.

The following license conditions must be observed for the use of the profiles. License terms („LICENSE“) for the use of HEIDELBERG ICC profiles with profile properties as defined in this license

1 Definition
1.1 For generic ICC profiles for the profiling of standard printing conditions which have been produced with software of Heidelberger Druckmaschinen AG („HEIDELBERG“) („PROFILES“), HEIDELBERG agrees to a free distribution and use of the PROFILES, on condition that the distributor and/or user („LICENSEE“) agrees to the following terms.
1.2 Standard printing conditions within the meaning of this LICENSE are standards defined by international or national standardisation bodies such as ISO 12647 and the respective parts thereof or are a de facto standards in certain regions of the world.

2 Scope of the Right of Use
2.1 HEIDELBERG grants the LICENSEE a non-exclusive right to use the PROFILES.
2.2 The LICENSEE is allowed to redistribute the PROFILES and to transfer this Right of Use to a third party on condition that these PROFILES are always distributed together with this LICENSE and that the third party accepts that the license transferred by the LICENSEE is subject to the terms of this LICENSE. The PROFILES may be redistributed also bundled together with other software.

3 Exclusion of other Use
3.1 It is explicitly prohibited to charge any kind of remuneration for the distribution of these PROFILES.
3.2 It is not allowed to edit these PROFILES or to change the entries in the profile tags or to use the inherent technical solutions for any purpose other than the actual purpose of an ICC profile. If the PROFILES will be sold bundled together with commercial software, then it is not allowed to charge an extra price for the PROFILES.

4 Warranty and Liability
4.1 The PROFILES are provided “as is” free of charge and excluding all claims – in particular any claims for implied or express warranty or based on a defect – against HEIDELBERG or the distributor of these PROFILES.
4.2 This LICENSE excludes all liability, including the liability for damages.

5 Copyright
The copyright in the PROFILES remains with HEIDELBERG.

6 General Terms
6.1 The Right of Use as described in point 2.1 is void with immediate effect upon violation of this LICENSE.

6.2 This LICENSE applies explicitly to generic profiles only for the profiling of printing standards, as specified in point 1. This LICENSE expressly does not apply to profiles produced with HEIDELBERG software which profile the properties of a specific device.

5.4 Ugra/Fogra Media Wedge CMYK 3.0 Proof

The following conditions of use apply to the Ugra/Fogra Media Wedge CMYK V3.0, which is integrated into the files “Altona Measure” and “Altona Visual” of the Altona Test Suite 2.0 Application Kit.

§ 1 The Ugra/Fogra Media Wedge CMYK V.3 is an integrated component of the files “Altona Measure” and “Altona Visual” of the Altona Test Suite 2.0 Application Kit. It is not part of the Altona PDF files that are available free of charge on the ECI website.

§ 2 The purchaser (user) of this Altona Test Suite 2.0 Application Kit shall receive non-exclusive rights of use from Fogra for the integrated Ugra/Fogra Media Wedge CMYK V3.0. The Ugra/Fogra Media Wedge CMYK V3.0 must only be used as an integrated component of the Altona Test Suite 2.0 Application Kit. It is prohibited to remove the Ugra/Fogra Media Wedge from the test forms “Altona Measure” and “Altona Visual”, to use it separately or to modify or exploit it in any other way.

§ 3 Fogra offers the purchasers of the Altona Test Suite 2.0 Application Kit the same telephone advice services which Fogra also provides to the other licensees of the Ugra/Fogra Media Wedge CMYK V3.0 via direct marketing. Files (txt) with the tone values of the 72 Media Wedge patches for different standard printing conditions (offset, newspaper printing) are available on the DVD of Altona Test Suite 2.0 Application Kit and on the Fogra website (www.fogra.org).

Making-of: Production of Reference Prints

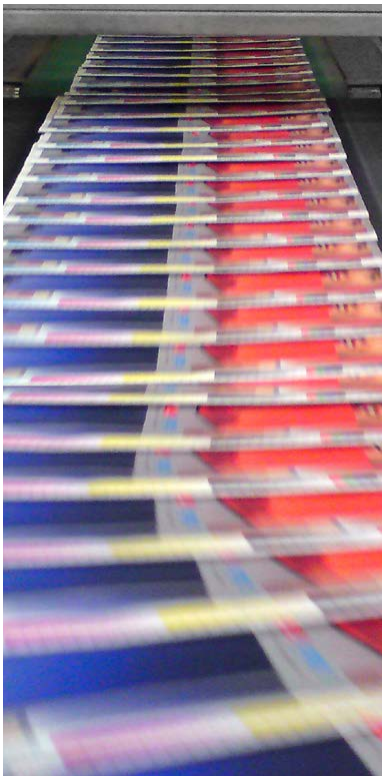
During the production of reference prints of the Altona Test Suite Application Kit a lot of efforts were necessary to keep deviations and variations around the target values of ISO 12467-2 small:

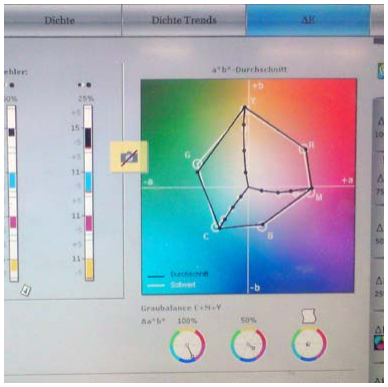
- Careful testing and selection of papers and printing inks
- Performance of test print series prior to production print run
- Calibration of tonal correction curves in the RIP of the CtP system (partially in multiple steps)
- Exact adaptations for the selected papers and printing inks
- Careful make-ready of the printing press, with high consumption of time and material
- Partial repetition of single process steps including the production print run
- Subsequent evaluation of a comprehensive sample of the print run with different measuring devices.

