

TECHNICAL BULLETIN 4.44

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MEDIA PROFILES AND PRINT PROBLEMS ON SELF-ADHESIVE MATERIALS

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1 PRINT SETTINGS & PROFILING

1.1 MEDIA PROFILE

It is often claimed that the quality of the ICC-profile is VERY important and may change the print quality a lot. In fact, this is not 100% true. The ICC-profile takes part of the media (device) profile, and makes sure colours are printed as correct as possible. But the ICC-profile will, in most cases, not help with the prevention of general print problems.

Other settings (Driver options, primary ink restrictions, linearization etc.) also make part of the media profile (Not the ICC-profile) and are very important when it comes to achieving a consistent good print quality free from print problems caused by excessive ink use, wrong dot size and wrong resolution. The figure underneath shows what is inside a good media (device) profile:



1.1.1 Driver options:

In the software, which is piloting the printer, several print settings can be adjusted. These settings are printer/driver dependent and will define the print speed, heating and print quality. Underneath, some driver options are listed:Print resolution:

This is the number of dots (ink drops) within a unit of distance on the material. (The industry standard is dots per inch). In most cases, there is a vertical and horizontal resolution.

Horizontal resolution: Defined by the resolution of the print head.

Vertical resolution: Defined by the resolution of the print head and (vertical) media feed.

1.1.1.1 Print passes

Usually, the image is not printed in one print pass. This means the print head will not create the image by passing once. In practice, even on the most recent printers, the print head will fire ink drops multiple

(6,8,4,12...) times on the same area to create the image. This print method helps to prevent print problems and hides the defaults of the print head.

1.1.1.2 Bidirectional printing

When a printer is printing bidirectional, the print head fires ink when it is moving from left to right and form right to left. This means the printer will print faster but will be less accurate. When a printer is printing unidirectional, the print head only fires when it's moving in one direction. This means the print speed is reduced with +-50%. (This depends on the speed of the carriage during the 2 movements). This setting doesn't influence the ink usage.

1.1.1.3 Ink configuration

Besides CMYK, light colours (light cyan, light magenta, light black...) are often used to improve the print quality. This is only interesting when a low resolution is used. When light inks are used, the ink usage increases dramatically.

1.1.2 Transitions

When light inks are used, the transitions will determine how much and when they are used. This can be done using numbers and figures, but most of the time it is visualized by a mathematical curve.



According to the cyan and light cyan curve above, when a gradient from 0% to 100% is printed:

- From 0 to ± 12%, only the light cyan is used.
- rom ± 12% up to 50%, light cyan and dark cyan are mixed.
- From 50% to 100%, only dark cyan is used.

1.1.3 Primary ink restrictions

According to the resolution and print passes, the printer can fire a certain amount of ink from 0% to 100%. It is strongly advised to limit at a certain percentage to prevent several print errors due to an excessive ink usage.

1.1.4 Linearization

The linearization curves are compensation curves and make sure that the printer has a linear output.

1.1.5 ICC-Profile

A Colour Profile is a way of describing how a particular system displays colour. Arguably, every individual device requires a colour profile in order to display colour accurately. The profile is some sort of look up table that links a subjective value like "red" with an objective value from the LAB- color space which is the one and only objective standard.

Example:

100% red, 0% green, 0% blue on a camera/laptop/iPhone converted with the sRGB colour profile results in a Lab-value of: L:54 a:81 b:70

This Lab-value is 100% objective and can be used to convert to another colour profile. This is how multiple systems can communicate with each other when it comes down to colour.



1 - The 3-dimensional Lab-Color space.

Device Independent Profiles

These well-known device independent profiles, basically speaking, are just different ways of describing how to convert CIE colours into RGB and CMYK values. Examples:

- Device independent profile often used in photography and on the internet: sRGB Profile
- Device independent profile often used in the print industry: Fogra 27 CMYK Profile

Device Dependent Profiles

These profiles hold certain values linked to a certain device. A profile created on a large format inkjet printer, will be device dependent, but in most cases also media dependent, print mode and ink dependent.

Conclusion for the large format industry:

Companies who have a large format inkjet printer will need colour profiles to reproduce the colours their customers desire.

Example:

- A customer creates a logo in Adobe Photoshop which is 100% red and creates a PDF-file.
- He sends the PDF-file to his convertor and asks him to print the logo on a piece of Mactac selfadhesive PVC film. (The customer wants to apply the logo on his minivan for example).
- The print operator opens the PDF-file in their RIP-software and prints the file using the JT5829P
- profile on a Mimaki JV33 printer.

This is what happens:



In a perfect world:

- The RIP-software recognizes the used input-profile and converts the "red" colour from the customer to the LAB-color space. Then the software uses the objective LAB-value to convert it to the printer's CMYK value using the "Mactac JT5829P_JV33.icc" profile.
- The printer will use 2% of its cyan ink, 100% of its magenta and 87% of its yellow to simulate the red of the customer. (As accurate as possible of course.)

1.2 EXTENSION MEDIA PROFILES

A media profile is not universal. It is 100% RIP-dependent. That means a media profile created in one type of software will not work with another software. The extension also differs from one software to another:

Some examples:

- Roland Versaworks: .RML (Roland media library) Onyx: .OML (Onyx Media library)
- Caldera: .calpatch
- Mimaki Rasterlink: .ICC (But be aware! There is much more in this file than just the ICC-profile!)

