



ICMS™zero - Digital Printing

SPECIFICATION

BENEFIT

CHARACTERISATION

PRODUCTION
MONITORING

COLOUR
MATCHING

CERTIFICATION

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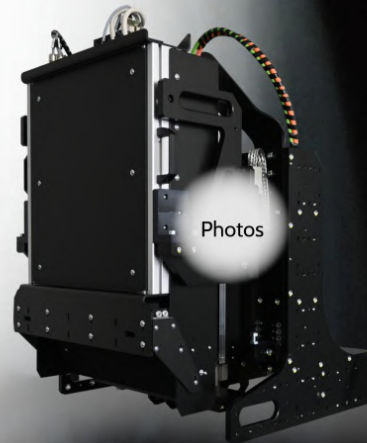
Specification & Dimensions ICMS™ zero

Specification:

- Measurement geometry - 45 ° / 0 °
- Measuring speed - max. 350 m / min
- Spectral range - 380-730 nm
- Spectral resolution-SW - 10 nm
- Spatial resolution ~ 90 dpi (250 µm)
- Light source - LED
- Integrated automatic calibration unit
- Traversing possible

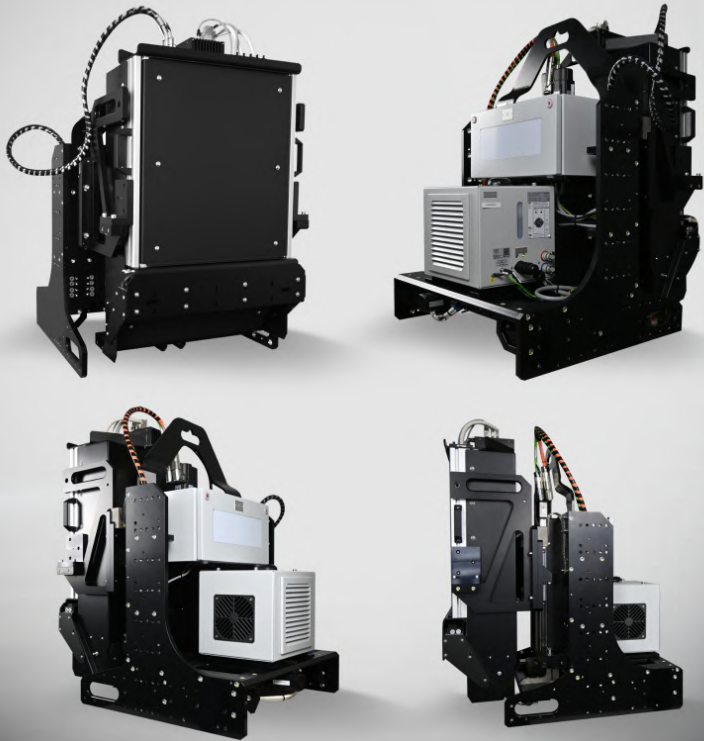
Dimensions:

- Width - 630 mm
- Height - 1005 mm
- Depth - 732 mm



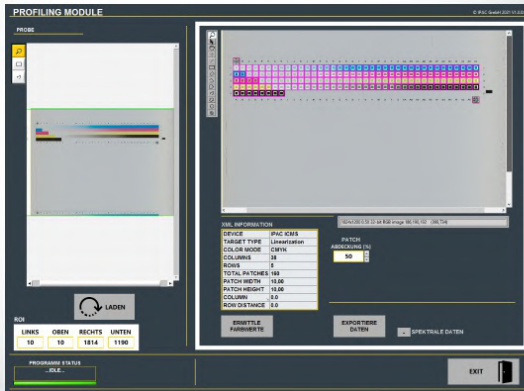
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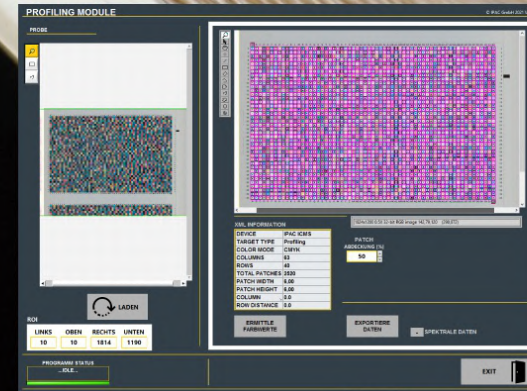


