Contents

Quality Assurance Module (QAM)

Prerequisite: You are using the production workflow.

ℹ️ *QAM is optional in some product categories and is only contained within the production workflow.*

This module is intended for quality checking the print result in the production workflow. The control wedge evaluation takes care of this in the proof workflow, however. A color control wedge is used to evaluate production prints. A print-out is only deemed accurate in terms of color if a color control wedge has been printed for measuring and the relevant CIELab values have been observed, for example. Custom tolerances can be set if required.

The QAM dialog displays set and measured color control wedge values in a table. A traffic light system indicates the quality of the measured values. The profile can be optimized by linking to the Media Device Synchronization (MDS).

It is also very easy to use your own in-house standards. The result can be saved and printed out as an HTML report. The output of the report to a DYMO label printer is also supported.

The following steps are carried out to perform a color quality check:
- Print color control wedge see page 2
- Make settings for Quality Assurance Module see page 3
- Measure color control wedge see page 4
- Evaluate color control wedge see page 4
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Print color control wedge

Here you also select a control wedge such as the FOGRA 2.0 media wedge that is printed with the job. It is used to evaluate the color conformity of the reproduction of the intended colored print-out (production workflow) to see whether or not the relevant CIELab values have been kept within the tolerances.

Available are control wedges referring to the current FOGRA standard versions that are regularly updated. Appropriate control wedges for supported measure devices will be ready for use that can be measured optimally.

Note: The control wedge/color control wedge will not be shown in the preview.

How to print a control wedge/color control wedge:

1. Select automatic scaling by setting the `Rotation` on the `Job` tab to `Auto` to use the printable area optimally.

2. If you click the arrow next to the icon 🌳, you will be able to select between different control wedges that depend on the measuring device or are provided by the FOGRA.

3. After printing, dry the print-out (approximately 20 minutes or blow-dry with cool air) and then measure the control wedge. To do this, use the control wedge evaluation/quality evaluation QAM in production workflow) under `Job` > `Control Wedge Evaluation`.

Specify settings for the quality evaluation (QAM)

Prerequisite: You have printed a control wedge/color control wedge with the relevant job.

Here you set the details for the measuring device, on the reference profile and on the media wedge being measured.

How to carry out the settings:

You are in the program interface. You have three options for opening the control wedge evaluation/the Quality Assurance Module:

- Click on the ☒ icon in the toolbar or
- Select the job and click on the `Job` > `Control wedge evaluation` menu option or
- Right-click on the job and open the context menu > `Control wedge evaluation....`

A dialog for the control wedge evaluation will be opened.

1. Under `Measure Device`, select the device that you want to use for the measuring.
2. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device.
3. Under `Control Wedge`, select the required FOGRA wedge to measure.
4. If the job has already been printed, the simulation profile (proof)/output profile (production) from the file will be displayed under `Printing Condition` (proof)/`Reference Values` (production) in a green font. Leave the setting as it is. The other profiles given there are standard profiles- for newspaper printing and offset printing - from FOGRA. Their reference values and tolerances are already stored in the program.

Note: Store a separate profile for the in-house standard in the folder for simulation profiles under **Profiles > SimulationProfiles** so that it is available in the program.

5. Set a checkmark by `Calculate Reference from Profile` to use an in-house profile in the **proof workflow**. The reference values are then created for the calculation. It is displayed under `Reference/Profile` with the `Custom` addition.
6. Under `DeltaE Calculation`, select the appropriate **method**:

    DeltaE: Is the standard and correct method for calculating proofs. This specification refers to the CIE standard from 1976.

    DeltaE 94: Closer to human sensory perception of the color distinctions than DeltaE.

    DeltaE 2000: Closer to human sensory perception of the color distinctions than DeltaE.

The settings are made and the control wedge can be measured/color control wedge can be measured.

Measure color control wedge

Prerequisite: You have printed the control wedge/printed the color control wedge with the job and made the settings for the control wedge evaluation/for the Quality Assurance Module.

Here you measure the control wedge to find out more on the quality of the proof print/the production result.

How to measure the control wedge/color control wedge:

You are in the dialog box for the Control Wedge Evaluation/the Quality Assurance Module.

1. Select the measure device to match the control wedge that was printed.
2. For some of the measure devices you can open a settings dialog by clicking the `Settings` button to set specific options for the device.
3. Click `Start` to begin the measurement process.
4. If you open the drop-down menu, you can also import previously measured values or export newly measured values and store them at the required location. This means you can access the existing values at any time. The job name will be suggested when saving the text file.

After reading in the measured values, the deviations detected will be displayed for you in the `Evaluation` area in DeltaE . Here you will therefore see the difference determined between the reference values of a print standard and the measured values achieved for the print-out.

