Commercial Chem Free Violet Polymer Plate

:Azura Vi

Module 2

Working instructions

Version 1.7

Document version

Document version	Changes
1.0	First publication
1.1	Added extra information in VCF85 naming to make the difference between G&J and Lastra units (p23-24) Added more clear info about bath life (p5)
1.2	Define another exposure criterium for Palladio users.
1.3	Including information about Lithostar conversion Including a shorter procedure of maintenance of the clean-out unit.
1.4	Some small corrections in chapter “Processing” - gum compatibility.
1.5	Some small changes
1.6	New Naming of Clean-out gum Palladio Wedge Agfa Clean-out gum compatibility IQA file is conform Automatic measurement XY-table (APP_400X) Agfa pressroom chemical update Contact details Typo’s
1.7	Agfa anogue wedge Picture Update IQA file

Scope

:Azura Vi redefines the capabilities of Photopolymer CTP. It is based on the successful technology of Agfa's N91v plate, which has provided 6 years of experience in quality and durability in long-run applications. :Azura Vi has new features (see below) to once again take its performance beyond the reach of the competition.
Agfa's ultrasensitive coating enables plates to be exposed quickly, on a high resolution on all available platesetters. Instead of requiring chemical developer for processing, Azura Vi is the second Violet plate designed for chemistry-free operation

:Azura Vi is designed to get ideal results on press with minimal adjustment, offering improved ink/water balance throughout the press run and reduced dotgain.
:Azura Vi also provides speed, efficiency, quality, and long-run capabilities up to a maximum screen ruling of 210 lpi.

Features

- Chemistry Free system
- Minimization of environmental impact
- High quality printing results
- High press stability
- Wide tonal-range
- High contrast plate
- Easy plate production

Plate specifications

General info

Plate	:Azura Vi
Application	Commercial (sheetfed)
Technology	Polymer
Working principle	Negative working - high speed
Sensitivity	Violet
Plate design	2 layer coating
Color	Blue
Surface	Electrochemically grained and anodized

Productions details

Production sides	Wiesbaden
Gauges	0,15 - 0,20 - 0,30 - 0,35 mm 0,06 - 0,08 - 0,012 - 0,014 inch
Sizes	All commercial formats up to 1050x1250
Interleaf paper	37 g/m^2 (standard interleaf paper)
Wrapping paper	Light and Humidity closed
Sleeves	Standard productions sleeves

Exposure

Spectral sensitivity	405nm (violet diode)
Exposure sensitivity	45 $\pm$5 µJ/cm^2
Exposure criteria	UGRA Wedge 1982 : Step 3: solid Step 4: broken (close to a solid (80-90% of max. density) Step 5: Ghost Step $\geq$6 : clear UGRA Wedge 1982: only for Palladio / Mako2-4-8 users Step 2: solid Step 3: broken (close to a solid (80-90% of max. density) Step 4: Ghost Step $\geq$5 : clear
Platesetters	Compatible with the most Violet platesetters (diode > 30mW) Detailed info : Module 5 : Platesetters
Conversion from N91v	Exposure power increase with $\pm$0,10 log It (f.e. Galileo : $\pm$ 20 CP)
Conversion from Aspire	Exposure power decrease with $\pm$0,05 log It (f.e. Galileo : $\pm$ 10 CP)

Clean-out

Developer	Not relevant
Finishing	Azura Violet Gum (4MXGK) + VCF Finisher (4LPOR)
Baking Gum	RC 510
Pre-heat	Operation window: 104 - 121 °C (220 - 250°F) Target temperature: 110 - 116 °C (230 - 241°F)
Clean-out dwell time	22″ ± 4″
Clean-out temperature	24°C ± 2°C
Soak time	Soak time of min. 10 sec (time: dip to first brush)
Brush pressure	250 - 300g (no moletons)
Brush speed	120 rpm (processor dependent)
Replenishment rates (closed loop system)	No replenishments - only circulations flow VCF 85 / "Classic" polymer proc. Dev. /gum circulation : 250 mL/m² / 250 mL/m² Dev. Repl : - / 0 mL/m² Dev. pro time : - / 0 mL/m²
Bath life	40L Clean-out gum (bath+bottle): 600 m² (66mL/m²) - 4 weeks 60L Clean-out gum (bath+bottle): 900 m² (66mL/m²) - 6 weeks
Processors	Dedicated Clean-out unit : VCF 85 Compatible with the most polymer processors
Conversion N91v / Aspire	* New clean-out unit or slightly modifications on "classic " polymer processor are needed (disconnect pre-wash and remove brush out of pre-wash or install a certified mod kit) * Chemistry is dedicated for Azura Vi * In depth cleaning needed if alkaline cleaner was used in the processor (with Altec 236)

Thermodur Step

Dynamic baking oven	Temperature of 270°C @ speed of 0,7m/min
Static baking oven	Temperature 240°C during 5 min
Baking gum	RC510 (ready to use)

Image Quality

Screenings (2400dpi)*	Amplidude modulated (AM) : up to 200 lpi Hybrid screening : 210 lpi Frequency modulated (FM) : no support
Tone range (2400dpi)*	ABS 175 : 2 - 98% (uncalibrated) ABS 200 : 3 - 97% (uncalibrated) Sublima 210 lpi : 1 - 99% (uncalibrated)
Smallest pos. dot reproduction	17 µ
Smallest neg. dot reproduction	17 µ
Tone scale *	Linearisation is needed
Line reproduction (2400dpi)*	1 pixel lines (positive) 2 pixel lines (negative)
Text reproduction (2400dpi)*	1 pt text (positive -Negative)

* depending on used platesetter

Press

Compatibility with founts	Compatible with most fountains
Compatibility with washes	Compatible with most washes
Runlength unbaked*	150.000 prints
Runlength baked**	Possible (no field experience)
UV / hybrid / metallic inks	Limited compatible (pretesting at site is required)
Ink / water balance	good
Ink acceptance	good

* Depending on printing conditions
** Estimation runlength increase of factor 2 (still in fieldtest: no field feedback)

Environment

Transport & storage conditions	Temperature : < 30°C Relative humidity : 50% ± 20%
Exposure conditions	Temperature : 24°C ± 2°C Relative humidity : 45% ± 10%
Room lighting	Lighting tubes : V50 (max 10 min @ 200lux) Plexiglas : 1C33 GT (Rhöm Gmbh)
Darkroom stability	20 min on 200 lux (V50 light tubes)
Shelf life	18 months