Making-of: Produktion der Referenzdrucke

Bei der Produktion der Referenzdrucke des Altona-Test-Suite-Anwendungspaketes war ein hoher Aufwand notwendig, um die Abweichungen und Schwankungen um die vorgegebenen Sollwerte der ISO 12467-2 gering zu halten:

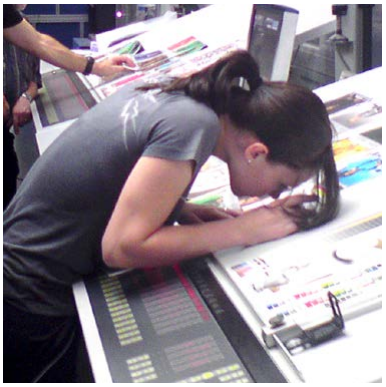
- Sorgfältige Prüfung und Auswahl der Papiere und Druckfarben
- Durchführung von Testdrucken vor dem eigentlichen Auflagendruck
- Justierung der Tonwertkorrekturkennlinie im RIP der CtP-Anlage (teilweise in mehreren Schritten)
- Exakte Anpassungen für die ausgewählten Papier- und Druckfarbensorten
- Sorgfältiges Einrichten der Druckmaschine mit hohem Zeit- und Materialaufwand
- Teilweise Wiederholung einzelner Prozessschritte einschließlich des Auflagendrucks
- Nachträgliche Prüfung einer umfangreichen Stichprobe der Druckauflage mit verschiedenen Messgeräten.



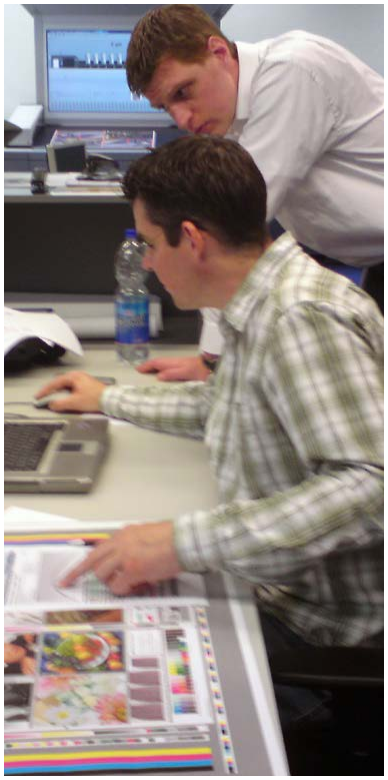



Drucken mit UV – brillante Aussich
Formatklassen
sses.

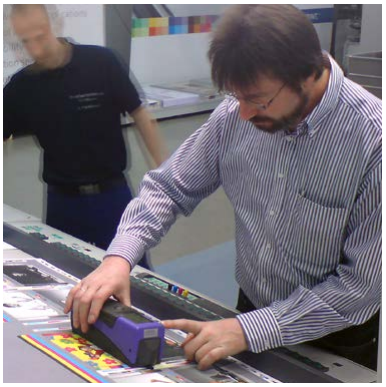

K+E
Novavit HKS 7 K




ROLAND 900,
XXL




S80



6 Reference Data Files Altona Test Suite 2.0 (Test Forms) on DVD

For offset printing according to ISO 12647-2 eight printing conditions are provided, six SFO and two HSWO, see paragraph 6.1 to 6.4. For sheet-fed offset, printing conditions for gloss coated, matt coated and uncoated papers (AM and FM screening) and for heatset web offset, printing conditions for LWC improved and SC Paper (AM screening) are provided. Joint working groups of bvdm, ECI, Fogra developed the SFO printing conditions according to ISO 12647-2. Well known European heatset web offset printers developed the HSWO printing conditions in the joint ECI Web Offset Working Group (WOWG) 2005-2012. Download of ICC profiles for offset printing according to ISO 12647-2 from ECI Website. Download of pertinent characterization data from Fogra website.

Information on colour separation settings and profile creation software used for theECI profiles are part of the “Support Files” on the DVD along with information on the characterization data (Fogra), ECI/bvdm Gray Control Strips and Ugra/Fogra Media Wedge V3.

6 Referenzdateien Altona Test Suite 2.0 (Testformen) auf DVD

Für den Offsetdruck gemäß ISO 12647-2 werden acht Druckbedingungen zur Verfügung gestellt, sechs für Bogenoffset und zwei für Heatset-Rollenoffset, siehe Abschnitte 6.1 bis 6.4. Für Bogenoffset werden Druckbedingungen für glänzend gestrichene, matt gestrichene und ungestrichene Papiere (AM- und FM-Raster), für Heatset-Rollenoffset Druckbedingungen für LWC Improved und SC Papier (AM-Raster) zur Verfügung gestellt. Gemeinsame Arbeitsgruppen von bvdm, ECI und Fogra haben die Bogenoffset-Druckbedingungen gemäß ISO 12647-2 entwickelt. Namhafte europäische Rollenoffsetdruckereien haben die Rollenoffset-Druckbedingungen in der ECI Web Offset Working Group (WOWG) 2005–2012 erarbeitet. Download der ICC-Profile für den Offsetdruck gemäß ISO 12647-2 von der ECI-Website. Download der entsprechenden Charakterisierungsdaten von der Fogra-Website.