2 POSSIBLE PRINT PROBLEMS

2.1 BANDING

2.1.1 What is banding?

Banding issues, commonly called pass banding, can be a significant problem in wide format printing. Banding is a striping effect usually seen across the width of the media. Identifying the cause of banding and resolving the issue can be a time consuming process because of the various reasons for banding. Before trying to pinpoint causes of banding issues, eliminate the most obvious cause first. If the print head is missing nozzles, (confirmed by performing a nozzle check or nozzle test from your printer panel) or the print heads are out of alignment, you will likely see banding. Having nozzles out will appear as either a white line or a line of colour that is incorrect (due to ink colours not mixing correctly). Nozzle tests should be completed daily (first thing in the morning) or after the printer has been sitting for a period of time. Head alignment should be verified often as well. All printers have test prints that aid in nozzle check and head alignment and can be performed from the printer panel. See your printer manual or contact your printer manufacturer for additional instructions on nozzle checks and head alignment.



2 - Test print (nozzle test) on Mimaki JV300.

2.1.2 Different causes of banding

Once the print heads seem 100% correct and perfectly aligned, the printed result must be perfect as well. However, in many cases banding still appears:

2.1.2.1 Horizontal "Banding" caused by the advancement of the media:

Media adjustment, also known as media correction, correction factor, feed compensation, and others, is the ability of the software and/or the printer to compensate the advancement of the media in a positive (forward) or negative (backward) way. If the media advances too slowly in the printer, the print passes are not printed exactly next to each other but on top of each other instead. **This phenomenon exists on solvent printers, UV printers and latex printers.**

The media advances too slowly: A black hairline between the print passes can be noticed. Solution: Increase the correction factor to increase the media advancement in the printer.

The media advances too fast: A white hairline between the print passes can be noticed. Solution: Decrease the correction factor to slow down the media in the printer.



Example Mimaki JV33/CJV:

Function / Type / Type "x" / Media advancement

This setting will allow the user to set up the media advancement before printing. It is a general setting. During printing, when the machine is in Remote mode, the operator can adjust and pinpoint the media advancement by using the "Function" button.

Example Roland:

Menu / Calibration

The advancement of the media is important and can often be adjusted in the software (RIP) as well. This depends on the software and printer driver.

When the media is not properly loaded, the dark or white lines will only be noticed on the left or right media border.

2.1.2.2 Horizontal dot gain "Banding"

Dot gain banding occurs on **solvent printers** and is caused by the solvent not evaporating quickly enough, causing the pigment to "spread". The leading edge of the current printing pass can bleed 1-3 mm causing an uneven, fuzzy edge that will bleed into the preceding pass causing the banding issue.

Less solvent in the ink, means more dot gain banding.

Directly related to dot gain banding:

- A bad media profile. (Excessive ink use)
- Temperatures that are set too low.
- A dry time between the print passes that is too short. Often caused by a scan width that is too small.
- A print speed that's just too high for the media that's used.

TEMPERATURE<<<>>>PRINT SPEED<<<>>>INK USAGE

Media Profile & Ink usage

A good media profile will optimize the ink usage to minimize the dot gain banding. (This is done in the transitions, primary ink restrictions, linearization, total ink restriction and ICC-profile settings.) A good media profile can use up to 50% less ink in comparison to a bad media profile. In many cases, this means the print speed can be doubled.

Temperatures on a small solvent printer with 3 heating zones

A good temperature to print self-adhesive film is situated around 38°C, 36°C, and 45°C. But this is something which needs to be verified by the operator because there are many exceptions and variables.

- If the print speed increases, the heating needs to be increased because the media is moving faster over the heater platen.
- If the media has a thick backing paper, the heating needs to be increased because the PVC needs to heat up as much as the paper.
- As the printer gets older, the heating often needs to be increased in the software or firmware.
- If the media curls on the printer platen, the heating is set too hot or the humidity in the print room is not stable enough.
- It is not a bad idea to heat 2°C more on the pre-heating, this will prevent a temperature shock underneath the print head. This will help to prevent head strikes as well.
- Be careful with air conditioning systems, they often cause a temperature shock on the media. An air conditioning may never be installed on the wall in front of the printer.

The Scan width

The scan width determines the movement of the print head during printing. Usually 3 options are available:

- Scan width= printer width The print head moves to the end of the printer at each movement. No matter which type of image is printed.
- Scan width=media width
 The print head moves to the end of the media at each movement. No matter which type of image
 is printed. When a small media width is used (<=100cm), the dry time between the print passes
 might be too low. This will cause dot gain banding.</p>
- Scan width=image width
 The print head moves to the end of the image at each movement. When a part of the image is
 quite small (<=100cm), the dry time between the print passes might be too low. This will cause
 dot gain banding.</p>

When the movement is not regular, colour shifts are possible because of different drying times.

2.1.2.3 Vertical "Banding"

Vertical Banding due to media lifting

Vertical banding occurs on **solvent printers, UV printers and latex printers**. Vertical banding can occur when the heaters are set too high. This causes the media to "ripple" next to the pinch rollers. (This often happens on print & cut systems)



3 - Roland XC-540 Eco-Solvent printer

A closer look: Next to the pinch roller the media might curl during printing because of a high platen temperature in combination with the pressure of the pinch roller. A vertical colour shift will be visible in the print. (Especially in solid colours.)



Possible solutions:

- Print unidirectional instead of bidirectional
- Increase the Vacuum
- Remove the pinch rollers in the middle of the media. Be aware that the printer will print less precise with fewer pinch rollers because the media advancement will be affected

Vertical banding due to a strong vacuum

On certain printers, vertical banding can also occur because the vacuum is set too high. In that case the ripples of the print platen will be visible in the print. See images underneath.