Characterisation with ICMS™ zero

Linearization



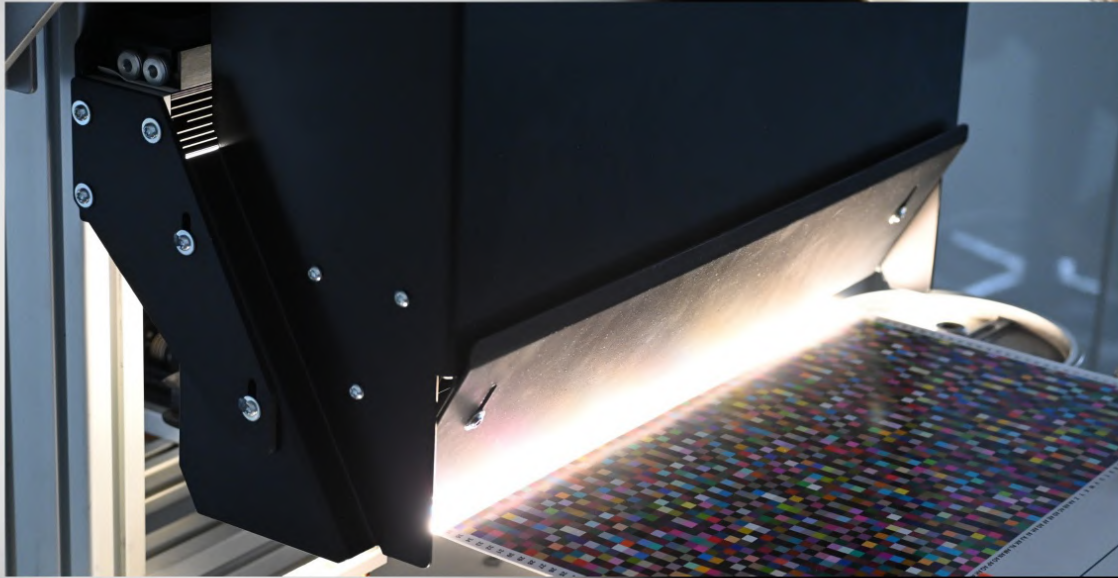
Profiling



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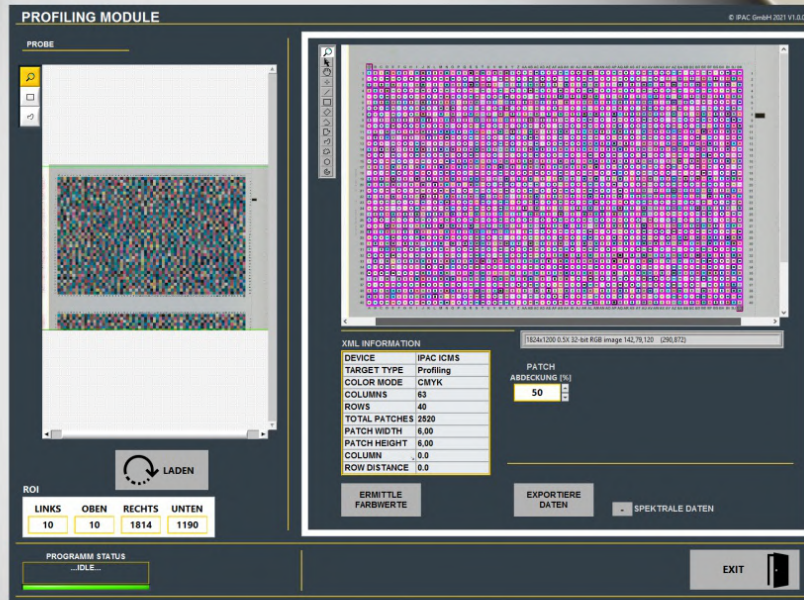
Scanning the profile chart