Informationen über die Farbseparationseinstellungen und die Software zur Profilerzeugung, die für die ECI-Profile verwendet wurden, sind Bestandteil der „Support Files“ auf der DVD, zusammen mit Informationen über die Charakterisierungsdaten (Fogra), die ECI/bvdm Gray Control Strips und den Ugra/Fogra Medienkeil V3.

6.1 Reference Data Files ATS 2.0 Sheet-fed Offset Printing, Gloss Coated Paper, AM and FM Screening

6.1 Referenzdateien ATS 2.0 Bogenoffsetdruck, glänzend gestrichenes Papier, AM- und FM-Raster

Profile ISOcoated_v2_300_eci.icc – Characterization Data FOGRA39L.txt Profil ISOcoated_v2_300_eci.icc – Charakterisierungsdaten FOGRA39L.txt			
Filename Dateiname	Printing Condition Druckbedingung	Paper Papier	Screening Raster
ATS2_Measure_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-1_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-2_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-3_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-4_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_Visual_PSO_F39-PT1_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)

SFO: Sheet-fed Offset

Profile PSO_Coated_300_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA43L.txt Profil PSO_Coated_300_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA43L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	coated gloss – glänz. gestrichen	NP 20 µm
ATS2_roman16-1_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-2_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-3_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-4_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_Visual_PSO_F43-PT1_NPscreen_x4.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm

SFO: Sheet-fed Offset | NP: non-periodic screening – nichtperiodische Rasterung

6.2 Reference Data Files ATS 2.0 Sheet-fed Offset Printing, Matt Coated Paper, AM and FM Screening

6.2 Referenzdateien ATS 2.0 Bogenoffsetdruck, matt gestrichenes Papier, AM- und FM-Raster

Profile ISOcoated_v2_300_eci.icc – Characterization Data FOGRA39L.txt Profil ISOcoated_v2_300_eci.icc – Charakterisierungsdaten FOGRA39L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-1_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-2_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-3_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-4_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)
ATS2_Visual_PSO_F39-PT2_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 70/cm (175 lpi)

SFO: Sheet-fed Offset

Profile PSO_Coated_300_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA43L.txt Profil PSO_Coated_300_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA43L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-1_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-2_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-3_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-4_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_Visual_PSO_F43-PT2_NPscreen_x4.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm

SFO: Sheet-fed Offset | NP: non-periodic screening – nichtperiodische Rasterung

6.3 Reference Data Files ATS 2.0 Heatset Web Offset Printing, LWC and SC Paper, AM Screening

6.3 Referenzdateien ATS 2.0 Heatset-Rollenoffsetdruck, LWC- und SC-Papier, AM-Raster

Profile PSO_LWC_Improved_eci.icc – Characterization Data FOGRA45L.txt Profil PSO_LWC_Improved_eci.icc – Charakterisierungsdaten FOGRA45L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F45-PT3-Imp_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-1_PSO_F45-PT3_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-2_PSO_F45-PT3_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-3_PSO_F45-PT3_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-4_PSO_F45-PT3_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_Visual_PSO_F45-PT3-Imp_x4.pdf	HSWO – Rollenoffset	LWC Improved	AM 70/cm (175 lpi)

HSWO: Heatset Web Offset

Profile SC_paper_eci.icc – Characterization Data FOGRA40L.txt Profil SC_paper_eci.icc – Charakterisierungsdaten FOGRA40L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-1_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-2_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-3_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-4_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_Visual_PSO_F40-SC_x4.pdf	HSWO – Rollenoffset	SC super calendered	AM 60/cm (150 lpi)

HSWO: Heatset Web Offset | NP non-periodic screening – nichtperiodische Rasterung

6.4 Reference Data Files ATS 2.0 Sheet-fed Offset Printing, Uncoated Paper, AM and FM Screening

6.4 Referenzdateien ATS 2.0 Bogenoffsetdruck, ungestrichenes Papier, AM- und FM-Raster

Profile PSO_Uncoated_ISO12647_eci.icc – Characterization Data FOGRA47L.txt Profil PSO_Uncoated_ISO12647_eci.icc – Charakterisierungsdaten FOGRA47L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-1_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-2_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-3_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-4_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_Visual_PSO_F47-PT4_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)

SFO: Sheet-fed Offset | UCW: uncoated white

Profile PSO_Uncoated_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA44L.txt Profil PSO_Uncoated_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA44L.txt			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-1_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-2_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-3_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-4_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_Visual_PSO_F44-PT4_NPscreen_x4.pdf	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm

SFO: Sheet-fed Offset | UCW: uncoated white | NP: non-periodic screening – nichtperiodische Rasterung

6.5 Supplement: Reference Data Files Altona Test Suite 1.0 Visual (2004)

Reference Data Files of the Altona Test Suite 1.0 Visual (previous version, 2004) are provided (supplement) to enable the rendering of these files with original PDF/X-3 RIP settings. When using a PDF/X-4 based RIP application, the described spot colour deviations do not occur anymore.

6.5 Supplement: Referenzdateien Altona Test Suite 1.0 Visual (2004)

Referenzdateien Altona Test Suite 1.0 Visual (Vorläufer-Version, 2004) werden zusätzlich zur Verfügung gestellt, um die Verrechnung dieser Dateien mit original PDF/X-3 RIP-Einstellungen zu ermöglichen. Wenn ein PDF/X-4-fähiger RIP verwendet wird, treten die beschriebenen Schmuckfarben-Abweichungen nicht mehr auf.

Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
AltonaVisual_1v2a_pt1com_x3.pdf	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 60/cm (150 lpi)
AltonaVisual_1v2a_pt2com_x3.pdf	SFO – Bogenoffset	matt coated – matt gestrichen	AM 60/cm (150 lpi)
AltonaVisual_1v2a_pt4com_x3.pdf	SFO – Bogenoffset	uncoated – ungestrichen	AM 60/cm (150 lpi)

SFO: Sheet-fed Offset

6.6 Reference Data Files ATS 2.0 Coldset Web Offset Printing (Newspaper)

For coldset web offset printing (newspaper) according to ISO 12647-3 one printing condition is provided. The printing condition is coldset web offset printing on standard newsprint. WAN-Ifra developed this printing condition in cooperation with other industry associations. Download of ICC profile and characterization data from WAN-Ifra website.

6.6 Referenzdateien ATS 2.0 Coldset-Rollenoffsetdruck (Zeitungsdruck)

Für Zeitungsdruck gemäß ISO 12647-3 wird eine Druckbedingung zur Verfügung gestellt. Die Druckbedingung ist Coldset-Rollenoffset auf Standard-Zeitungspapier. WAN-Ifra hat diese Druckbedingung in Zusammenarbeit mit anderen Industrieverbänden entwickelt. Download des ICC-Profils und der Charakterisierungsdaten von der WAN-Ifra-Website.

Profile ISOnewspaper26v4.icc – Characterization Data IFRA26L.txt
Profil ISOnewspaper26v4.icc – Charakterisierungsdaten IFRA26L.txt

Filename Dateiname	Printing Condition Druckbedingung	Paper Papier	Screening Raster
ATS2_Measure_PSN_ifra26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)
ATS2_roman16-1_PSN_ifra26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)
ATS2_roman16-2_PSN_ifra26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)
ATS2_roman16-3_PSN_ifra26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)
ATS2_roman16-4_PSN_ifra26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)
ATS2_Visual_PSN_ifra-26_x4.pdf	CSWO – Zeitungsoffset	SNP – Standard-Zeitungspapier	AM 40/cm (100 lpi)

CSWO: Coldset Web Offset | SNP: Standard Newsprint

6.7 Reference Data Files ATS 2.0 Publication Gravure Printing

For publication gravure printing according to ISO 12647-4 five printing conditions are provided. European gravure printers developed these printing conditions “PSR V2” in the joint ECI Gravure Working Group (GWG) 2007-2010. The typical printing conditions (papers) are: LWC plus, LWC standard, SC plus, SC standard, MF (machine finished). Download of ICC profiles and characterization data for publication gravure printing from ECI Website.

6.7 Referenzdateien ATS 2.0 Illustrations-Tiefdruck

Für Illustrations-Tiefdruck gemäß ISO 12647-4 werden fünf Druckbedingungen zur Verfügung gestellt. Europäische Tiefdruckereien haben diese Druckbedingungen „PSR V2“ in der gemeinsamen ECI Gravure Working Group (GWG) in den Jahren 2007 bis 2010 entwickelt. Die typischen Druckbedingungen (Papiere) sind: LWC plus, LWC Standard, SC plus, SC standard, MF (machine finished). Download der ICC-Profile und Charakterisierungsdaten für Illustrations-Tiefdruck von der ECI-Website.

Profile PSR_LWC_PLUS_V2_PT.icc – Characterization Data ECI_PSR_LWC_PLUS_V2.txt
Profil PSR_LWC_PLUS_V2_PT.icc – Charakterisierungsdaten ECI_PSR_LWC_PLUS_V2.txt

Filename Dateiname	Printing Condition Druckbedingung	Paper Papier	Screening Raster
ATS2_Measure_PSR_LWCplus_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck
ATS2_roman16-1_PSR_LWCplus_v2_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck
ATS2_roman16-2_PSR_LWCplus_v2_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck
ATS2_roman16-3_PSR_LWCplus_v2_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck
ATS2_roman16-4_PSR_LWCplus_v2_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck
ATS2_Visual_PSR_LWCplus_x4.pdf	Gravure – Tiefdruck	LWC plus	Gravure – Tiefdruck

Profile PSR_LWC_STD_V2_PT.icc – Characterization Data ECI_PSR_LWC_STD_V2.txt **Profil PSR_LWC_STD_V2_PT.icc – Charakterisierungsdaten ECI_PSR_LWC_STD_V2.txt**			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSR_LWCstd_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck
ATS2_roman16-1_PSR_LWCstd_v2_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck
ATS2_roman16-2_PSR_LWCstd_v2_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck
ATS2_roman16-3_PSR_LWCstd_v2_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck
ATS2_roman16-4_PSR_LWCstd_v2_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck
ATS2_Visual_PSR_LWCstd_x4.pdf	Gravure – Tiefdruck	LWC standard	Gravure – Tiefdruck

Profile PSR_SC_PLUS_V2_PT.icc – Characterization Data ECI_PSR_SC_PLUS.txt **Profil PSR_SC_PLUS_V2_PT.icc – Charakterisierungsdaten ECI_PSR_SC_PLUS.txt**			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSR_SCplus_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck
ATS2_roman16-1_PSR_SCplus_v2_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck
ATS2_roman16-2_PSR_SCplus_v2_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck
ATS2_roman16-3_PSR_SCplus_v2_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck
ATS2_roman16-4_PSR_SCplus_v2_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck
ATS2_Visual_PSR_SCplus_x4.pdf	Gravure – Tiefdruck	SC plus	Gravure – Tiefdruck