4 - The print platen of a HP 25500 latex printer



5 - A closer look to the print platen of a HP 25500 latex printer

When the vacuum is set too high, the "wave forms" of the print platen will be visible in the print.

2.1.2.4 Horizontal gloss "Banding"

Gloss banding, also known as the "soccer field effect", occurs on **UV-printers** when bidirectional printing is used. However, on new printer types, this problem is quite rare.



2.2 CURLING AND DEFORMATION

2.2.1 Curling on solvent printers

On solvent printers, self-adhesive film can curl on the print platen when the printer is heating up due to a temperature shock.

Possible solutions:

- Lower the print temperature if possible. (This may affect the print speed.) A low print temperature would be around 34°C/32°C/45°C.

- Use a self-adhesive film with a PE-coated backing paper. When a PE-coated liner is used instead of a Kraft liner, the humidity of the paper fluctuates less. This means the paper will curl less on the print platen. In certain countries, it can be interesting to use a PE-coated liner because of the remarkable differences in humidity and temperature during day and night.

2.2.2 Media deformation on low-volume latex printers

On some small latex printers, media deformation is possible. This deformation, also known as the "bowing-effect", is caused by the high curing temperature.

Possible solutions:

- Lower the curing temperature if possible. (This may affect the print speed). A low curing temperature would be around 90°C/95°C.

Use a self-adhesive film with a PE-coated backing paper. When a PE-coated liner is used instead of a Kraft liner, the humidity of the paper fluctuates less. Substrates with a PE-coated liner are usually less sensitive to this deformation. Be careful however, when a PE-coated liner is used the maximum heating is 95°C.
Use the "straightness optimization feature" in the menu of the printer to compensate the deformation. (For HP printers, this feature is available in the "Image quality maintenance" menu).



2.2.3 Media deformation on high-volume latex printers

On some big latex printers, media deformation is possible. This deformation is caused by the high temperature in combination with the high tension on the substrate.

Possible solutions:

- Lower the curing temperature if possible. (This may affect the print speed.) A low curing temperature would be around 90°C/95°C.

- Use a self-adhesive film with a PE-coated backing paper. When a PE-coated liner is used instead of a Kraft liner, the humidity of the paper fluctuates less. Substrates with a PE-coated liner are usually less sensitive to this deformation. Be careful however, when a PE-coated liner is used the maximum heating is 95°C.

- Use a self-adhesive film which has a liner of at least 140g/sqm when a roll width larger than 54" is required.

2.2.4 PE-coated liner versus deformation & curling

As mentioned in the last 2 paragraphs, a PE-coated liner often offers a solution when there is too much curling & deformation of the media on the printer. The printability of a self-adhesive film with a PE-coated liner is in general slightly better than the printability of a film with a standard Kraft liner.



A PE-coated liner can't be used when the temperature on the printer exceeds 95°C/100°C. In that case, the Polyethylene (PE) will burn and create a strange structure on the back of the liner. However, this does not affect the PVC and its quality.

2.2.5 Media deformation on UV-printers

When the UV-radiation is not created by LEDs, some problems may occur. In the case of a regular UV bulb, infrared light will heat up the media during printing. If the media curls on the UV-printer, the power of the lamps needs to be decreased.

Note:

In all cases, it is important to minimize the use of UV-light during printing because it has a negative influence on the durability of the PVC.

3 HOW TO IMPORT MEDIA PROFILES?

3.1 IMPORT MEDIA PROFILES IN ONYX

3.1.1 Onyx Productionhouse, Thrive, Postershop

1. Open Onyx Media Manager



2. Open the media library



3. Select your printer type on the top of the page if you have multiple printers and click on "import".



4. Select the .OML or .prnst file. Click on Import & OK.



3.1.2 Onyx RIP Center

If you do not have Onyx Media Manager on your system, you must import the profiles in the RIP- queue.

- 1. In Onyx RIP-queue: Click on "Manage Printers"
- 2. Select your printer and click on "configure"

 Please select the printers you would I Click "Configure" to modify the printer To obtain permissions for more active printer 	ike to make "Active" by checking the bo port and other settings for the selecte inters, contact your sales representation	oxes below. d printer. ve.
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Ripping	Quantity:	
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HP Designjet L26500	1	Configure
		Delete
		Create PrnInst
Active Printers Selected:	2	
Active Printers Allowed:	4	

3. Go to the "Media" tab and click on import afterwards.

lick Sets Device Media Page	Sizes Properties Ink Calculation	
Media Type:	MACtac	•
MActac DecoSatin		Options
MACtac PV829 BP		Mode Options
		Delete
		Page Sizes
		Import
		Export

3.2 IMPORT MEDIA PROFILES IN ROLAND VERSAWORKS

1. Open the Versaworks media manager. (Support: Media manager) In this case it is called "Bibliothèque des supports" because the software is set in French.



