

# PRODUCT BULLETIN

# How to carry out quality prints on your HEXIS digital printing media

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In order to take full advantage from the capabilities of your printing system and HEXIS digital printing media, it is mandatory to master the digital inkjet printing practices and methods :

- Managing the **environment** for printing and storing printing media.
- **Maintenance** of the printing system.
- Managing the printer **calibration** according to the printing media.
- Managing the **colour management** via the use of ICC profiles.
- Choosing a **printing mode** adapted to your projects.

## 1. HEXIS digital printing media

To help you use your HEXIS media in the best conditions, HEXIS provide you with several tools, available under the «Professionals» heading on our website:

- **Technical data sheets** to obtain information on the physicochemical properties of each media, and in particular their compatibility with the different types of ink  
<http://www.hexis-graphics.com/en/supports/technical-data-sheets/>
- **Application guides** for the implementation of your media  
<http://www.hexis-graphics.com/en/supports/application-guides/>
- **An ICC profiles base** corresponding to any type of HEXIS media and digital printer model  
<http://www.hexis-graphics.com/en/supports/digital-printing/icc-profiles/>
- **A cross-profiles chart** to use as replacement profile if that one you are looking for is not available  
[http://hexis-graphics.com/documents/guide/document\\_en/crossed\\_profiles\\_20170106\\_Eng.pdf](http://hexis-graphics.com/documents/guide/document_en/crossed_profiles_20170106_Eng.pdf)
- **Colour matching sheets** between the main colour charts of the HEXIS range and the PANTONE and RAL colour charts
- Also downloadable in PDF format at the following address:  
[http://hexis-graphics.com/documents/colorpalette/document\\_en/Color\\_charts\\_correspondence.zip](http://hexis-graphics.com/documents/colorpalette/document_en/Color_charts_correspondence.zip)



[www.hexis-graphics.com](http://www.hexis-graphics.com)

Assistance contact: [assistance@hexis.fr](mailto:assistance@hexis.fr)  
Printing division contact: [profils@hexis.fr](mailto:profils@hexis.fr)

## 2. Ambient conditions

### 2.1. Storage of HEXIS media

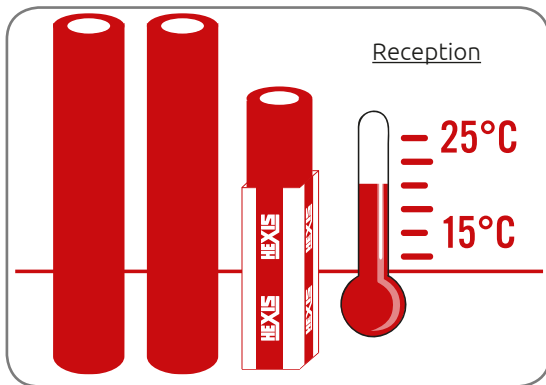


Fig.1: Storage conditions for HEXIS media

- The storage area must be **dry** and **clean**
- The media should not be exposed to direct **sunlight**
- Store the HEXIS media **in their original packaging at a temperature ranging from 15°C to 25°C (59°F to 77°F) with relative humidity between 30% and 70%**
- **Prefer the vertical storage** of the rolls to the horizontal one in order to avoid pressure marks. Isolate them from the ground
- Maintain a **history** by noting the date of, batch number and product reference. The durability of each product is specified on its technical data sheet
- Use **the FIFO method (First In - First Out)** for your stock management: use the rolls according to their arrivals, by using first the older ones before opening the new rolls
- Before printing, the rolls must be stored for **at least 24 hours under the same conditions as those of the printer** (temperature and relative humidity), especially after receipt

### 2.2. Environmental printing conditions

- Work at an **optimal and constant ambient temperature** (refer to the instructions of your printer's manufacturer)
- Check whether the **hygrometry** corresponds to the manufacturer's specifications
- It is imperative to work in a **clean space** to avoid any dust
- Think about your health by placing your printer in **an isolated area with air extraction**

## 3. Printing system maintenance

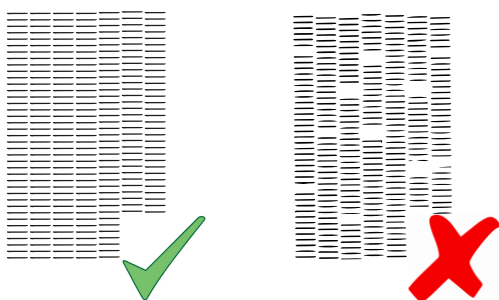


Fig.2 : Checking the print nozzles state

- The purpose of the printing system maintenance is to ensure **optimal and constant printer operation** while preventing breakdowns. For this, you must refer to the manufacturer's recommendations and adapt the maintenance to your production
- **A thorough and regular maintenance** is mandatory to obtain optimum print quality
- HEXIS recommend using the **inks supplied by the manufacturer** to facilitate this maintenance and to have a complete profiles library