Auxilary Agents

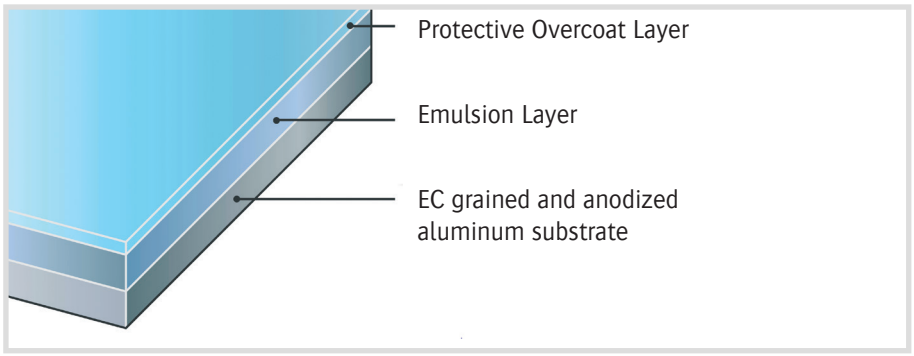
Plate Care	
Plate cleaner	Antura CtP Plate cleaner
Heavy duty plate cleaner	not recommended
Washout gum	Cleangum
Scratch remover	Reviva plate
Desensitiser	Plate Etch Plus
Deletion corrections	Polymer Deletion pen
Addition correction	KC 091
Fountain solutions	Compatible with the most fountains : All Agfa non-polyester fountains are compatible
Washes	Compatible with the most washes : f.e. AIII : Xtrawash Plus 60 - Xtrawash Plus 60E AII : Autowash - QD wash - Omniwash - Xtrawash Plus 40 UV wash Plus
Clean-out unit cleaner	No cleaner needed. Use of limited amount of water. Fresh clean-out gum for indepth cleaning.

Working principle

Basics

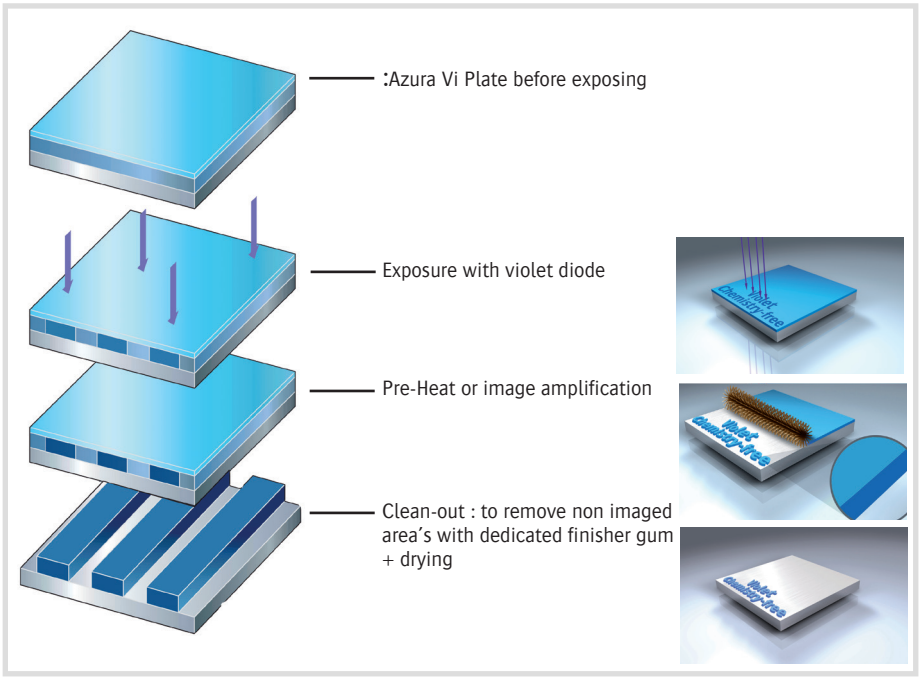
:Azura Vi is a negative working Photopolymer printing plate for CtP imaging. The plate is dedicated for exposure with violet laser diodes with a wavelength in the range of 400nm to 410nm. Almost all CtP imagers with a laser power of 30mW and higher are compatible. The minimum image plane power depends on the spot size and the spinner speed. The needed energy for :Azura Vi is 40 $\pm$5uJ/cm^2. The plate is after a pre-heat cleaned with a dedicated washout gum. The clean-out of the plate can be done in the existing photo-polymer processors or in a dedicated clean-out unit (Agfa :VCF85).

Plate design



:Azura Vi plate design

Working principle

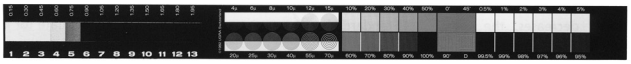


:Azura Vi Working Principle

Needed tools

Basic tools

- UGRA Wedge 1982
  Adjusting correct exposure



OR

Agfa anogue Wedge

- Plate reading device
  Measuring dotsize on plate
  - Techkon Spectroplate

- Densitometer
  Measuring dotgain on press
  - XRite 528 or
  - Gretag D19C or
  - Techkon spectrodens
  - Techkon Spectrojet

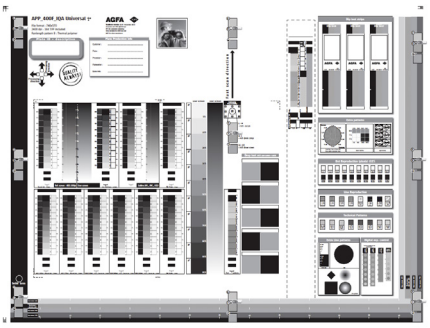
- Temperature indicator strips (98 - 136°C)
  Measuring plate temperature in pre-heat

- Spring balance
  Measuring brush tension

- Polyester film (10 cm x min 40cm - 0,20mm thick)
  Measuring brush tension

Optional

- Universal commercial test file
  Filename on 2400 dpi : APP400F_IQ Universal
  Common test file with fixed screenings
  Slightly different depending on size / resolution



- pH meter
  - WTW or
  - Hanna

- pH Calibration liquids

Step by step audit

STEP 1: Processor Hardware

• This paragraph sets out, in chronological order, the checks that should be carried out, prior to the evaluation or testing of any new photopolymer plate. Each step is assessed according to whether it is considered as essential, or recommended. Obviously there will be differences between the various processor types and CTP engines therefore the tasks are described in generic terms rather than specific operating instructions.