2. Click on the folder logo on top of the page to load a profile. (.RML-file)

1	Bibliothèque de sup	ports					
Liste	des supports	(1)	10 🖾 🔁	A (6)	Liste	e des [RIPC] Generic Vinyl I	
8	Nom du support	Attribut Gabarit	Dernière modi	Aldebagar b	-	the fishing mpression	Modifié
8	RIPC] Generic Vinyl I	Original	2007/12/10 00:	eechargera	14	S righ Quality	
8	[] [RIPC] Generic Vinyl II	Original	2007/12/10 00:		8	⊟ 720 x 720 dpi	
8	[] [RIPC] Generic Banner I	Original	2007/12/10 00:		8		
8	[] [RIPC] Generic Banner II	Original	2007/12/10 00:		12	Standard(Valeur par défaut)	
8	[RIPC] SV-GG : Hi Gloss PV	Original	2007/12/10 00:		2	⊟ 540 x 720 dpi	
8	[] [RIPC] SPVCB : PVC Banner	Original	2007/12/10 00:		12	CMYKLcLm (v)	× 1
8	[RIPC] MPP-SG : Photo Se	Original	2007/12/10 00:	- 1	8	⊟ 360 x 720 dpi	
8	[RIPC] SP-M : Matte PET	Original	2007/12/10 00:		18	CMYKLcLm (v)	× 1
8	[] [RIPC] SG-G : Semi-Gloss G	Original	2007/12/10 00:		8	High Speed	
8	[] [RIPC] SG-TR : Semi-Gloss	Original	2007/12/10 00:		8	⊟ 540 x 360 dpi	
8	[RIPC] SFPLF : Front Print B	Original	2007/12/10 00:		3	CMVKLcLm (v) + PASS	~
8	[RIPC] ESP-CL : Clear PET F	Original	2007/12/10 00:		-		
8	[RIPC] SP-CLT : PET Clear F	Original	2007/12/10 00:		M	Masquer modes non recom.	Valeur par der.
8	[RIPC] GVWG : Monomeric	Original	2007/12/10 00:		Déta	als.	
8	[RIPC] GPPG : White Glossy	Original	2007/12/10 00:		Date	tot . B	
8	[RIPC] GPPM : Photo Matt	Original	2007/12/10 00:		1 600		
8	[RIPC] ECVP : Economic Ca	Original	2007/12/10 00:		Type	e point : 4	
8	[] [RIPC] PGVP : Premium Ca	Original	2007/12/10 00:		Talle	ept: SML	
8	V3JT 5829 PM Gloss calend	Défini pa [RIPC] Gene	2007/01/09 12:		Sépa	aration : V2 PVC Ldum Dry Contr	lo
	V3 MACtac JT S122 P_R Ec	Defini pa [RIPC] Gene	2008/01/08 10:		Limit	e deorre par C-85% M-100% Y-20	56 K: 10056
8	V3 MACtac Deco Canvas	Defini pa [RIPC] Gene	2013/02/14 10:	- 11			
8	V3 Multi-Fex 6005 PE Polym	Defini pa [RIPC] Gene	2013/02/14 10:	- 11	Limb	e d'encre 250 %	1010110101
	V3 J1 Sky9 K Optically clear	Defini pa (KIPC) Gene	2013/02/14 10:		Profi	i de Pro3v2EcoMLcLmH_Ge	nPVC1_v720x720
	V3 MACtec JI 5122 K	Defini pa (KIPC) Gene	2008/02/02 16:	*			
<							

3. Browse to the RML-file and click "open".

pen				X
🔵 🗢 🚺 🕨 Computer	► USB DISK (J:) ► versaworks	- 4j	Search versaworks	Q
rganize 👻 New folder			822	• 🔟 🔞
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4. Select the media and click OK.

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	ľ	Bibliothèque de s	upports				
	Liste	des supports				Liste des V3 MACtac JT 5929 P	
11	۲	Nom du support	Attribut Gabarit	Dernière modi	Remarqu 📤	Qualité d'impression	Modifié
11		[RIPC] Generic Vinyl I	Original	2007/12/10 00		Artistic	200 - Dia 1990 - Dia 19
11	1	[IRIPC] Generic Vinyl I	Importer le support	100102-0010			
	۲	[IRIPC] Generic Banner	Sélectionnez le support à im	porter de la liste			
		[IRIPC] Generic Banner	Non dusupport	Amilton	Gabarit	Dernika motification	PASS
	1	[RIPC] SV-GG : Hi Glos	V3 MACtec JT 5929 P	Défini par l'utilis.	. [RIPC] Generic Vinyl	2008/01/14 16:07	
		[RIPC] SPVCB : PVC B					
		[RIPC] SP-M : Matte P					
1	1	[RIPC] SG-G : Semi-G					
1	1	[] [RIPC] SG-TR : Semi-C					
1	1	[RIPC] SFPLF : Front P					
]	1	[IRIPC] ESP-CL : Clear					
	۲	[] [RIPC] SP-CLT : PET C				n.	Valeur par déf.
	۲	[RIPC] GVWG : Monor					
	3	[RIPC] GPPG : White C					
		[IRIPC] GPPM : Photo					
		[RIPC] ECVP : Econom	•			·	
1	8	V3IT 5820 PM Gloss c				OK Annuler	
1	1	V3 MACtac JT 5122 P				Lm Dry	Control
1	1	V3 MACtac Deco Canv	as Défini pa [RIPC] Gene	2013/02/14 10		Limite d'encre par C:85% M:90%	(:90% K:90%
1	1	V3 Multi-Fix 6005 PE Pc	olym Défini pa [RIPC] Gene	2013/02/14 10		Limite d'encre 240 %	
1	1	V3 JT 5499 R Optically of	clear Défini pa [RIPC] Gene	2013/02/14 10		Profil de MACtac JT5929P	720dpi XC540.icc
	1	V3 MACtac JT 5122 R	Défini pa [RIPC] Gene	2008/02/02 16	-		
	•	· · · · · · · · · · · · · · · · · · ·			•		
						ОК	Annuler

