

ipac

SPECIFICATION

CHARACTERISATION

COLOUR MATCHING

CHANNEL SPECIFIC
TOLERANCES

CERTIFICATION

BENEFIT



The digital printing version makes it possible to reproduce a specified production standard for digital printing based on ACMS™ zero measurement information.

Functions:

- Profiling based on ACMS™ zero scans
- Support of the colour reproduction of decorative patterns using the Colour Correction Loop module in combination with colour management software
- Certification of colour approval and productions
- With ACMS zero, measurements can be carried out in accordance with ISO 24585-2:2023

ACMS™ zero Digital Printing





Specification & Dimensions ACMS™ zero

Specification:

- Geometry - $45^{\circ} / 0^{\circ}$
- Measuring area - 115x300 mm (920px x 2400px)
- Spatial resolution - 125 μm (203 dpi)
- Spectral range - 380 - 780 nm
(5nm resolution => 81 bands)
- Spectral resolution - 5 nm
- Light source - LED (20.000h)
- Compliant to ASTM / CIE / ISO color measurement standards
- High absolute inter instrument agreement



Dimensions:

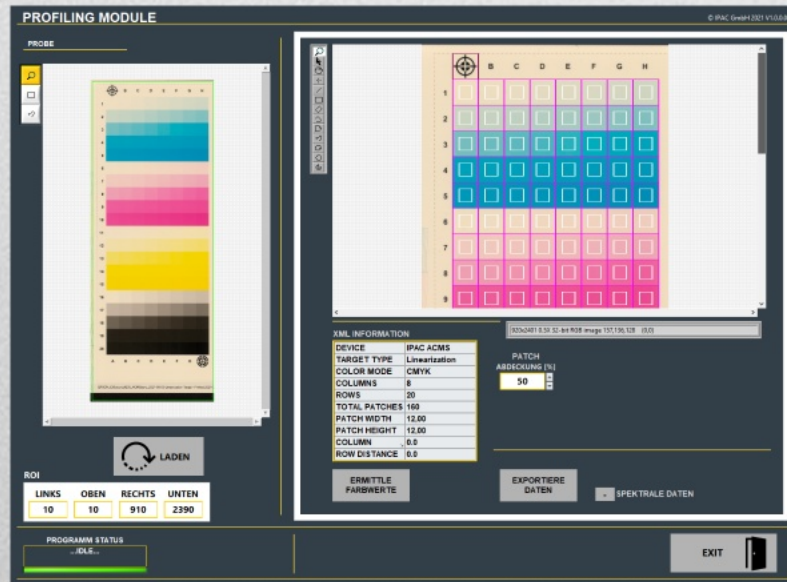
- Width - 0,90 m
- Depth - 0,60 m
- Height - 0,50 m



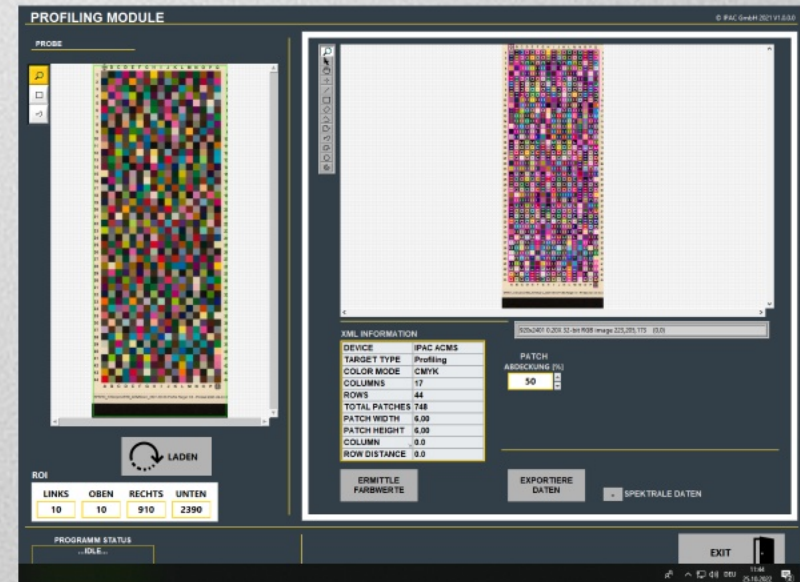
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Characterisation with ACMS™ zεro