## 4. Calibrating the printer in relation to the digital printing media

- For optimum print quality, **the printer's behaviour must be adapted to each media type**
- The aim is to obtain **precise positioning of the ink drops** on the media, in order to guarantee **optimum printing raster**, which determines the quality of the flat tints and colorimetric accuracy

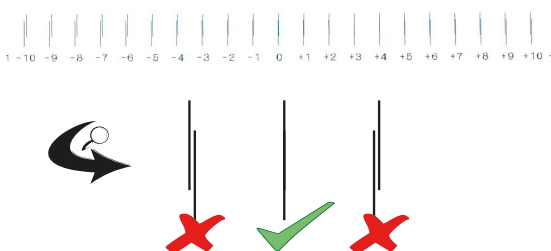


Fig.3 :Adjustement of the print heads' bidirection

The calibration comprises several basic settings that must be done by the user for each type of media:

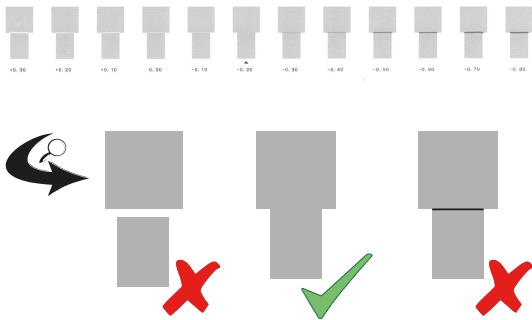


Fig.4 : Media advance adjustment

- Adjusting **the height of the print heads**
- Managing **the media's unwinding tension**
- Adjusting **the suction power**
- **Media advance adjustment**
- **Bidirectional alignment of the print heads**

These basic settings are **not time-consuming** and have a **significant impact** on the print quality. **The end user** assumes **liability** and **responsibility** for them.

Since the printing system may change over time, this calibration should **be checked and renewed whenever needed**.

For more information on the different steps of calibrating an inkjet printer, please refer to the sheet «How to set an inkjet printer in accordance with the HEXIS media» and to your printer's user guide.

## 5. Colour management in the graphic chain

### 5.1. Installing the output profile suitable for media in the RIP

A «profile» or print setting is specific to **each printer-ink-media-RIP system and each print mode**.

It comprises certain **machine parameters** (heating temperature, suction, etc), a **calibration of ink quantities** applied to the printing media and the corresponding **ICC profile**.

- Download an **optimised ICC profile** corresponding to your printing system

<http://www.hexis-graphics.com/en/supports/digital-printing/icc-profiles/>

- Use the **cross-profiles chart** to select an ICC replacement profile if the desired profile is not referenced

[http://hexis-graphics.com/documents/guide/document\\_en/crossed\\_profiles\\_20170106\\_Eng.pdf](http://hexis-graphics.com/documents/guide/document_en/crossed_profiles_20170106_Eng.pdf)

- In the case of any problems, do not hesitate to contact our assistance department by email: [assistance@hexis.fr](mailto:assistance@hexis.fr)

#### PROFESSIONALS / DIGITAL PRINTING / ICC profiles

#### ICC profiles

Welcome to our ICC profile download section. In this section you will find an extensive database of ICC profiles matching a large number of printer, RIP, ink-type and media configurations.

Select a brand ▼

All models ▼ All inks ▼ Colour code ▼

All RIPs and Versions ▼ Select a product ▼

Number of ICC profiles in the database: 2360

Date ICC profile database last updated: 09/05/2016

**SEARCH**

Fig.5 : Optimised ICC profile download window

HEXIS cross-profiles chart					
Printing device	Replacement profile	Device A/B	Replacement profile	Device A/B	Replacement profile
HEXIS 1	10000001	HEXIS 1	10000001	HEXIS 1	10000001
HEXIS 2	10000002	HEXIS 2	10000002	HEXIS 2	10000002
HEXIS 3	10000003	HEXIS 3	10000003	HEXIS 3	10000003
HEXIS 4	10000004	HEXIS 4	10000004	HEXIS 4	10000004
HEXIS 5	10000005	HEXIS 5	10000005	HEXIS 5	10000005
HEXIS 6	10000006	HEXIS 6	10000006	HEXIS 6	10000006
HEXIS 7	10000007	HEXIS 7	10000007	HEXIS 7	10000007
HEXIS 8	10000008	HEXIS 8	10000008	HEXIS 8	10000008
HEXIS 9	10000009	HEXIS 9	10000009	HEXIS 9	10000009
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HEXIS 99	10000099	HEXIS 99	10000099	HEXIS 99	10000099
HEXIS 100	10000100	HEXIS 100	10000100	HEXIS 100	10000100