3.3 IMPORT MEDIA PROFILES IN WASATCH SOFTRIP

1. Close Wasatch and browse to the Wasatch folder on your computer. Open the "configurations" folder.

C S S T My Com	outer (150-JLOWAGIE1) 🕨 System (C:)	wwrip70		Search ww 🔎
Organize 👻 Include in	library ▼ Share with ▼ Burn	New folder		· · · · · · · · · · · · · · · · · · ·
🚖 Favorites 🔺	Name	Date modified	Туре	Size
🝌 Downloads	📕 afm	21/01/2014 09:20	File folder	
laces Recent Places	lociorimeters	21/01/2014 09:20	File folder	
📕 Desktop	L Configurations	21/01/2014 09:27	File folder	-
	DefaultColorSources	21/01/2014 09:23	File folder	
门 Libraries	🐌 densitometers	21/01/2014 09:20	File folder	
Documents	🎩 font	21/01/2014 09:20	File folder	
🕹 Music	🎩 genericcutters	21/01/2014 09:20	File folder	
Pictures	🎩 gui	21/01/2014 09:20	File folder	
JUDE Videos	📕 halftones	21/01/2014 09:20	File folder	
	👃 httpService	21/01/2014 09:20	File folder	
🧏 My Computer (150	👃 imageFormats	21/01/2014 09:20	File folder	
less System (C:)	🐌 inksets	21/01/2014 09:20	File folder	
HP_TOOLS (F:)	🐌 inputProfiles	21/01/2014 09:20	File folder	
My Web Sites or	👢 lib	21/01/2014 09:20	File folder	
Politique de rmu	🐌 Microsoft.VC90.CRT	21/01/2014 09:20	File folder	
Print Center on n	1 printers	14/07/2014 09:30	File folder	
Neg true and]] prtqueue.1	14/07/2014 09:30	File folder	
🔍 Network 🚽 👻	🐌 prtqueue.2	21/01/2014 09:21	File folder	
104 items				

2. Select your printer type. In this case, it is a Mimaki JV33.

State of the second					X
🕞 🕞 🗢 🗼 🕨 My Comp	uter (150-JLOWAGIE1) 🕨 System (C:) 🕨 w	wrip70 🕨 Configurations 🕨		👻 🍫 🛛 Search Co	Q
Organize 🔹 [🎘 Open	Include in library Share with	Burn New folder		•	0
Favorites	Name Mimakijv3 Mimakijv4 Mimakijv5	Date modified 21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	Type File folder File folder File folder	Size	*
Libraries	<pre>imakijv22 immakijv33 immakijv34 immakij</pre>	21/01/2014 09:27 21/01/2014 09:27	File folder		
 Documents Music Disturos 	 mimakiyu34 mimakits34 mimakitx2 	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	File folder File folder File folder		
Videos	L mutoh mutohblizzard	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
My Computer (150	 mutoniaiconz mutohfalcon2outdoor mutohri900c 	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	File folder File folder		11
HP_TOOLS (F:) My Web Sites or Politique de rout	untohrj900Pro	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
Print Center on n	mutohrj8100 mutohrockhopper2kplus	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
Network - mimakijv33 D	ate modified: 21/01/2014 09:27	21/01/2014 09:27 21/01/2014 09:27	File folder		-
File folder					

3. You might want to create a new folder now. This helps to keep everything well organized later on in Wasatch. In this example a "Mactac" folder has been created.

Favorites	ne	Date modified	~		
	mimakijv3 mimakijv4 mimakijv5	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	Type File folder File folder File folder	Size	
	mimakijv22 mimakijv33	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
Documents Music	mimakijv34 mimakits34	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
S Pictures	mimakitx2 mutoh mutohblizzard	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
My Computer (15(mutohfalcon2 mutohfalcon2outdoor	21/01/2014 09:27 21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
System (C:) HP_TOOLS (F:)	mutohrj900c mutohrj900Pro	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
My Web Sites or Politique de rmu	mutohRJ900X mutohrj8100	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		
Print Center on n	mutohrockhopper2kplus mutohrockhopper3extreme	21/01/2014 09:27 21/01/2014 09:27	File folder File folder		

4. Extract the profile you want to import and copy the complete folder inside the folder you created.

					. 😐	×
G System (C	:) ▶ wwrip70 ▶ Configurations ▶ mimakijv33	► MACtac ►		✓ 4 ₇ 1	Search M	4 P
Organize 👻 [🏭 Open	Include in library	urn New folder		•		0
🚖 Favorites 🦰	Name	Date modified	Туре	Size		
) Downloads	270911_mimjv33_6c_ss21_wsh62_jt5829p	14/07/2014 09:31	File folder			
Recent Places						
Deskop						
Libraries						
Documents						
Pictures =						
Judeos						
My Computer (15)						
C:)						
IP_TOOLS (F:)						
My Web Sites or Politique de rmu						
Print Center on n						
Network -						
270911_mimjv File folder	/33_6c_ss21_wsh62_jt5829p Date modified: 1	14/07/2014 09:31				

5. You can rename the folder (Media Profile) if you want. In this case, the folder has been renamed from "Media Profile" to "Mactac JT5829P Monomeric Self-Adhesive".