🔴🔴 Essential for each system check

🟡 Recommended to check for a system check

No marked steps : only for a full system check

1		Drain the gum from the unit
2		Remove any strainers or filters from the pre-wash and developer sections
3	🟡	Remove the transport rollers, scrub brushes and guide plates and clean. Check rollers & brushes for signs of wear or damage. Replace if necessary
4	🟡	Remove spray bars and ensure that all holes are free from any debris
5		Clean the tanks with cold water. If necessary the developer section should be cleaned with Altec
6		Re- assemble processor component parts and fill all the tanks with water and re-circulate Steps 7 - 15 are best carried out with water in the processor rather than process chemistry
7	🔴🔴	**Check developer circulation**
8	🔴🔴	**Set the scrub pressures in the pre-wash developer and rinse sections**
9	🔴🔴	**Check the replenisher pump and fill pump (if fitted) are working.**
10	🔴🔴	**Check the pre-wash spray bars are spraying in the correct position**
11	🟡	Measure the liquid temp in the developer bath and confirm this on the processor display
12	🟡	Check the actual transport speed with the setting on the processor
13	🟡	Check the chiller unit (if fitted) is operational and filled with coolant
14	🟡	Check the gum pump pre-wash and rinse pumps (if fitted) are working
15	🟡	For VSP processors check that the pump for the vacuum chamber in the developer section is operational
16	🟡	Drain the water from system (including any filter housing) fit new filters and fill the processor with requested chemistries

STEP 2: Processor Parameters Processor Calibration

1	● ●	**Set the processing speed to required value. (Check plate specification for minimum dwell time)**
2	● ●	**Set the gum temperature**
3	● ●	**Set the replenishment rates - including the anti-ox standby values**
4	●	Calibrate the replenishment pumps.
5	● ●	Apply the required brush tension. Apply this test when the section is filled with fresh clean-out gum. Do not use water in the clean-out section
6	● ●	**Set the pre-heat value and check with Thermax strips. Note: it is important that the pre-heat is checked for different thicknesses of plates. Checks should be made when stream feeding plates. All checks should be carried out using "fresh plates" i.e with the overcoat still on the plate**

STEP 3: Platesetter

- Before any platesetter checks are carried out confirm that :
  1. Plates have been conditioned for at least 24hours in the correct room environment
  2. The room is air conditioned and set within the recommended conditions

1	● ●	**Output an analogue UGRA wedge for each resolution and adjust the exposure to obtain the correct reading**
2	● ●	**Check the safelight conditions - fogging of the plate may have had an influence on Step1 but a "rough" exposure has to be established initially**
3	●	Check for system flare
4	● ●	**Check dot gain values and system resolution Use APP400X_Image quality Universal test file**

Working environment

Transport & storage

Stable processing is possible if the temperature is kept <30°C (85F) and relative humidity between 30 and 70% RH during transport and storage.

Exposure conditions

Azura Vi should be exposed in a fully air-conditioned environment. We suggest a temperature range of 24°C ± 2°C (75F ± 4F) and a relative humidity range of 45% RH ± 10% RH.
If storage conditions differ much from exposure conditions it is suggested to acclimatize the plates in their original package for at least 24 hours before opening the package and processing the plates to avoid condensation and sensitivity variations.
Latent image stability (sensitivity) and interleaf handling in automatic platesetter are affected when you go out of the specifications

Room lighting

Plates should be unpacked and loaded into the platesetter, or manually processed, in yellow light with wavelengths >480nm and a illumination not higher than 200 Lux for a time not exceeding 20 minutes. Suitable light sources are fluorescent lamps such as Encapsulite V50 or G10.
http://www.encapsulite.com

Daylight can be filtered with yellow Plexiglas 1C33 GT made by Röhm GmbH & Co. KG, Darmstadt,
http://www.plexiglas.shop.com

How to check safelight conditions

- Keep 1 plate with emulsion up (A) in the "yellow" darkroom for 20 minutes
- Keep 1 plate with emulsion up (B) in the darkroom for 20 minutes (lights switched off)
- Take 1 plate straight from the package (C) (minimal contact with the darkroom)
- Expose the 3 plates ((A-B-C) with the test file. "APP400X_IQ Universal" @ 2400 dpi
- Compare
  - the tone range (for the highest released screening) on the 3 different plates
  - measured mid tones (50% dot)
- The 3 plates should give equal results
- If variations are noticed, light room conditions has to be adjusted

Exposure

Platesetter

For a successful set up of a :Azura Vi system, it is important to take care of some key aspects. As the photopolymer CtP system uses a negative working plate, it is crucial that the plate is properly exposed and preheated to ensure that the printing areas of the plate are cured to achieve the needed stability of the printing layer on press. The platesetter has to be optimal (Focus , PWM , ...) to achieve best possible imaging quality and screen reproduction on press. Follow the same procedure which is advised by the platesetter manufacturer for N91v / :Aspire. In the Module 07 (System Quality description) you can find the expected quality pro platesetter.

Exposure

The exposure of the plate is controlled with a conventional halftone wedge such as the UGRA 1982 or the 21 step Stouffer wedge. The reason for the use of a analogue halftone wedge in a digital working environment is to allow a device independent exposure control. Only an analogous halftone wedge allows a direct assessment of layer hardening which is crucial for a negative working plate.

How to check the exposure

- the wedge is taped onto the printing layer of the :Azura Vi
- plate is manually fed into the platesetter
- expose a flat solid over the halftone wedge.
- the halftone wedge is removed after exposing
- clean-out the plate in the clean-out unit.