Linearization based on colour charts

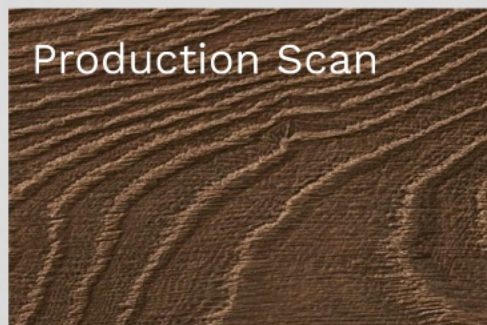
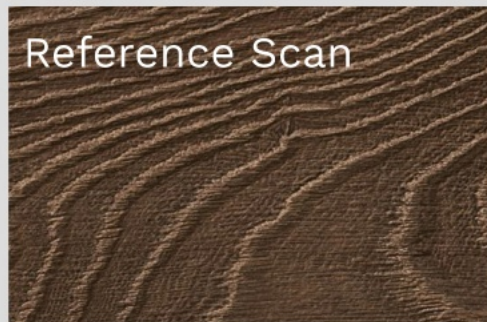


Profiling based on colour charts



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Colour matching - Colour Correction Loop



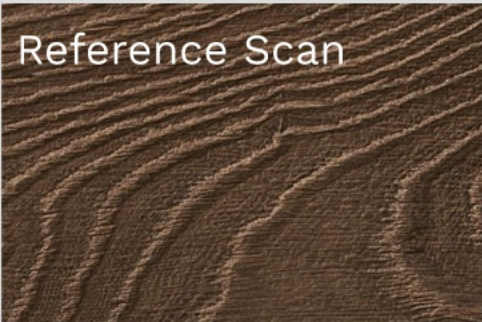
next page



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Colour matching - Colour Correction Loop

Reference Scan



Production Scan



Step 1: Registration

Allows a
pixel-by-pixel comparison
between reference and production
scan

next page



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Colour matching - Colour Correction Loop



Step 1: Registration

Allows a
pixel-by-pixel comparison
between reference and production
scan

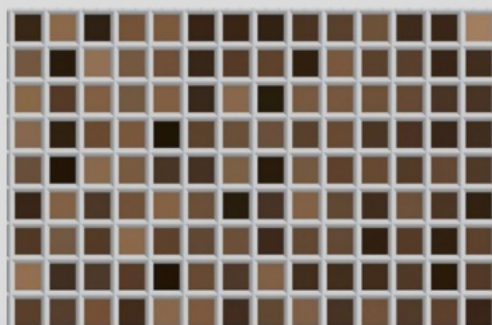
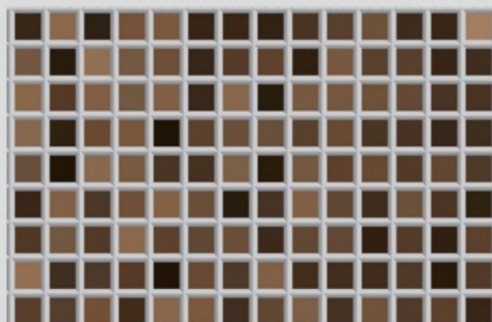
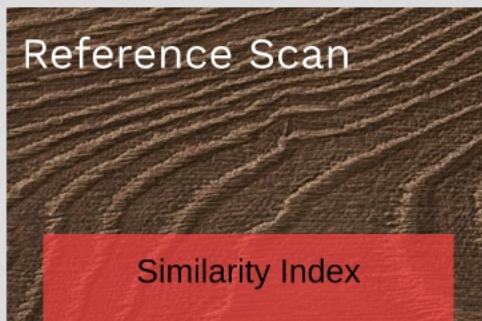
Step 2: Similarity Index