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Profiling module



Automated patch
detection

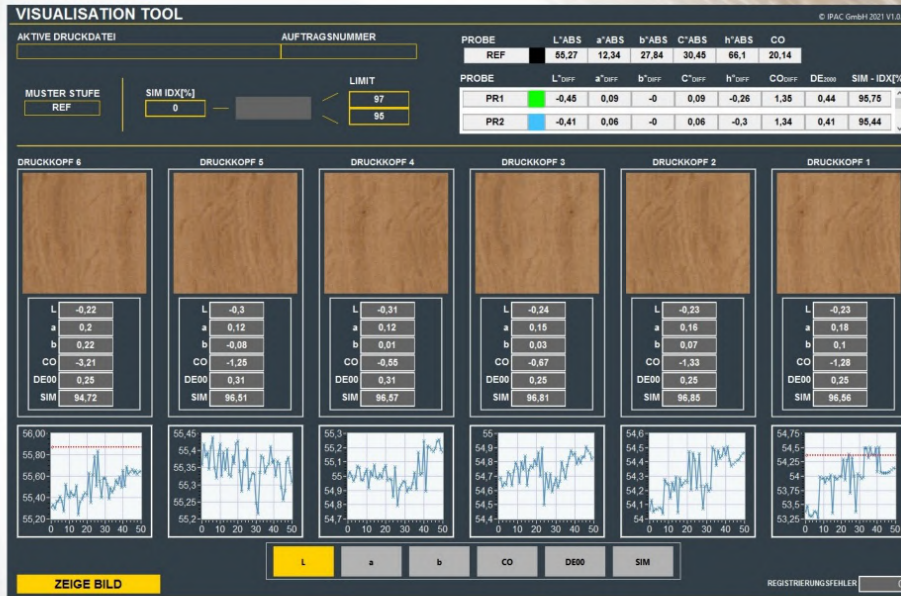
Export of 2520 colour
values in ONE step

Duration Scan +
Detection + Export

< 1 minute

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Production monitoring



Digital reference

Clocked measurement (not continuous)

Format A3

Up to 350 m/min

Color deviation is displayed in numerical values and graphically

Tolerance value setting to trigger action

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Colour matching - Colour Correction Loop

Reference Scan



Production Scan



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Colour matching - Colour Correction Loop

Reference Scan



Production Scan



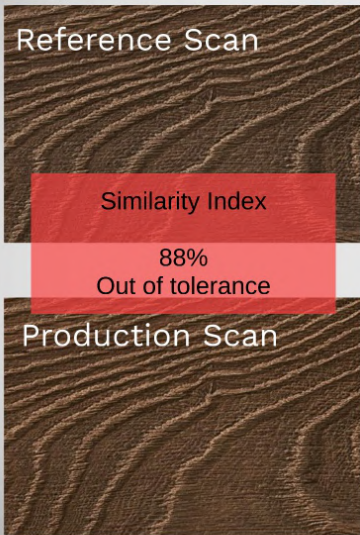
Step 1: Registration

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

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Colour matching - Colour Correction Loop



Step 1: Registration

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

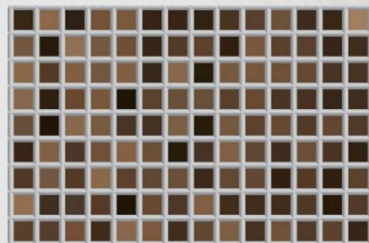
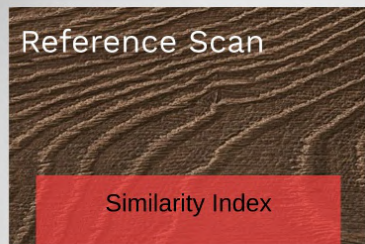
Step 2: Similarity Index

88%
Out of tolerance

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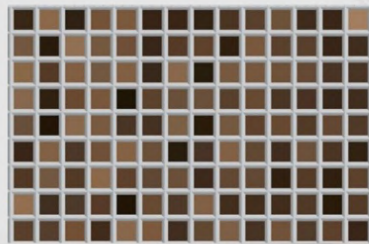
Colour matching - Colour Correction Loop



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

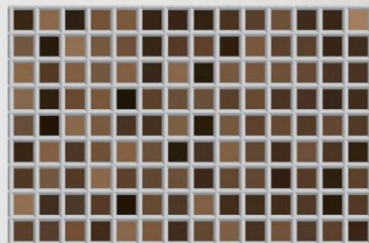
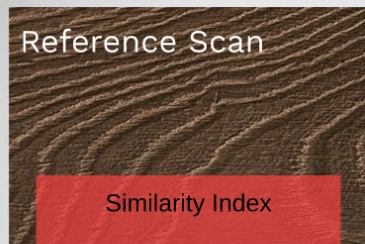
Step 3: Colour Chart