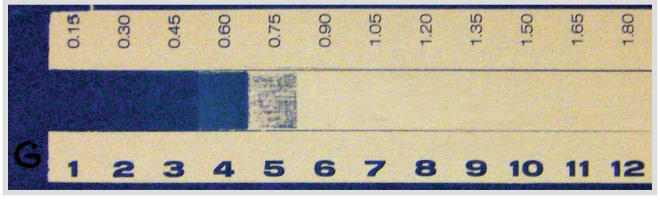
Correct Exposure

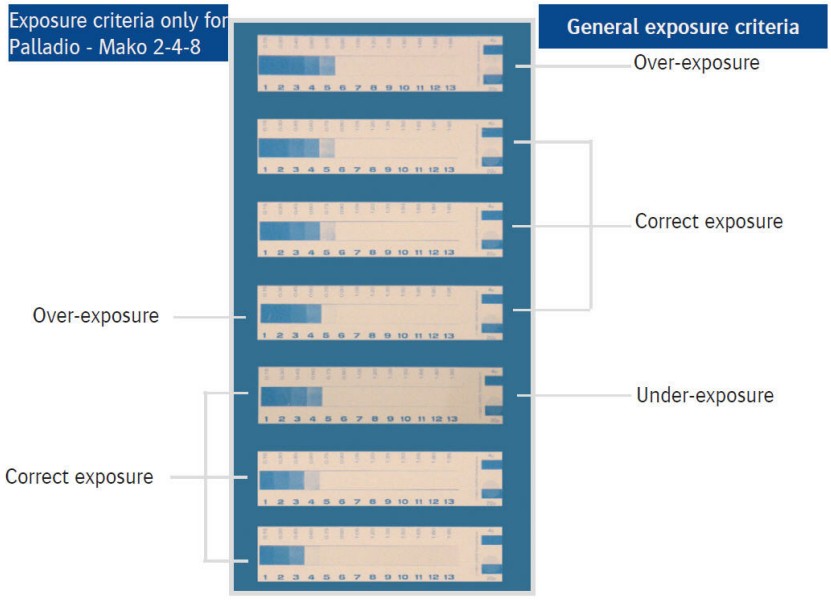
UGRA wedge

:Azura Vi is correctly exposed if the step 3 in the analogous UGRA 1982 wedge fully solid. Typically, there is a visual, difference between steps 1 and 2 (UGRA) or steps 2 and 3. Step 4 is close to a solid . If the plate is fully cleaned, a stain will be visible in step 5 (on UGRA). The pictures below illustrate that visual difference on an UGRA wedge.
For Palladio or Mako 2-4-8 we advise to under expose with 1 UGRA step. Main reason for under exposure is to mask the optical limitation of the platesetter.
If – at correct exposure – a stain is visible in any step higher than these, the clean-out is incomplete. In this case, the clean-out should be optimized first, i.e.

- Gum exhaustion
- Gum circulation
- Brush pressure should be checked.

It is advisable to take a sponge or cotton path, soak it with water and gently wipe over the UGRA (or Stouffer) wedge. The wedge after rub back should not be significantly different from the wedge before rub back (max shift of 0,5-1 UGRA step). If more, check the clean-out and clean-out unit settings.

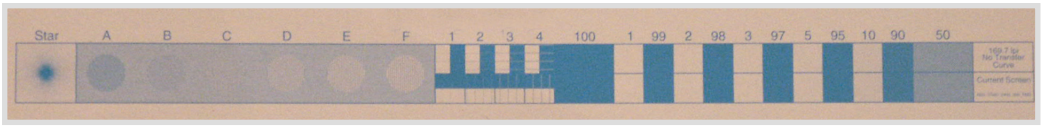




Exposure controls

Digital wedge control

Digital control elements are based on the phenomena that different screens with different dot shapes and rulings have different dot gain. Therefore, digital control elements permit to assess dot gain of a CtP plate in a particular CtP system. While the dot gain tells us something about exposure, it is also influenced by other factors such as cleaning-out activity, focus, pollution of the imager's optical system etc. The digital control element DigiControl is not merely a device for exposure control but for quality control as a whole. At the same exposure, different CtP systems (in particular different platesetters) cause different dot gains on the plate, mostly due to different principles and different quality of focus and spotsize (shape). When using a digital control target, adjustment is needed between the analogous and the digital control wedge in order to determine the point of operation specific to the system.



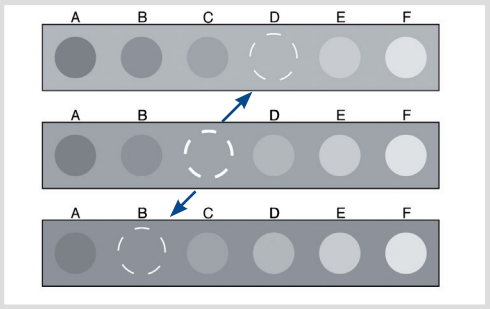
When you introduce the DigiControl,

- first the correct exposure must be determined and set as described above in the chapter "Correct Exposure".
- set the imager to the laser power needed for this exposure
- Adjust the digital control wedge :
  - Expose a plate with the digital at the same exposure
  - The control wedge must be placed in the same place as it will be in production (usually at the gripper edge).
  - After exposing and cleaning this plate, the point of operation is determined.
- Depending on imager, resolution and focus, one of the fields A-F will be blend with the background
  - usually this will be one of the fields B, C, D, or E.
  - F.e. field D is rendered in the same shade as the background, this will be the point of operation (in case of optimal exposure and cleaning)
  - Depending on the plate used and the resolution chosen, the element indicates the cleaning-out latitude of exposure and processing.

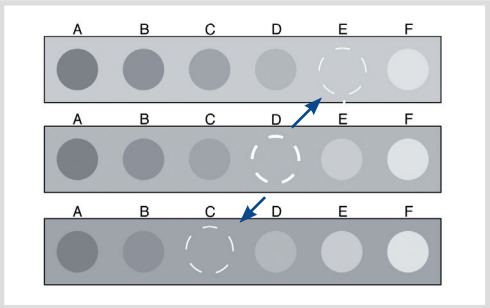
Interpretation of Digital wedge control

2 Examples for readings in the control fields A-F in different points of operation:

Example 1 :
The picture below shows the processing latitude with a matching **field C**.
The plate was processed within the range of the latitude if fields B, C or D match the background shade.



Example 2 :
The picture below shows the cleaning-out latitude for point of operation **D**.
In this case, the plate is within latitude if fields C, D or E match the background.



The six line fields A-F also indicate the system latitude or a change in system conditions, by a shift in the matching point within the six fields . A shift to the left (towards A) indicates increasing overexposure or poor cleaning, A shift to the right (towards F) indicates increasing underexposure or to aggressive cleaning.
The control fields A-F **do not** give any information about the hardening of the printing layer and should therefore never be used as the sole control device for exposure control.

! **Only a combination of the conventional halftone wedge with the digital element allows to assess whether the plate is correctly exposed and the system is in good condition.**

For example, if only the digital device is used, a poorly focused imager would underexpose the plate; due to the excessive dot gain the exposure seems sufficient while in reality the focus is poor.