Profile PSR_SC_STD_V2_PT.icc – Characterization Data ECI_PSR_SC_STD_V2.txt **Profil PSR_SC_STD_V2_PT.icc – Charakterisierungsdaten ECI_PSR_SC_STD_V2.txt**			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSR_SCstd_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck
ATS2_roman16-1_PSR_SCstd_v2_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck
ATS2_roman16-2_PSR_SCstd_v2_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck
ATS2_roman16-3_PSR_SCstd_v2_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck
ATS2_roman16-4_PSR_SCstd_v2_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck
ATS2_Visual_PSR_SCstd_x4.pdf	Gravure – Tiefdruck	SC standard	Gravure – Tiefdruck

Profile PSRgravureMF.icc – Characterization Data PSRgravureMF_IS12642.txt **Profil PSRgravureMF.icc – Charakterisierungsdaten PSRgravureMF_IS12642.txt**			
Filename **Dateiname**	**Printing Condition** **Druckbedingung**	**Paper** **Papier**	**Screening** **Raster**
ATS2_Measure_PSR_MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck
ATS2_roman16-1_PSR_MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck
ATS2_roman16-2_PSR_MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck
ATS2_roman16-3_PSR_MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck
ATS2_roman16-4_PSR_MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck
ATS2_Visual_PSR-MF_x4.pdf	Gravure – Tiefdruck	MF machine finished	Gravure – Tiefdruck

6.8 Reference Data Files ATS 2.0 Technical 1 and 2 for all Printing Conditions

The reference data files ATS 2.0 Technical 1 and 2 are provided for all printing conditions. The purpose of Technical 1 and Technical 2 is the evaluation of PDF/X data rendering. A single, typical printing condition (SFO) is therefore sufficient for application.

Note: Due to technical reasons there are differences in detail between the data file of Technical 1 and the pertinent reference print. An update of the data file of Technical 1 will be provided with the Update of ATS 2.0 Application Kit in 2014.

6.8 Referenzdateien ATS 2.0 Technical 1 und 2 für alle Druckbedingungen

Die Referenzdateien ATS 2.0 Technical 1 und 2 werden für alle Druckbedingungen bereitgestellt. Der Zweck von Technical 1 und Technical 2 ist die Überprüfung der Verrechnung (Rendering) von PDF/X-Daten. Eine einzige, typische Druckbedingung (Bogenoffset) ist daher für die Anwendung ausreichend.

Hinweis: Aus technischen Gründen bestehen Detailunterschiede zwischen der Datei von Technical 1 und dem zugehörigen Referenzdruck. Ein Update der Datei wird mit dem Update des ATS-2.0-Anwendungspaketes im Jahr 2014 zur Verfügung gestellt.

Filename **Dateiname**	File size **Dateigröße**	Printing Condition **Druckbedingung**
Technical 1		
AltonaTech_1v2_pt2com_x3.pdf	2.729.233 Bytes	Bogenoffset für alle Druckbedingungen Sheet-fed Offset for all Printing Conditions
Technical 2		
eci_altona-test-suite-v2_technical2_x4.pdf	126.476.931 Bytes	Bogenoffset für alle Druckbedingungen
eci_altona-test-suite-v2_technical2_one-patch-per-page_x4.pdf	127.724.771 Bytes	Sheet-fed Offset for all Printing Conditions

7 Reference Prints Altona Test Suite 2.0 (Test Forms)

For offset printing according to ISO 12647-2 reference prints for eight printing conditions are provided, six SFO and two HSWO, see paragraph 7.1 to 7.4. For sheet-fed offset, printing conditions for gloss coated, matt coated and uncoated papers (AM and FM screening) and for heatset web offset, printing conditions for LWC improved and SC Paper (AM screening) are provided. Joint working groups of bvdm, ECI, Fogra developed the SFO printing conditions according to ISO 12647-2. Well known European heatset web offset printers developed the HSWO printing conditions in the joint ECI Web Offset Working Group (WOWG) 2005-2012. Download of ICC profiles for offset printing according to ISO 12647-2 from ECI Website. Download of pertinent characterization data from Fogra Website. The profiles (ECI) and the characterization data (Fogra) are also on the DVD for rapid access.

The main application of the reference prints "Altona Test Suite 2.0", Measure, Visual, roman16 is visual comparison with a proof, print proof and production print prepared from the corresponding data. The reference prints for offset printing are marked according to the respective printing conditions and the papers used. The prints are marked as "Reference Print". All reference prints sheet-fed offset are available in the format 297 × 420 mm and folded to the format 210 × 297 mm. The control images are not situated in the fold.

Note: The colour target according to ISO 12642-2 on ATS 2.0 Measure reference prints should not be used to prepare individual characterization data on the basis of this reference prints. Optimized standard characterization data (Fogra) are available on the enclosed DVD for all printing conditions together with the pertinent ICC Profiles (ECI).

For the eight offset printing conditions according to ISO 12647-2, reference prints are provided (see 7.1 to 7.4). For the coldset web offset printing condition (newspaper) according to ISO 12647-3 and the five gravure publication printing conditions (PSR) according to ISO 12647-4, no reference prints are provided. Prints on newsprint and on substrates for gravure publication printing are typically subject of rapid aging.