88%
Out of tolerance

next page



Colour matching - Colour Correction Loop



Similarity Index

88%
Out of tolerance

Step 1: Registration

Allows a pixel-by-pixel comparison between reference and production scan

Step 2: Similarity Index

88%
Out of tolerance

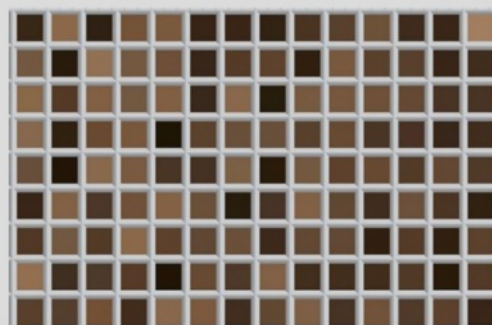
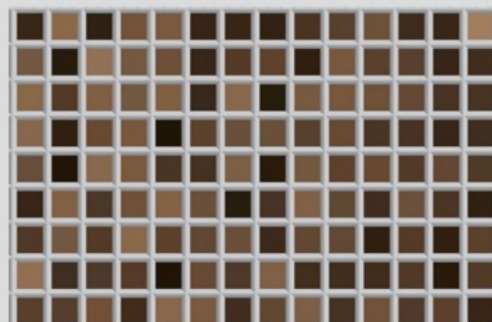
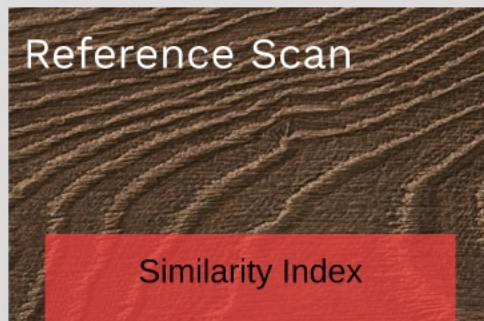
Step 3: Colour Chart

Calculation of the describing colours of the decor - does not have to be printed (symbolic shown as colour patches).

next page



Colour matching - Colour Correction Loop



Step 1: Registration

Allows a pixel-by-pixel comparison between reference and production scan

Step 2: Similarity Index

88%

Out of tolerance

Step 3: Colour Chart

Calculation of the describing colours of the decor - does not have to be printed

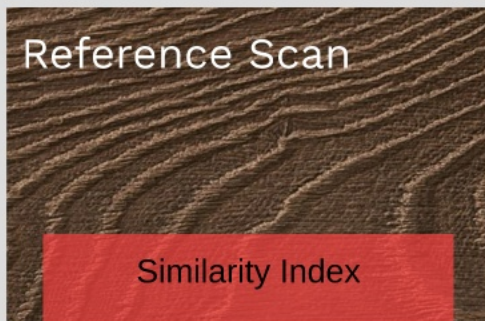
Step 4: CCL Calculation

Calculation of the colour correction and printing of the corrected decor

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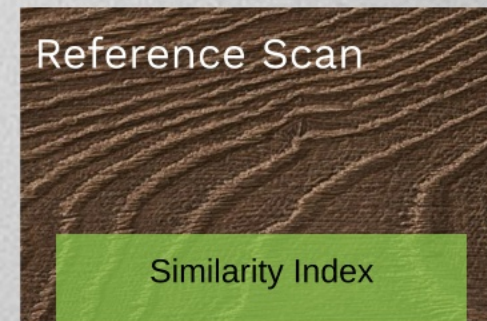
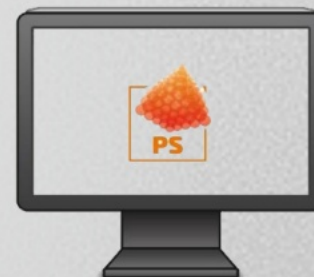
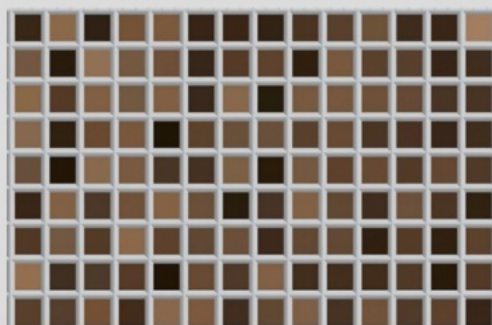
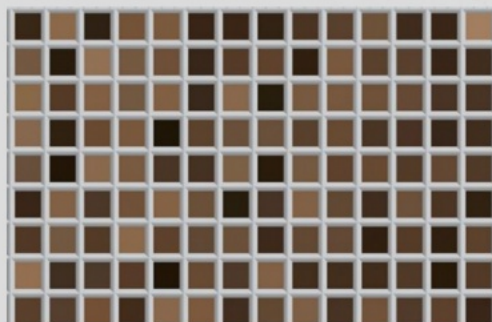