Palladio digiwedge

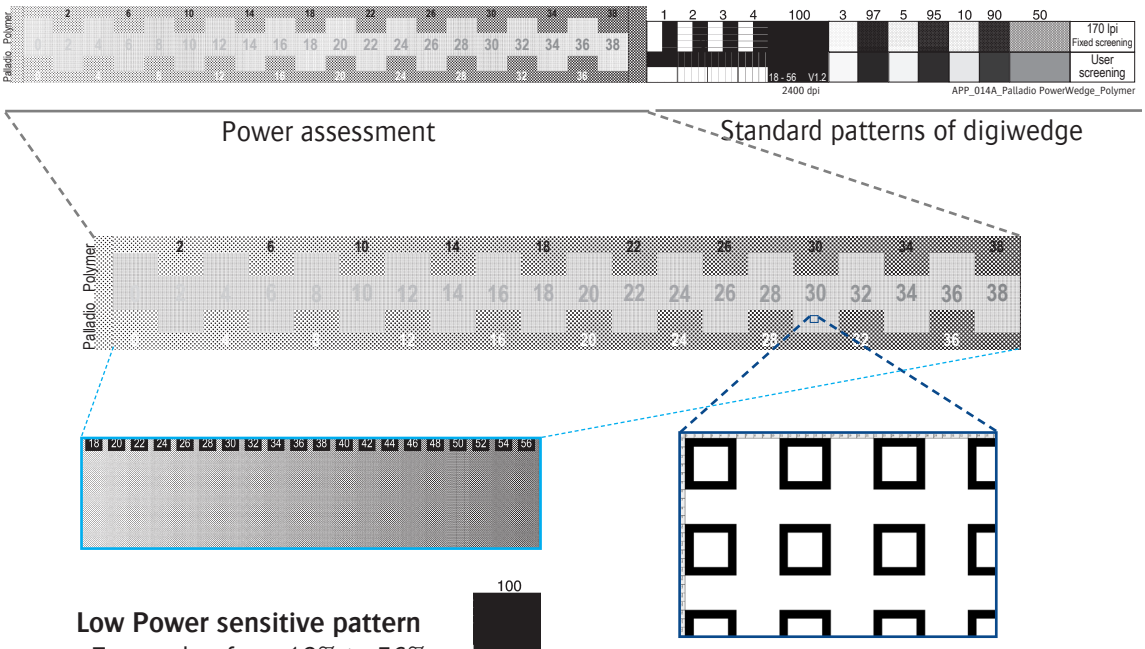
General

The negative digiwedge is too limited in range for a polymer plate in combination with a Palladio platesetter. The match point is often out of range for this wedge. The main reason for this limitation is the big differences between adressablility and the spotsize of the Palladio (on 2400 dpi).

Palladio Digiwedge is like the Negative Digiwedge a relative wedge. Define the match point of the Palladio digiwedge after the power assessment with an UGRA Wedge. Customer can use the match point to monitor the plate response on laser power of the Palladio

The Palladio Digiwedge has a much wider range of match point. This wide range could be obtained by making 1 pattern which is high sensitive on power variation and different patterns which are less sensitive for laser power variation.
The Palladio Digiwedge is independent on the orientation against the fast scan direction.
The used patterns are symmetric (fast and slow scan direction).

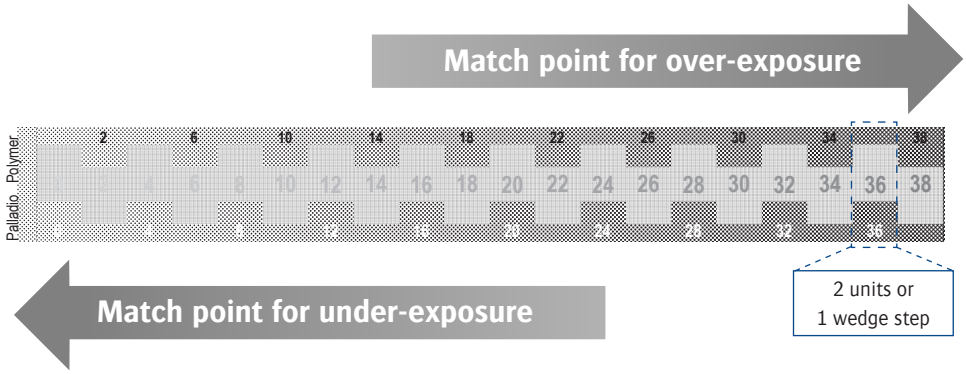
Palladio Digiwedge : ONLY usable on 2400 dpi



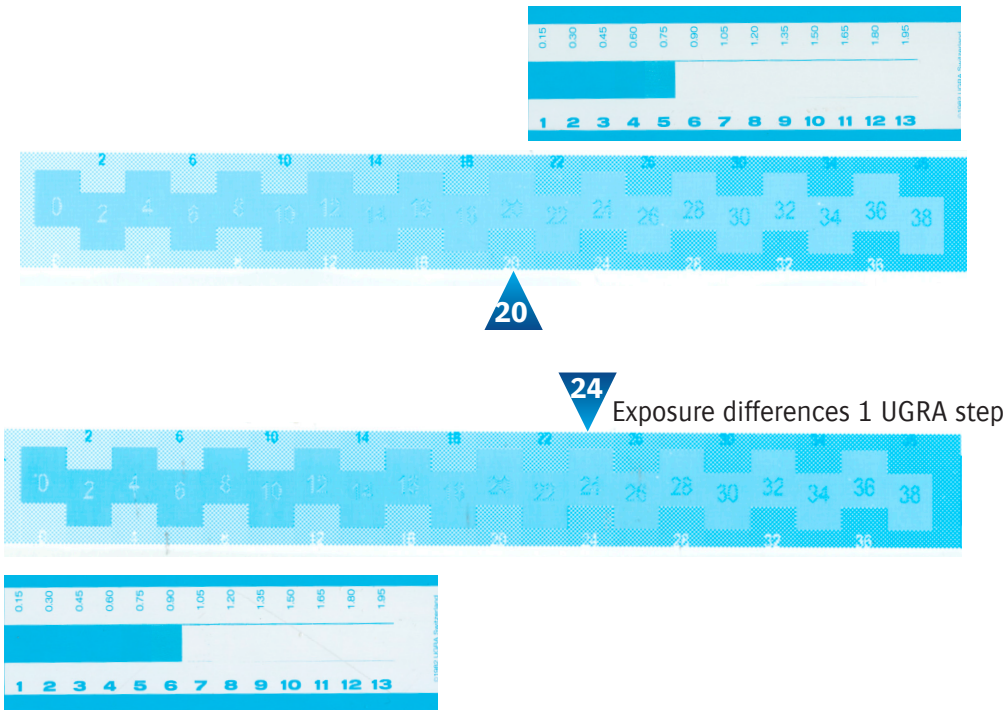
Low Power sensitive pattern
- Tone value from 18% to 56%
- 100 lpi screen on 45°screen angle
- Direction independent

High Power sensitive pattern
- 18% image coverage
- Direction independent
- Fast reacting on plate response for laser power
- Equal over for the whole width of the power sensitive part of the wedge
- White holes are 42 x 42 um

Wedge Response



Example of the wedge response



The match point is relative point. This match point will change depending on :

- Palladio conditions
- Clean-out condition

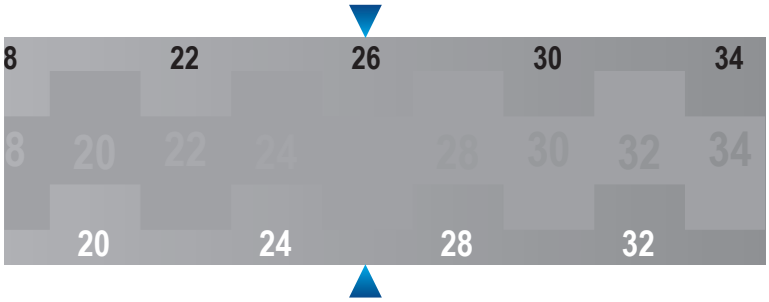
4 units (equal to 2 wedge steps) gives a shift of approx. 1 Ugra step.
The 4 units means a match shift of 4% in background (digital).
This shift does not mean a dot shift of 4% in the user screening.