7 Referenzdrucke Altona Test Suite 2.0 (Testformen)

Für den Offsetdruck gemäß ISO 12647-2 werden Referenzdrucke für acht Druckbedingungen zur Verfügung gestellt, sechs für Bogenoffset und zwei für Heatset-Rollenoffset, siehe Abschnitte 6.1 bis 6.4. Für Bogenoffset werden Druckbedingungen für glänzend gestrichene, matt gestrichene und ungestrichene Papiere (AM und FM Raster), für Heatset-Rollenoffset Druckbedingungen für LWC Improved und SC Papier (AM Raster) zur Verfügung gestellt. Gemeinsame Arbeitsgruppen von bvdm, ECI und Fogra haben die Bogenoffset-Druckbedingungen gemäß ISO 12647-2 entwickelt. Namhafte europäische Rollenoffsetdruckereien haben die Heatset-Rollenoffset-Druckbedingungen in der ECI Web Offset Working Group (WOWG) 2005-2012 erarbeitet. Download der ICC-Profile für den Offsetdruck gemäß ISO 12647-2 von der ECI-Website. Download der entsprechenden Charakterisierungsdaten von der Fogra-Website. Die Profile (ECI) und die Charakterisierungsdaten (Fogra) sind für den raschen Zugriff auch auf der DVD.

Hauptanwendung der Referenzdrucke „Altona Test Suite 2.0", Measure, Visual, roman16 ist der visuelle Vergleich zu einem von den entsprechenden Daten erstellten Prüfdruck bzw. Andruck und Auflagendruck. Die Referenzdrucke für Offsetdruck sind entsprechend der jeweiligen Druckbedingung und den dazugehörenden Papieren gekennzeichnet. Die Drucke tragen die Aufschrift „Reference Print". Alle Referenzdrucke Bogenoffset liegen im Format 297 × 420 mm vor und sind auf das Format 210 × 297 mm gefalzt. Die Kontrollbilder liegen dabei nicht im Falz.

Hinweis: Die Farbtafel gemäß ISO 12642-2 auf den Referenzdrucken ATS 2.0 Measure sollte nicht zur Erstellung individueller Charakterisierungsdaten auf Basis dieser Referenzdrucke verwendet werden. Die optimierten Standard-Charakterisierungsdaten (Fogra) stehen für alle Druckbedingungen auf der beiliegenden DVD zur Verfügung, ebenso die entsprechenden ICC-Profile (ECI).

Für die acht Offset-Druckbedingungen gemäß ISO 12647-2, werden Referenzdruckserien bereitgestellt (siehe 7.1 bis 7.4). Für die Druckbedingung Coldset-Rollenoffset (Zeitung) gemäß ISO 12647-3 und die fünf Druckbedingungen Illustrationstiefdruck gemäß ISO 12647-4 (PSR) werden keine Referenzdruckserien bereitgestellt. Drucke auf Zeitungspapier und auf Substraten für Illustrationstiefdruck unterliegen typischerweise einer raschen Alterung.

7.1 Reference Prints ATS 2.0 Sheet-fed Offset Printing, Gloss Coated Paper, AM and FM Screening

7.1 Referenzdrucke ATS 2.0 Bogenoffsetdruck, glänzend gestrichenes Papier, AM- und FM-Raster

Profile ISOcoated_v2_300_eci.icc – Characterization Data FOGRA39L.txt **Profil ISOcoated_v2_300_eci.icc – Charakterisierungsdaten FOGRA39L.txt**			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	**Printing Condition** **Druckbedingung**	**Paper Type 1** **Papiertyp 1**	**Screening** **Raster**
ATS2_Measure – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_Visual – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-1 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-2 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-3 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)
ATS2_roman16-4 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	AM 70/cm (175 lpi)

SFO: Sheet-fed Offset

Profile PSO_Coated_300_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA43L.txt **Profil PSO_Coated_300_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA43L.txt**			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	**Printing Condition** **Druckbedingung**	**Paper Type 1** **Papiertyp 1**	**Screening** **Raster**
ATS2_Measure – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_Visual – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-1 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-2 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-3 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm
ATS2_roman16-4 – Magno Star 135 gsm (Sappi)	SFO – Bogenoffset	gloss coated – glänz. gestrichen	NP 20 µm

SFO: Sheet-fed Offset | NP: non-periodic screening – nichtperiodische Rasterung

7.2 Reference Prints ATS 2.0 Sheet-fed Offset Printing, Matt Coated Paper, AM and FM Screening

7.2 Referenzdrucke ATS 2.0 Bogenoffsetdruck, matt gestrichenes Papier, AM- und FM-Raster

Profile ISOcoated_v2_300_eci.icc – Characterization Data FOGRA39L.txt **Profil ISOcoated_v2_300_eci.icc – Charakterisierungsdaten FOGRA39L.txt**			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	Printing Condition **Druckbedingung**	Paper Type 2 **Papiertyp 2**	Screening **Raster**
ATS2_Measure – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2_Visual – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset*	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2_roman16-1 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2_roman16-2 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2_roman16-3 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2_roman16-4 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)

SFO: Sheet-fed Offset

Profile PSO_Coated_300_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA43L.txt **Profil PSO_Coated_300_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA43L.txt**			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	Printing Condition **Druckbedingung**	Paper Type 2 **Papiertyp 2**	Screening **Raster**
ATS2_Measure – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_Visual – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-1 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset*	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-2 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-3 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm
ATS2_roman16-4 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	NP 20 µm

SFO: Sheet-fed Offset | NP: non-periodic screening – nichtperiodische Rasterung

*Reference print produced as digital print (HP) for technical reasons – Referenzdruck aus technischen Gründen als Digitaldruck (HP) erstellt