System (C)	:) • wwrip70 • Configurations • mimakijv33	MACtac 🕨		▼ \$ ∳ S	earch MA 🔎
Organize 👻 Include in I	library ▼ Share with ▼ Burn New fol	der		•	
 Favorites Downloads Recent Places Desktop Libraries Documents Music Pictures Videos My Computer (150) My Computer (150) My Web Sites or Politique de rmu Print Center on n 	Name MACtac jt5829p Monomeric Self-Adhesive	Date modified 14/07/2014 09:31	Type File folder	Size	
Network - 1 item					

6. Open Wasatch and click on the print setup button.



7. Select the image configuration you just installed in Windows.

→ Wasatch SoftRIP - V	ersion 7.0 Not Registered				
File Image Color P	rint Page Layout Template Tools Server Help			~	
Setup - Print Unit 1	BALLENNX N.N. T	or them Albert	PROVING HIS/10		- 9
Printer Model	Mimaki JV33 (CMYK, 720x720)	•		ОК	
Imaging Configuration	MACtac/MACtac jt5829p Monomeric Self-Adhesive	-	Edit	Cancel	
Physical Connection	MACtac MACtac it5829p Monomeric Self-Adhesive				
Print Margins	none				
Paper Width					
Paper Height					
Left Margin					
Right Margin					
Top Margin					
Bottom Margin	l l l l l l l l l l l l l l l l l l l				
Marks					
Crop Marks					
Register Marks					
T Hairlines					
Annotate Prints					
	-				
]	
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3.4 IMPORT MEDIA PROFILES IN MIMAKI RASTERLINK

- 1. Close Mimaki Rasterlink and open Mimaki Profile Manager
- 2. Click on the logo in the upper left corner to import a new device (media) profile

odel	Ink cot	Media	Output setting	Congration	Vor	Media tune	Default setting	
vuei 🗸	All	✓ All	 ✓ All 	All +	All -	All +	Delaurt setting	
V30 (4Color)	SS21 CMYK	MACtac DecoCanvas	720 x 1080 VD	Full color	V3.0	Cotton	Pass: 6 Over printin	
K200 (4Color)	LH-100 CMYK	3A FOREX-Print v3.2	600 x 900 VD	Full color	V3.2	Inkjet Board Pap	Pass:12 Over printi	
X200 (4Color)	LUS-150 CMYK	3A FOREX-Print v3.2	600 x 900 VD	Full color	V3.2	Inkjet Board Pap	Pass:12 Over printi	
X200 (4Color	LH-100 CMYK	3A FOREX-Print v3.2	600 x 900 VD	Full color	V3.2	Inkjet Board Pap	Pass:24 Over printi	
X200 (4Color	LUS-150 CMYK	3A FOREX-Print v3.2	600 x 900 VD	Full color	V3.2	Inkjet Board Pap	Pass:24 Over printi	
X500 (4Color)	LUS-150 CMYK	(3A KAPA-plast v3.1)	600 x 600 VD	Full color	V3.1	Others	Pass: 4 Over printin	
x500 (4Color	LUS-150 CMYK	Trial_Media1	900 x 900 VD	Full color	V3.0	Others	Pass: 6 Over printin	
400-LX (4Col	LX100 CMYK	GPVC[706] v3.1	900 x 900 ND	Full color	V3.1	PVC Gloss	Pass:12 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706]_D v3.1	1200 x 900 ND	Full color	V3.1	PVC Gloss	Pass: 6 Over printin	
400-LX (4Col	LX100 CMYK	GPVC[706]_D v3.1	1200 x 900 VD	Full color	V3.1	PVC Gloss	Pass:12 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706]_D v3.1	1200 x 1200 ND	Full color	V3.1	PVC Gloss	Pass: 8 Over printin	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	900 x 900 VD	Full color	V3.1	PVC Gloss	Pass:12 Over printi	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	1200 x 900 ND	Full color	V3.1	PVC Gloss	Pass: 6 Over printin	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	1200 x 1200 ND	Full color	V3.1	PVC Gloss	Pass: 8 Over printin	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	1200 x 1200 VD	Full color	V3.1	PVC Gloss	Pass:16 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706] v3.1	900 x 900 ND	Full color	V3.1	PVC Gloss	Pass:24 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706]_D v3.1	1200 x 900 ND	Full color	V3.1	PVC Gloss	Pass:12 Over printi	
stall date: eate date: e Name: formation:						User com	nent	

3. Browse to the folder that contains the new media profiles.

evice Profile In	put Profile	1.200 Di			hote the	1.000		Los de las 1999	
Nodel	Ink set	Media		Output setting	Separation	Ver.	Media type	Default setting	
1V20 (4Color)	SS21 CMVK	MACtas DasaCan		730 × 1080 VD	Full color	V20	Cotton	Bacci 6. Over printin	
3V30 (4Color)	SSZI CIVITK	24 FOREX Decocar	a a	720 x 1080 VD	Full color	V3.0	Lotion	Pass: 6 Over printin	
EX200 (4Color)	LH-100 CMVK	2A EOREX-Print	Browse for F	Folder	Philipping	23	nkjet Board Pap	Pass.12 Over printi	
EX200 (4Color)	LUS-100 CMVK	3A FOREX-Print					nkjet Board Pap	Pass:22 Over printi	
FX200 (4Color	LUS-150 CMYK	3A FOREX-Print	Select folde	er of device profile to	be installed.		nkjet Board Pap	Pass:24 Over printi	
EX500 (4Color)	LUS-150 CMYK	(3A KAPA-plast				East.	Others	Pass: 4 Over printin	
FX500 (4Color	LUS-150 CMYK	Trial Media1	Aima Mima	ki JV33 Caldera 8		^	Dthers	Pass: 6 Over printin	
/400-LX (4Col	LX100 CMYK	GPVC[706] v3.1	Mima Mima	ki JV33 Colorgate 6.5	0		VC Gloss	Pass:12 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706] D v3	Mima	ki 1V33 Onvor 7			VC Gloss	Pass: 6 Over printin	
/400-LX (4Col	LX100 CMYK	GPVC[706]_D v3	Mima	ki JV33 Onvx X		=	VC Gloss	Pass:12 Over printi	
/400-LX (4Col	LX100 CMYK	GPVC[706]_D v3	🛴 Mima	ki JV33 Photoprint 6.	1		VC Gloss	Pass: 8 Over printin	
/400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	🗼 Mima	ki JV33 Rasterlink V			VC Gloss	Pass:12 Over printi	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	D 儿 M	1imaki JV33 Rasterlin	k V ES3 Ink		VC Gloss	Pass: 6 Over printin	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1	^	limaki JV33 Ractorlin	k V SS21 Ink		VC Gloss	Pass: 8 Over printin	
400-LX (4Col	LX101 CMYK	GPVC[706] v3.1		EU_0210_mimjv33	3_4c_ss21_rlk5_	jt5122p	VC Gloss	Pass:16 Over printi	
400-LX (4Col	LX100 CMYK	GPVC[706] v3.1	4		III	- F	VC Gloss	Pass:24 Over printi	
/400-LX (4Col	LX100 CMYK	GPVC[706]_D v3					VC Gloss	Pass:12 Over printi	
nstall date: reate date:					ОК	Cancel	User com	nent	
							=		
formation:									