Match point Interpretation

The match point can be defined as :

- Central block if fading away in the background
- Digit in the centre is fading away in the background

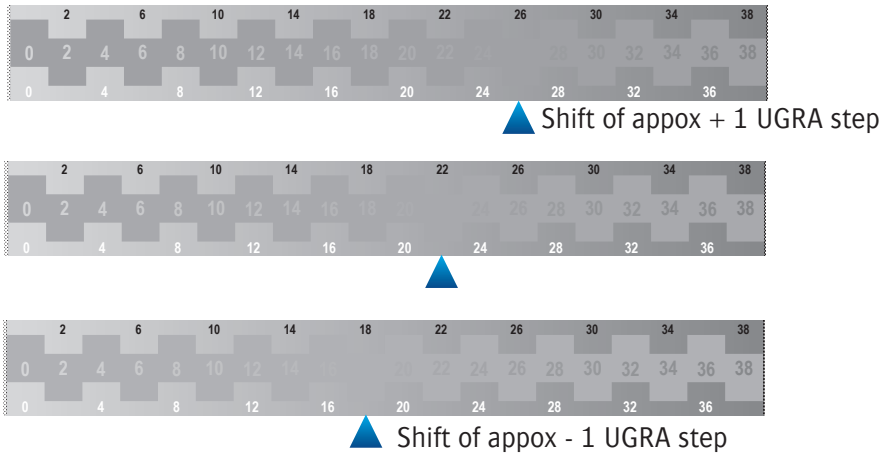
Example of match point



Latitude of Palladio wedge

The latitude which you can shift is max 2 steps (4 units) up and max 2 steps (4 units) down. This criteria is based on optimal clean-out and started from a correct platesetter set-up. This guide line is based on a ABS 150 lpi. The latitude of 2 steps needs possible adapted depending on the customer requirements.

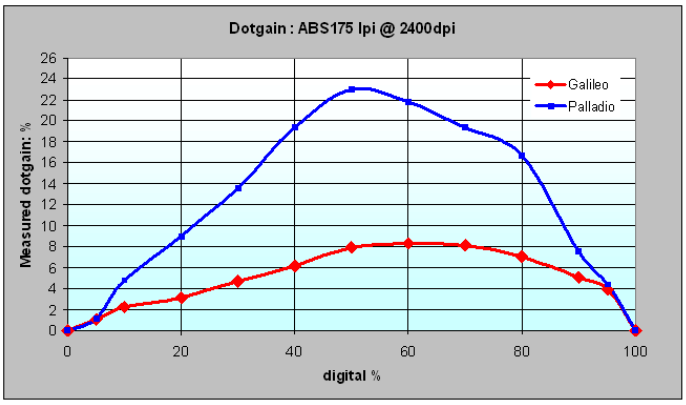
Example of Latitude



! **Only a combination of the conventional halftone wedge with the digital element allows to assess whether the plate is correctly exposed and the system is in good condition.**
The Palladio wedge is available on the service library. (Palladio Powerwedge V10 CYMK)

Dotgain @ correct exposure

The dot gain, measured on plate at correct exposure, is on :Azura Vi comparable as on N91V. The graph below displays a typical tone curve on the plate exposed on a Agfa Violet platesetters (2400 dpi) - measured with Techcon SpectroPlate



How to do the calibration / linearisation

- Start with linearisation of the plate
  - Disable any transfer curve and/or active Rip calibration
  - Image a plate with a step wedge of your uncalibrated screens - use the standard test file
  - Measure the user screen tone scale on the plate (Techcon Spectroplate)
  - Use the measured values for the linearisation curve (compensation dotgain)
  - Image a plate again with a stepwedge of your linearized screens (activate the linearisation curve)
  - Measure the linearised tone scale to check the linearised screens on plate

- Calibrate the plate
  - Once the plate has been linearized, the calibration curves can be put together. Mostly, an ISO standard, like ISO 12647-2, is used as reference.
  - Output a linearized tone scale, at the screen ruling the customer is using. Agfa's standard testform could be used for this test - (APP400X_IQ Universal.tif). Use the recommended settings, as mentioned in Module 7. Make sure the Clean-Out Unit is in good shape - (see further).
  - Print the plate up to the correct densities. For details, see ISO 12647-2 standard.
  - Measure the tone scale on the printed sheet
  - Set-up the desired customer calibration curves in the RIP.
  - There might be different curves for different types of paper.

    E.g. - For ISO 12647-2 is the target value is 66% (175 lpi - papertype 1) for a 50%
    - But your printed sheet reads 69%,
    - You need to compensate by 69% - 66% = 3%.
    - A 50% screen in the file needs than to be corrected to a 47% screen.

! Linearisation/ calibration of plate has always to be done with **fresh** clean-out gum. During the exhaustion dotgain can in crease with 1-2 % on plate (not on print).

Clean-out

Clean-out equipement

:Azura Vi is cleaned in fully automated plate clean-out unit. All necessary steps are automatically controlled and no interference from the operator is necessary.
Clean-out can be done in a dedicated clean-out unit or in a “classic” polymer processor

Dedicated clean-out unt : Agfa :VCF85

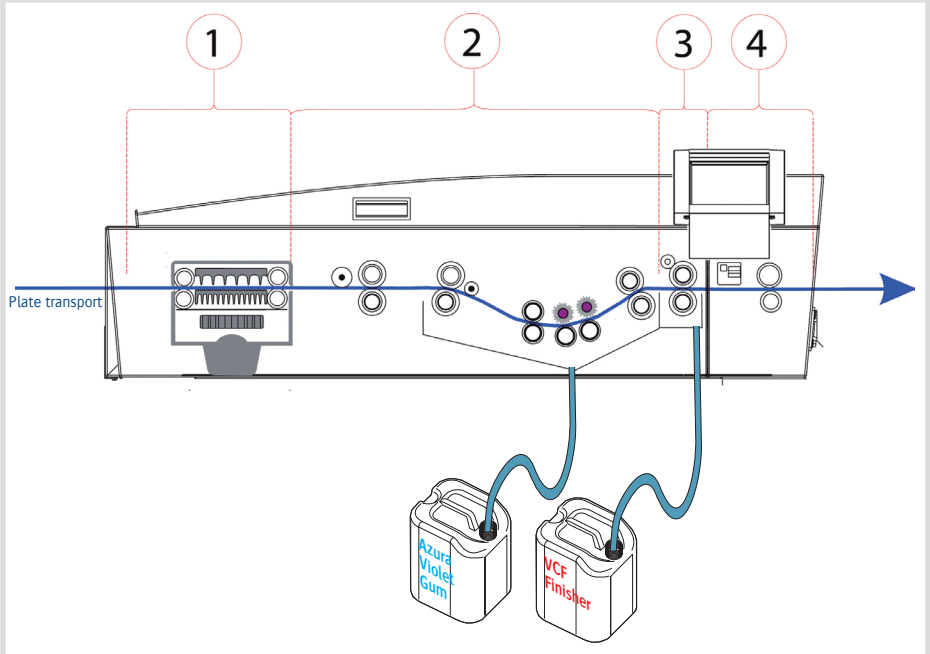
:Azura Vi has the following steps in a VCF85 :