Fig.6 : ICC cross-profiles chart

For more information on the ICC profiles, please refer to the application guide «Download and installation of an ICC profile» corresponding to your RIP.

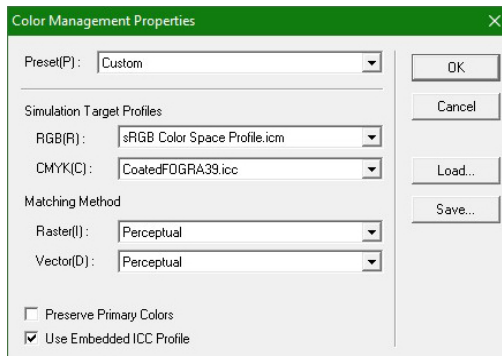


Fig.7 : RolandVersaWorks' RIP

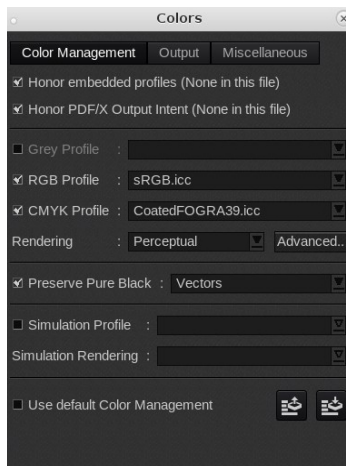


Fig.8 : Caldera's RIP

## 5.2. Configuring the colour management in the RIP

### Input profile

- It is related to the colorimetric space of the image to be printed
- It allows the RIP to interpret the file's numeric values (RVB or CMJN) in terms of colour
- By default, HEXIS recommend using the most common profiles as input profiles: **sRGB for the RVB data and CoatedFOGRA39 for the CMJN data**
- When the image to be printed contains a different ICC profile, this one must be kept

### Output profile

- It is related to the printing system (printer/Rip/Media)
- It allows the RIP to know which values must be sent to the printer according to the colour to be printed
- Select **the print media profile corresponding to your media**

### Rendering intent or colorimetric conversion mode

- Rendering intent allows managing the colour conversion between the file and the printer, between the source colorimetric space and the target colorimetric space. There are several conversion modes, which correspond to different reproduction logics
- HEXIS recommend working in **perceptual** mode for large format digital printing

### Printing spot colours (Pantone,...)

Most RIPs have a spot colour library with the colours stated in Lab.

**Enable the use of these libraries** in order to print them as best as possible.

For more information about color management, ICC profiles and rendering intents, please refer to the « the colour management» sheet.



Fig.9 : SUPTAC S5000 colour chart

6.Choosing a printing mode

Many parameters will affect the print quality/ print speed ratio and ink consumption :

- Select **the correct print mode** to optimise the durability and quality of the final rendering according to your objectives..



Fig.10 : Advertising poster



Fig.11 : Shop window decoration



Fig.12 : Backlit photography

Fast printing	
Resolution	Low
Printing	Bidirectional
Number of runs	Low
Purpose :	
<b>Productivity, low ink consumption</b>	
<ul style="list-style-type: none"><li>• Construction site panels, advertising banners, large format posters for event, ...</li><li>• For short term and outdoor use mainly</li></ul>	

Standard quality	
Resolution	High
Printing	Bidirectional
Number of runs	High
Purpose :	
<b>Optimised quality/speed ratio for large format printing</b>	
<ul style="list-style-type: none"><li>• Billboards, posters, shop window decoration, ...</li><li>• For indoor and outdoor use</li></ul>	

High quality	
Resolution	High
printing	Unidirectional
Number of runs	High
Purpose :	
<b>Close-up view on small formats (printing quality similar to photography)</b>	
<ul style="list-style-type: none"><li>• Light boxes, very detailed image, textile marking, ...</li><li>• For indoor use mainly</li></ul>	