4. Select the print mode you want to import and click on the arrow to add the profile to the list underneath. Click "OK" afterwards to complete the profile installation.

33 (4Color)	Ink set SS21 CMYK	Media MACtac JT 5122	Output se 540 x 108	Separation Full color	Ver. V3.0	Medi Others	Infor	Default set Pass:12 O	Profile name JTS122P R JV33 540x1080 bi hi	
33 (4Color)	SS21 CMYK	MACtac JT 5122	720 x 144	Full color	V3.0	Others		Pass:16 O	JT5122P_R_JV33_720 x1440_bi_h.	
				_	_					
				ł	,		1	1		
del .	Ink set	Media	Output se	Separation	Ver.	Medi	Infor	Default set	Profie name	

5. Close Mimaki Profile Manager and open Mimaki Rasterlink. Select the new media profile & start printing!

3.5 IMPORT MEDIA PROFILES IN CALDERA

1. Open the "Easymedia" module



2. Click on the printer logo and click "next" to continue



3. Select your printer and click "next" to continue. In this case, profiles for the HP L25500 printer are selected for import

000		X Easy	Media		
		Easylv	ledia		
Server Designjet-L25500 Roland-XC540 Rockhopper3_90	Model Designjet-L25500 Roland-XC540 Rockhopper3_90				
Host : localhost					X
	S	elect th	e printer		
Menu	Prev	vious	Next]	Quit

4. Click on "Install Patch" to import a new media profile.

⊖ ⊖ ⊖ 🕅 🔀 EasyMe	dia						
Designjet-L25500							
Categories : All			<u>7</u> 1 7				
Name	Projects						
MACtac DecoMural	1						
MACtac JT 5499 R Optically clear pet film	1						
MACtac JT 5829 P Monomeric Vinyl	1						
MACtac JT 5837 P One Way Vision	1						
MACtac JT 5928 P Polymeric Matt Vinyl	1						
MACtac JT 5999 R Transparent Polymeric Vinyl	1						
MACtac JT5728P Translucent Vinyl	1						
MACtac PV 828 P Budget matt mono vinyl	1		=				
MACtac Streetrap	1						
MACtac Deco Ivory	2						
MACtac DecoCanvas 2012 06 19	1						
Media test Ruben	1						
MACtac JT5798MBF Translucent Vinyl	1						
MACtac JT5827P Backlit Vinyl	1		-				
MACtac WW 100 Wallwrap Vinyl	1						
MACtac JT 5929 P Polymeric Vinyl	1						
MACtac JT 5826 P Soft Monomeric Vinyl	1						
MACtac WW20C Mat Vinyl	1						
New Dup Delete Edit		HP Me	dia Finder.				
Statistics	Inst	tall Patch	Build Patch				
Select the media you v Click the "New" button to c	vant to profile create a new Media						
Menu	Next		Quit				

5. Browse to the folder that contains the media profile. (Extension media profile: ".Calpatch") In this case, the media profile is located on the desktop. Once you have selected the ".calpatch" file, click on "load" to import the media profile into your media library.



6. Select the print mode you prefer and click on "Install selection" to confirm

000	_	X EasyN	1edia	-	_	
		Designjet-	L25500			
Categori	es : All					<u>7</u> 49 🔽
Name			Projects			10
MACtar		N Patch C	4			
MACtac MACtac MACtac	2 profiles		Sintents			
MACtac	Printer	Media	Resolution	Mode	Quality	-
MACtac	Designjet-L25500	MACtac Deco Ivory	600	CMYKcm	10-pass-Bi	
MACtac	Designjet-L25500	MACtac Deco Ivory	600	CMYKcm	12-pass-Bi	
MACtac						J
MACtac						
Media						
MACtac						
MACtac						
MACtac						
MACtac	🦲 Display only profil	es configured for my pr	rinter			
New	O Display all profiles	included in the patch				Ider
Statisti	Cancel		Inst	all selectio	n Install all	Patch
	Click	Select the media you the "New" button to	ı want to pro o create a ne	file w Media		
Menu	u	Previous	Next			Quit

4 TROUBLE SHOOTING

WHY DOESN'T THE INK DRY FAST ENOUGH?

When the ink doesn't dry fast enough, there are only 2 options:

- 1. Print slower. It will probably solve all problems and it will allow you to roll up the output straight away.
- 2. Use a media profile that uses less ink.

I HAVE BANDING IN MY PRINT. WHAT DO I NEED TO DO?