If the tolerances specified by FOGRA/Ugra according norm ISO 12647-7:2007 are observed, the values in the Tolerance column will be shown in green. If they are outside the tolerance, they will be displayed in a red color.

Values:

- The `Average` row describes the mathematical average of all patches.
- In the `Maximum` row, the color field with the greatest deviation in DeltaE will be displayed.
- With `Media` the white point of the printing condition (of the media used) on the field B17 of the FOGRA media wedge is simulated.
- In the `Primary colors` row, the patch with the greatest deviation of primary colors will be displayed in DeltaE.
- The `Primaries (dH)` row describes the hue for primary colors in DeltaH (angle) according to DIN ISO 12647-7 (only available in proof workflow).
- In `Gray Average (dH)` row, the deviations of hue for gray range patches will be spezified in DeltaH (angle) according to DIN ISO 12647-7 (only available in proof workflow).
- In the `Custom` (proof) or `Limits` (production) column, enter your own tolerance specifications to evaluate an in-house standard.

Production workflow: advanced evaluation by using the Quality Assurance Module (QAM) in production workflow >

After the evaluation you can either print a report or `Close` the dialog. The measuring results will be entered automatically. Values for the selected profile will be visible when accessing the dialog the next time.

Evaluation

If you have measured a color control wedge in the production workflow, there will be additional options displayed here in the Quality Assurance Module dialog:

Traffic light

- **Red** - More than one value is outside of tolerances. Performing a color improvement and a profile optimization using the MDS is recommended.
- **Yellow** - One value is outside of tolerances. Depending on the deviation the MDS can be carried out for a color optimization.
- **Green** - All values are within the tolerances. The print result is optimal.

`Media Device Synchronization`:

In the event of a yellow or a red traffic light symbol the MDS should be performed for a profile optimization.

- To do this, click on `Start MDS`. An assistant will also be opened.

An optimization may be necessary if:

- The printer needs to be recalibrated back to an original state,
- The printer is required to print under different conditions or
- A different printer model in the same series is being used.

Print quality report

Prerequisite: You have printed and measured the control wedge/printed and measured the color control wedge with the job.

In the final step in the control wedge evaluation you can display and print the evaluation of the media wedge (proof workflow) or of the quality evaluation (production workflow) as well as additional information as a proof/quality report.

How to output a proof report:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module.

The `Additional Info` area displays the information recorded in the report.

1. Enter any additional information in the text boxes `Customer` and `Comment`. For a legally binding proof, the fully and correctly completed additional information is required. For example, enter the customer's name and the job number.
2. Use the `Use Logo` function to add a logo to the report automatically.
3. Set the logo using the `Select` button. The required logo will be available there if you store it in the ControlWedge - C:\Program Files\ColorGATE Software\PRODUCTIONSERVER5\Targets -folder.
4. Select the required report from the list under `Reporting`. There are four different reports available (in production workflow only one). These also include the report for the label printer DYMO LabelWriter to use it for the proof/production print.

Tip: Check in each case if the values are within the tolerances. The proof must be carried out again if the values are outside of tolerances. Use the DeviceLink Profiler (proof). If you want to improve the color quality in production workflow by using the QAM, use the Media Device Synchronization (MDS).

You will have three different options:

- `Print` to directly print the report without prior viewing it.

- **View** to start an internal viewer that displays the report. The button **Preview** opens the page preview and **Page Setup** stores settings to the page such as margins.
- **Save** to save this report as an HTML file at the required location.

The control wedge evaluation/quality evaluation is complete. You can use the proof or the print-out together with the report for specifications in the print shop, for example.

Print quality report on labels

Prerequisite: You have printed and measured the control wedge/printed and measured the color control wedge with the job. You are in possesion of the software installation DVD.

Here you can find out how to print the proof report/quality report on labels as well. The advantage is that the result of the measurement can be affixed to the proof/print-out using the label. This means you have the proof/print-out, control wedge and the proof/quality certificate all on one document.

How to print the proof report on labels:

You are in the dialog box for the Control Wedge Evaluation/Quality Assurance Module.

The **Additional Info** area displays the information recorded in the FOGRA report.

1. Connect the device for label printing to the RIP computer.
2. Install the driver from the installation DVD.

The model LabelWriter 320 and subsequent models from the manufacturer are supported. The template in the RIP software is also compatible with all label printers that support labels of size **99014 Shipping**.

3. In the control wedge/quality evaluation dialog box, under **Report** select the **PROOFGATE FOGRA Report (LabelWriter)**/**Color Control Report (LabelWriter)**.
4. Click **Print** to directly print the report without prior viewing it.

- OR -

4. To view the report first click **View**. A preview of the label is shown. The label shows an image to visualize the result of the evaluation: a checkmark for OK or a cross if values are out of tolerance.
5. Click **Print** to send the label to the label printer from the preview.

The finished, printed label can then be affixed to the proof result/print-out next to the control wedge.