1. Pre-heat : Hardening emulsion of the exposed plate by circulation of hot air (plate temperature of 116°C)

2. Gum 1 : Clean-out step to remove the non image parts of the coating After clean-out, only the exposed and cured image parts remain on the plate. The cleaning out is done with a dedicated clean-out gum :
Azura Violet Gum (bottles of 20L)

3. Gum 2 : Application of a thin layer of gum for plate protection
A dedicated **VCF finisher** is used (Bottles of 20L)

4. Drying : Final step is drying of the plate to ensure immediate handling of the plate



"Classic" polymer processor

:Azura Vi has the following steps in a "classic" polymer processor :

1. Pre-heat : Hardening emulsion of the exposed plate by circulation of hot air (plate temperature of 116°C) - Same as on N91v/Aspire

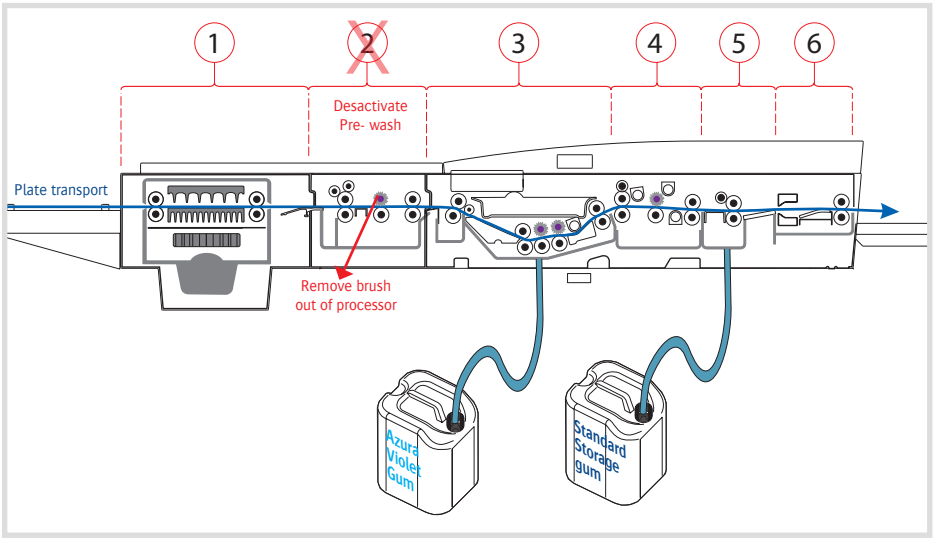
2.Pre-wash : Not used
Disconnect water supply and remove brush out of the processor.
This section is running dry.

3 Gum 1 Clean-out step to remove the non image parts of the coating After clean-out, only the exposed and cured image parts remain on the plate. The cleaning out is done with a dedicated clean-out gum (**Azura Violet Gum**).

4. Wash : Used in the same condition like N91v processing.
Water is removing residues of clean-out gum.

5. Gum 2 : Used in the same condition like N91v processing.
A **standard storage gum** can be used f.e. RC795 or Unifin or VCF Finisher

6. Drying : Final step is drying of the plate to ensure immediate handling of the plate.



"Classic" polymer processor with Mod- kit (Only Agfa processors)

:Azura Vi has the following steps in a "classic" polymer processor + Mod kit :

1. Pre-heat : Hardening emulsion of the exposed plate by circulation of hot air (plate temperature of 116°C) - Same as on N91v/Aspire

2. Pre-wash : Not used
Disconnect water supply and remove brush out of the processor.
This section is running dry.

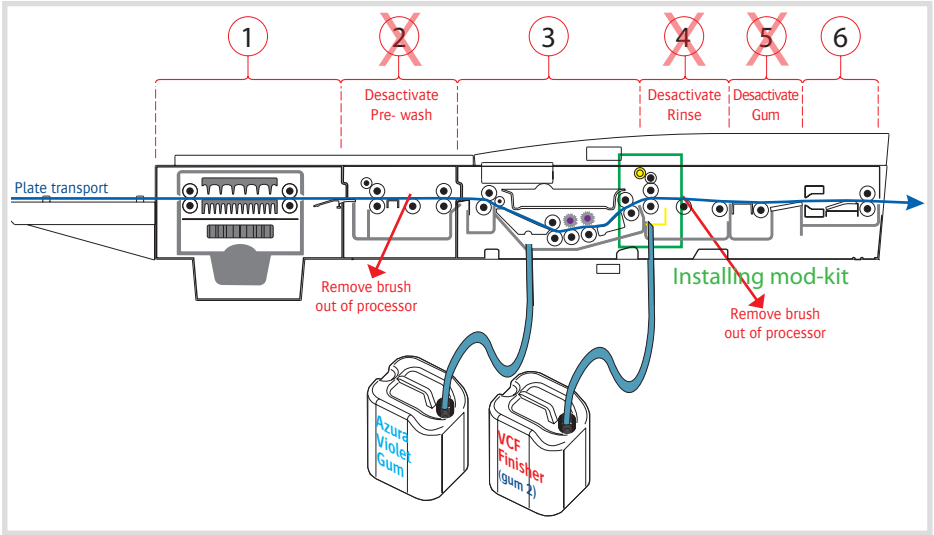
3a. Gum 1 : Clean-out step to remove the non image parts of the coating
After clean-out, only the exposed and cured image parts remain on the plate. The cleaning out is done with a dedicated clean-out gum (**Azura Violet Gum**)

3b Gum 2 : Application of a thin layer of gum for plate protection (Mod-kit)
A dedicated **VCF finisher** must be used (Bottles of 20L)
Separated of Gum 1 section

4. Wash : Not used
Disconnect water supply and remove brush out of the processor.
This section is running dry.

5. Gum : Not used

6. Drying : Final step is drying of the plate to ensure immediate handling of the plate



Processing

Processing speed

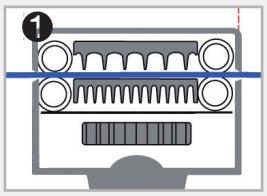
In VCF85 configuration, a processing speed of 1,2m/min is recommended. This speed gives in a VCF85 a dwell time of 22" (dip-nip). For a VPP we recommend a lower processing speed as a VCF85 (1,0m/min). For other "classic" processors the speed can vary depending on type processor (clean-out section).
Keep the following rules in your mind :

- Soak time should be minimal 10 seconds (time between dip and 1st brush)
- Total cleaning time (dip-to-nip) should be between 18 - 26 seconds

The recommended speed for the following processors are :

- VCF85 1,2 m/min
- VPP 1,0 m/min

Pre-heat



Preheating is a step that is integrated in the clean-out unit (or in a classic polymer processor). The preheating is controlled by temperature measuring strips that are stuck on the back of a fully coated plate.