First of all, you need to determine which type of banding you have:

- What is the condition of the print head? Can this be the cause?
- What about the media advancement? If this is not set up as it should you will see dark or white lines throughout the print, also in light colours!
- In most cases banding is caused by excessive use of inks. If that is the case, there are only 2 options:
- 1. Print slower. It will probably solve all problems and it will allow you to roll up the output straight away.
- 2. Use a media profile that uses less ink.

3. Increase the temperature on the printer. But be careful! If the media curls on the printer, the temperature is set too high.

HOW DO I PRINT SLOWER USING THE SAME MEDIA PROFILE?

- 1. Print unidirectional instead of bidirectional.
- 2. Increase the print passes if possible.
- 3. Decrease the speed of the carriage.

THE SELF-ADHESIVE FILM CURLS ON MY PRINTER. WHAT DO I NEED TO DO? Solvent printers:

1. Lower the temperature on the printer until the problem is solved.

2. Make sure there are not any high temperature differences in the print room. (Between day and night for example.)

3. Use a constant temperature on the printer. If the printer needs to heat up before every print, the selfadhesive film will probably curl.

- 4. Be careful with air-conditioning systems.
- 5. Make sure the media is stored in the same room as the printer.

Industrial Latex printers:

1. Use a self-adhesive film with a backing paper of at least 140g./sqm. This will prevent curling on the industrial latex printers.

UV-printers:

1. The heating of the UV-lamps is probably causing the curling. Decrease the power of the UV- lamps to the minimum.

WHEN I MEASURE THE PRINTED OUTPUT, IT IS 2CM LARGER THAN WHAT I REQUESTED IN THE RIP.

The media advancement is probably the cause. You can solve this on the printer or in the software.

IS MY PRINTER CONTROLLING THE TEMPERATURE OR IS THIS DONE IN THE SOFTWARE?

In almost all cases, the temperature is set on the printer but it is overruled as soon as there is a temperature set inside the software.

Why can't I print all Pantone colours?

From a palette of 14 basic colours, each of the spot colours in the PANTONE MATCHING System is mixed according to its own unique ink mixing formula developed by Pantone. A CMYK-printer only has 4 colours to simulate the Pantone library, that's why not all colours can be reproduced. Some "easy" colours will be reproduced quite correctly; others are very hard to reproduce using a CMYK- printer.

I KNOW I CAN'T PRINT ALL PANTONE COLOURS, BUT HOW DO I REPRODUCE THEM AS ACCURATELY AS POSSIBLE?

1. Use a good RIP-software that is compatible with the Pantone library.

- 2. Use a correct ICC-profile.
- 3. Use a printer with orange and green inks if possible.
- 4. Use the "absolute colorimetric" rendering intent in your software to print Pantone colours as accurately as possible.
- 5. Use the Pantone colour in the design application and export as Adobe PDF. Pantone colours that are already converted to CMYK at this stage will be incorrect for sure.

CAN I SEND RGB-IMAGES TO MY PRINTER?

Yes! You do not need to convert them to CMYK before printing. Your RIP-software does this for you.

CAN I PRINT & CUT THE SELF-ADHESIVE AT THE SAME TIME?

Yes, but only next to the printed image. If you would cut inside the printed image, the solvent of the ink will have a negative influence on the adhesive.

THE PVC BECAME VERY SOFT AFTER PRINTING AND IS DIFFICULT TO APPLY. HOW COME?

In theory, you need to wait a while (48h) before applying the printed film. When a PVC is still quite soft after printing, it means it still contains solvents from the ink. You need to wait for the solvents to evaporate.

CAN I PUT A LAMINATE ON THE PRINT DIRECTLY AFTER PRINTING?

No, in theory you need to wait 48h before lamination. If all solvents are not evaporated before lamination, problems will occur.

THERE ARE RECTANGLES APPEARING WHEN I PRINT. ON THE COMPUTER I CAN'T SEE THEM.

This is probably a flattening problem. This means that your RIP-software had some difficulties calculating the transparencies in the file. Flatten the transparencies in a design application like Adobe Photoshop before printing.

DO I NEED TO PUT THE HEAD HEIGHT OF THE PRINT HEAD ON HIGH OR LOW?

If the temperatures are set correctly on the printer, the head height can be set on "low". When the head height is too high, overspray will be visible in the print.

DO I NEED TO PUT THE VACUUM OF THE PRINTER ON HIGH OR LOW?

On most printers, the vacuum is set on "high". But when the print platen is not 100% flat and has a certain structure, the vacuum is set less strong.

THE PVC IS DAMAGED BY THE UV-LIGHT OF MY PRINTER. WHAT DO I NEED TO DO?

Set the power of the UV-lamps to the minimum to minimize the influence of the UV-light. When the UVink is "sticky" after printing, you need to increase the power because the ink is not100% cured. Laminate the printed media with a Mactac LUV protection film. It will reduce the UV effect after the printing and ensure a better handling, application and removability.

THERE IS NO PROFILE AVAILABLE FOR THE MEDIA TYPE I WANT TO PRINT ON. WHAT DO I NEED TO DO?

- 1. Test another Mactac media profile.
- 2. Test the generic vinyl profile that was installed by the technician of your machine.
- 3. Contact printsupport@mactac.com to get some more information.

I FOUND A MEDIA PROFILE IN THE MACTAC PROFILE DATABASE BUT I GET AN ERROR WHILE IMPORTING. WHAT DO I NEED TO DO?

The media profile you are trying to import is probably created for your printer type but not for you ink configuration. Contact printsupport@mactac.com to get some more information.