7.3 Reference Prints ATS 2.0 Heatset Web Offset Printing, LWC and SC Paper, AM Screening

7.3 Referenzdrucke ATS 2.0 Heatset-Rollenoffsetdruck, LWC- und SC-Papier, AM-Raster

Profile PSO_LWC_Improved_eci.icc – Characterization Data FOGRA45L.txt Profil PSO_LWC_Improved_eci.icc – Charakterisierungsdaten FOGRA45L.txt			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	**Printing Condition** **Druckbedingung**	**Paper Types LWC and SC** **Papiertypen LWC und SC**	**Screening** **Raster**
ATS2_Measure – UPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_Visual – UPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-1 – UPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-2 – UPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-3 – TUPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)
ATS2_roman16-4 – UPM Ultra H 65 gsm (UPM)	HSWO – Heatset-Rollenoffset	LWC Improved	AM 70/cm (175 lpi)

HSWO: Heatset Web Offset | LWC light weight coated

Profile SC_paper_eci.icc – Characterization Data FOGRA40L.txt Profil SC_paper_eci.icc – Charakterisierungsdaten FOGRA40L.txt			
Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	**Printing Condition** **Druckbedingung**	**Paper Types LWC and SC** **Papiertypen LWC und SC**	**Screening** **Raster**
ATS2_Measure – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_Visual – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-1 – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-2 – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-3 – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)
ATS2_roman16-4 – Norsc H 48 gsm (Norske Skog)	HSWO – Heatset-Rollenoffset	SC super calendered	AM 60/cm (150 lpi)

HSWO: Heatset Web Offset | LWC light weight coated

7.4 Reference Prints ATS 2.0 Sheet-fed Offset Printing, Uncoated Paper, AM and FM Screening

7.4 Referenzdrucke ATS 2.0 Bogenoffsetdruck, ungestrichenes Papier, AM- und FM-Raster

Profile PSO_Uncoated_ISO12647_eci.icc – Characterization Data FOGRA47L.txt Profil PSO_Uncoated_ISO12647_eci.icc – Charakterisierungsdaten FOGRA47L.txt			
Reference Print – Paper Product (Manufacturer) Referenzdruck – Papiersorte (Hersteller)	Printing Condition Druckbedingung	Paper Type 4 Papiertyp 4	Screening Raster
ATS2_Measure – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_Visual – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-1 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-2 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-3 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)
ATS2_roman16-4 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	AM 70/cm (175 lpi)

SFO: Sheet-fed Offset | UCW: uncoated white

Profile PSO_Uncoated_NPscreen_ISO12647_eci.icc – Characterization Data FOGRA44L.txt Profil PSO_Uncoated_NPscreen_ISO12647_eci.icc – Charakterisierungsdaten FOGRA44L.txt			
Reference Print – Paper Product (Manufacturer) Referenzdruck – Papiersorte (Hersteller)	Printing Condition Druckbedingung	Paper Type 4 Papiertyp 4	Screening Raster
ATS2_Measure – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_Visual – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-1 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-2 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-3 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm
ATS2_roman16-4 – UPM Fine 120 gsm (UPM)	SFO – Bogenoffset	UCW – ungestrichen weiß	NP 20 µm

SFO: Sheet-fed Offset | UCW: uncoated white | NP: non-periodic screening – nichtperiodische Rasterung

7.5 Reference Prints ATS 2.0 Technical 1 and 2 for all Printing Conditions

The reference data files ATS 2.0 Technical 1 and 2 are provided for all printing conditions. The purpose of Technical 1 and Technical 2 is the evaluation of PDF/X data rendering. The aspects tested are correct processing of the data and the presentation of the test patches. A single, typical printing condition (SFO) is sufficient for application. The prints are marked as "Reference Print", available in the format 297 × 420 mm and folded to the format 210 × 297 mm. A comprehensive documentation for the use of ATS 2.0 Technical 1 and 2 is provided in 2.8 and 2.9.

Note: For technical reasons there are small differences in detail between the data file of Technical 1 and the pertinent reference print. An update of the data file of Technical 1 will be provided with an Update of ATS 2.0 Application Kit in 2014.

7.5 Referenzdrucke ATS 2.0 Technical 1 und 2 für alle Druckbedingungen

Die Referenzdateien ATS 2.0 Technical 1 und 2 werden für alle Druckbedingungen bereitgestellt. Der Zweck von Technical 1 und Technical 2 ist die Überprüfung der Verrechnung (Rendering) von PDF/X-Daten. Geprüft wird die korrekte datenmäßige Verarbeitung und Darstellung der Testfelder. Eine einzige, typische Druckbedingung (Bogenoffset) ist daher für die Anwendung ausreichend. Die Drucke tragen die Aufschrift „Reference Print". Alle Referenzdrucke liegen im Format 297 × 420 mm vor und sind auf das Format 210 × 297 mm gefalzt. Eine umfassende Dokumentation zur Anwendung der ATS 2.0 Technical 1 und 2 ist im Abschnitt 2.8 und 2.9.

Hinweis: Aus technischen Gründen bestehen kleine Detailunterschiede zwischen der Datei von Technical 1 und dem zugehörigen Referenzdruck. Ein Update der Datei wird mit einem Update des ATS-2.0-Anwendungspaketes im Jahr 2014 zur Verfügung gestellt.