Colour matching - Colour Correction Loop



Similarity Index

88%
Out of tolerance



Similarity Index

94%
Inside tolerance



next page



Colour matching - Colour Correction Loop



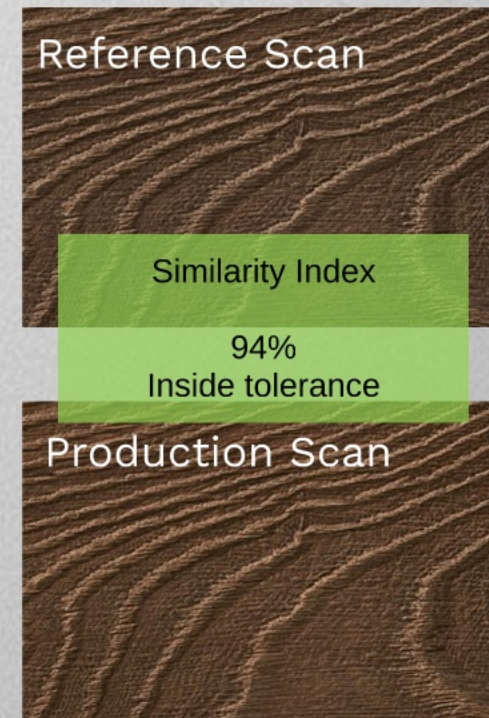
Colour Correction Loop
is iterative

is a layer onto the original printing file
- the master file has not been destroyed

Duration of the Colour Correction Loop

ACMS™ zero < 90 sec
Calculation and export to Colour Management

Colour Management < 15 sec
Calculation
+ RIP (depends on print job)



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Channel Specific Tolerances ACMS™ zero

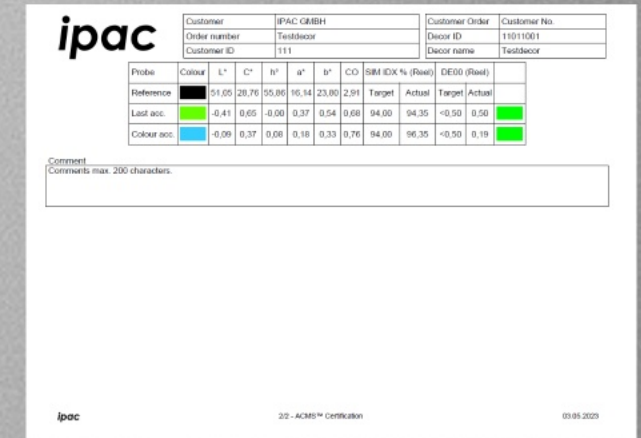
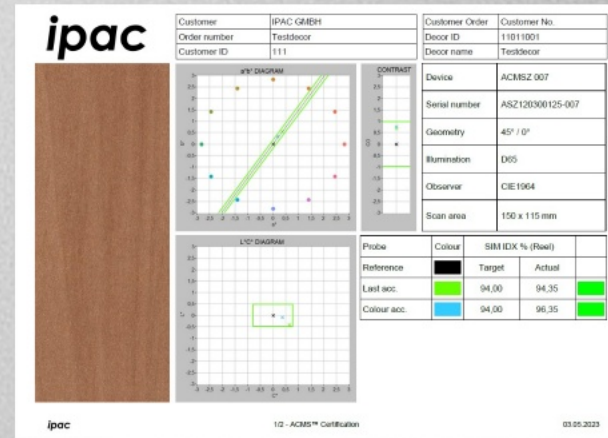
- Decor specific tolerances for the values L^* , C^* , h° , DE 2000, contrast and similarity index are set in the tolerance value manager.
- Channel specific tolerances protect against colour drifts and avoid “final approval” discussion.

[illegible]



Certification - SAM - Standard Analysis Module ACMS™ zero

- The objective measurement replaces the subjective (visual) quality control
- Creation of, ISO 24585:2023 conform, ACMS™ zero certificates
- Quality control based on the similarity index and channel-specific tolerances
- Certified production stability
- Certification of solid-coloured and decorative products





Customer Benefit ACMS™ zero

- Replacement of visual assessment by objective measurement → standardization
- Stopping the colour matching process as soon as possible → time and cost savings
- Production control, identification of colour drifts and production variations
- Freely selectable tolerance limits (similarity index, channels L *, C *, h° and contrast and DeltaE2000)
- Individual certification for customers
- Cost savings through the elimination of physical samples and the associated logistics
- Consistent documentation of the process → basis for subsequent optimization
- No internal or external complaints
- Reduction of the psychological stress on employees
- Support of several production lines
- Monitoring of different production stages (e.g. painted, unpainted)



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