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

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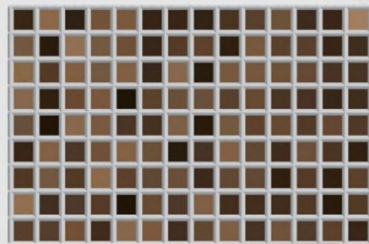
Colour matching - Colour Correction Loop



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

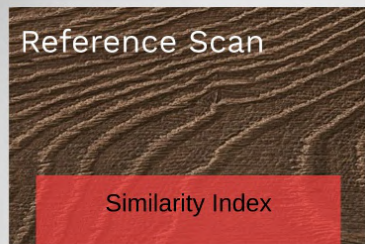
Step 4: CCL Calculation

Calculation of the colour correction and printing of the corrected decor

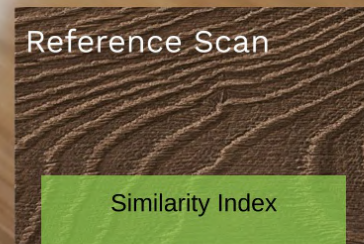
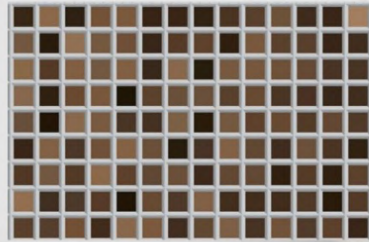
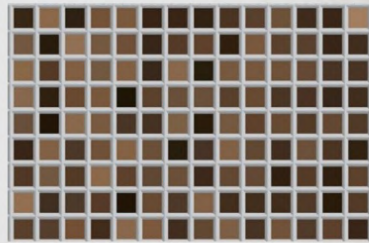
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Colour matching - Colour Correction Loop



Similarity Index
88%
Out of tolerance



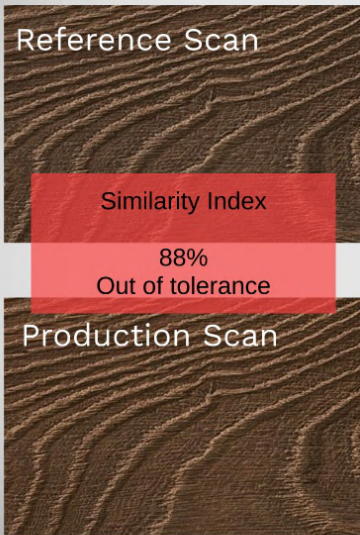
Similarity Index
94%
Inside tolerance



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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

ICMS™ zero < 10 sec
Calculation and export to Colour Management

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



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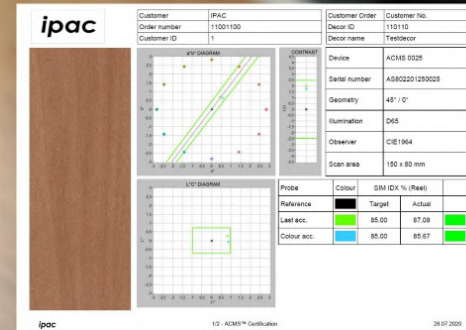
Certification - Drift measurement with ICMS™ zero

Certification:

- The objective measurement replaces the subjective (visual) quality control
- Quality control based on the similarity index and channel-specific tolerances
- Certified production stability
- Certification of plain-coloured and decorative products

Drift measurement:

- Monitoring the production of decorative or plain-coloured samples in real time
- Detection of colour drifts within individual roles, batches, ...



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Customer Benefit ICMS™ zero

- Replacement of visual assessment with objective measurements
- Replacing the manual colour correction (e.g. Photoshop) with the Colour Correction Loop
- Profiling, production monitoring and certification
- Time, waste and cost savings out of the profiling, Colour Correction Loop and certification
- Consistent documentation of the process → base for subsequent optimization
- Reduction of the psychological stress for employees

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