Reference Print – Paper Product (Manufacturer) **Referenzdruck – Papiersorte (Hersteller)**	Printing Condition **Druckbedingung**	Paper Type 2 **Papiertyp 2**	Screening **Raster**
ATS2 Technical 1 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)
ATS2 Technical 2 – Tempo Silk 135 gsm (Sappi)	SFO – Bogenoffset	matt coated – matt gestrichen	70/cm (175 lpi)

SFO: Sheet-fed Offset | SFO for all Printing Conditions | Bogenoffset für alle Druckbedingungen

11 Bibliography, Sources

11 Literatur, Quellen

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Graphic technology – Process control for the production of half-tone colour separations, proof and production prints

Norm: ISO 12647
Drucktechnik – Prozesskontrolle für die Herstellung von Raster-Farbauszügen, Andruck, Prüfdruck und Auflagendruck (nur in englischer Sprache)

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Norm: ISO 12647-1:2004
Drucktechnik – Prozesskontrolle für die Herstellung von Raster-Farbauszügen, Andruck, Prüfdruck und Auflagendruck – Teil 1: Parameter und Messmethoden (nur in englischer Sprache)

[1b] Standard: ISO 12647-2:2004
Graphic technology – Process control for the production of half-tone colour separations, proof and production prints – Part 2: Offset lithographic processes

Norm: ISO 12647-2:2004
Drucktechnik – Prozesskontrolle für die Herstellung von Raster-Farbauszügen, Andruck, Prüfdruck und Auflagendruck – Teil 2: Offsetdruckverfahren (nur in englischer Sprache)

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Part 2: Offset lithographic processes | Amendment 1

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Graphic technology – Process control for the production of half-tone colour separations, proof and production prints – Part 3: Coldset offset lithography on newsprint

Norm: ISO 12647-3:2005
Drucktechnik – Prozesskontrolle für die Herstellung von Raster-Farbauszügen, Andruck, Prüfdruck und Auflagendruck – Teil 3: Zeitungsoffsetdruck (nur in englischer Sprache)

[1d] Standard: ISO/DIS 12647-4:2012
Graphic technology – Process control for the production of half-tone colour separations, proof and production prints – Part 4: Publication gravure printing

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[2] Standard: ISO 12647-7:2013
Graphic technology – Process control for the production of half-tone colour separations, proof and production prints – Part 7: Proofing processes working directly from digital data

Norm: ISO 12647-7:2013
Drucktechnik – Prozesskontrolle für die Herstellung von Raster-Farbauszügen, Andruck, Prüfdruck und Auflagendruck – Teil 7: Digital-Prüfdruckverfahren (nur in englischer Sprache)

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[5a] Standard: ISO 12642-1:2011
Graphic technology – Input data for characterization of four-colour process printing – Part 1: Initial data set

Norm: ISO 12642-1:2011
Drucktechnik – Datenaustausch in der Druckvorstufe – Eingabedaten zur Charakterisierung des Vierfarbdrucks – Teil 1: Basisdatensatz (nur in englischer Sprache)

[5b] Standard: ISO 12642-2:2006
Graphic technology – Input data for characterization of 4-colour process printing – Part 2: Expanded data set

Norm: ISO 12642-2:2006
Drucktechnik – Datenaustausch in der Druckvorstufe – Eingabedaten zur Charakterisierung des Vierfarbdrucks – Teil 2: erweiterter Datensatz (nur in englischer Sprache)

[6] Norm: DIN 16614:2004 (zurückgezogen)
Grafische Technik – Erweiterte Daten zur Charakterisierung des Vierfarbdrucks (auch bekannt als ECI 2002)

Standard: DIN 16614:2004 (withdrawn)
Graphic Technology – Characterisation data for four-colour-printing – Complementary element (also known as ECI 2002, in German language only)

[7] Standard – Norm: ISO 2846
Graphic technology – Colour and transparency of printing ink sets for four-colour printing
Drucktechnik – Farbe und Transparenz der Skalendruckfarben für den Vierfarbendruck (nur in englischer Sprache)

Standard: ISO 2846-1:2006
Graphic technology – Colour and transparency of printing ink sets for four-colour printing – Part 1: Sheet-fed and heat-set web offset lithographic printing

Norm: ISO 2846-1:2006
Drucktechnik – Farbe und Transparenz der Skalendruckfarben für den Vierfarbendruck – Teil 1: Bogen- und Rollenoffset-Druck (nur in englischer Sprache)

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Graphic technology – Colour and transparency of printing ink sets for four-colour printing – Part 2: Coldset offset lithographic printing

Norm: ISO 2846-2:2007
Drucktechnik – Farbe und Transparenz der Skalendruckfarben für den Vierfarbendruck – Teil 2: Coldset-Rollenoffsetdruck (nur in englischer Sprache)

Standard: ISO 2846-3:2002
Graphic technology – Colour and transparency of printing ink sets for four-colour printing – Part 3: Publication gravure printing

Norm: ISO 2846-3:2002
Drucktechnik – Farbe und Transparenz der Skalendruckfarben für den Vierfarbendruck – Teil 3: Illustrationstiefdruckdruck (nur in englischer Sprache)

[8] Standard: ISO 13655:2009
Graphic technology – Spectral measurement and colorimetric computation for graphic arts images

Norm: ISO 13655:2009
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Graphic technology – Prepress digital data exchange – Use of PDF

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Drucktechnik – Datenaustausch in der Druckvorstufe – Anwendung von PDF (nur in englischer Sprache)

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[10c] ISO 15930-7:2010
Graphic technology – Prepress digital data exchange using PDF – Part 7: Complete exchange of printing data (PDF/X-4) and partial exchange of printing data with external profile reference (PDF/X-4p) using PDF 1.6

[10d] ISO 15930-8:2010
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