How to check the preheat (evenness)

- Use the largest plate size that the customer is using (not re-using plates)
- Fog a fully coated (not cleaned) plate into white light (fresh plate)
  The different reflection behaviour of layer and plate could produce different temperatures.
- It is recommended to process approx. 2 m^2 subsequent plates before measuring the temperature on plate.
- Stick the thermostrips on the backside on different places (1cm of the edge) of the plate (to check the evenness) --> See below picture below

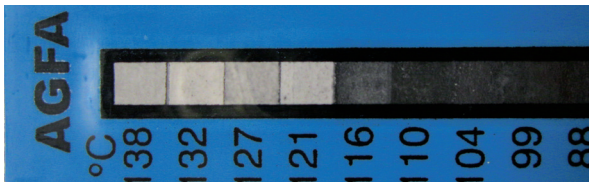
Processing direction

- The plate is preheated and cleaned as usual.
- Check the temperature on thermostrips on the backside of the plate
  The temperature readings on the plate shows multiple steps.
- The deviation between different plates should not be more than 1 step
  Multiple measurements are for some processors needed to check the stability of the pre-heat
- If needed adjust the pre-heat setting and recheck the temperature again
- Temperature should be between 104 and 121°C (ideal between 110 - 116°C)

Attention point :

* Please be aware that the temperature at the tail edge of the plate can be (depending on the processing equipment) up to 10°C (50 F) higher than the temperature at the lead edge.
* Temperature strips need to be stored in a cool and dry place

Temperature strips with a range of 88 - 138°C are used to measure the pre-heat temperature on plate.



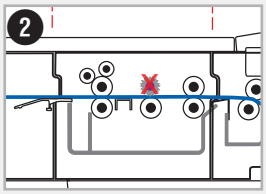
Advised settings for pre-heat for the following processors are :

- VCF85 125°C
- VPP 127°C

! This settings are advise values, but should be checked with temperature measuring strips

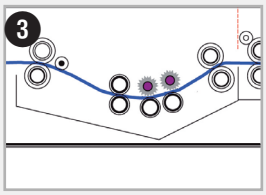
! This settings are with the advised processing speed (see topic processing speed)

Pre-wash



For Azura Vi is the pre-wash section not necessary.
Pre-wash section is not present in a VCF85.
In a "classic" polymer processor is the pre-wash section not used.
Water connection is disconnected and pre-wash brush should be removed out of the processor.

Gum 1/developer section



Gum 1 section (of VCF 85) is comparable to the developer section of a "classic" polymer processor (VPP). This section is filled with violet clean-out solution which has to clean the Azura Vi plaat. For a VCF85 G&J and VPP85 is 22L in the unit and 18l left in the bottle under the processor. (For VCF85 Lastra: 40 l in the bath and 20l under the unit). This bottle is connected with :

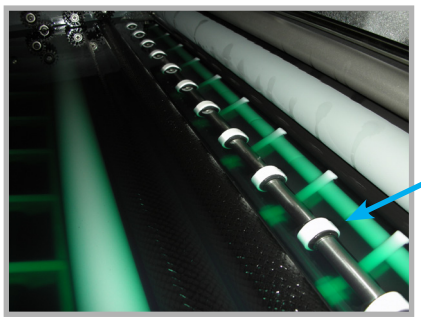
- Overflow Gum 1 / developer section
- Input fill-up pump
- Circulation pump

In the VCF85 is the hose (combination of 3 hoses) of the closed loop gum circulation marked with "Gum 1".
Circulation in gum 1 section is important to guarantee a good and even clean-out of the Azura Vi plate.
The Azura Violet Gum does not need a dedicated replenishment. There is only a need to compensate for evaporation and the amount of gum that is dragged out during processing.

The following settings are advised :

Processor / Clean-out unit	VCF 85 Lastra	VPP	VCF 85 G&J
Gum Temperature	24°C	24°C	24°C
Gum circulation	250 ml/m^2	250 ml/m^2	250 ml/m^2

! VPP processor : white rollers of the spray bar (behind the brushes) needs to be hard rollers. The standard soft rollers has to be replaced (mod- kit is available)

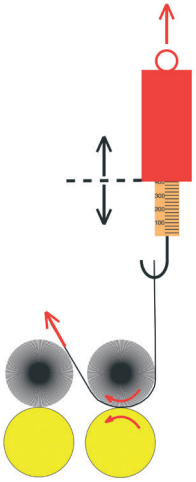


Brush adjustment

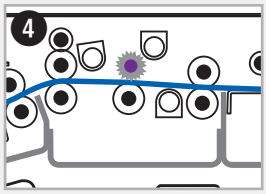
The brush adjustment, i.e. the setting of brush pressure, is done with the help of a strip of film and a spring balance (100 - 500g).

How to adjust brush pressure

- Fill the tank with gum.
- Put a strip of polyester film between a brush roller and a lower roller (or pressure plate). (10 cm wide, ca. 50 cm long, 0.19 mm thick or 4x20x1/128")
- Activate the brush drive (120 rpm) and hold the film strip with the spring balance against the rotation of the brush, pulling the spring balance vertically upwards.
- Adjust pressure to a balance reading of 300-350 g over the entire plate width.
- Repeat procedure for the other clean-out brush roller and the brush rollers in the rinse section.
  All brushes should be adjusted to the same settings.

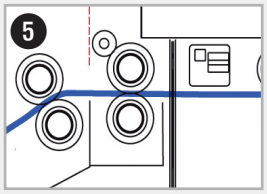


Wash



VCF85 has no wash section.
In a "classic" polymer processor the wash section is used for Azura Vi.
Here are no adaptations required if you are working with N91v or Aspire.
The target of the wash section is for moving the residues of clean-out gum which is contaminated with coating components.
A water connection to the water supply is needed for a "classic" polymer processor, which is not needed for a VCF85. Wash can be done with fresh water or with a water saving unit (ideally with fresh water replenishment). When using a water saving unit the water should be changed daily to prevent algae growth.

Gum 2



Gum 2 is the 2nd closed loop gum circulation system. The principle of this section is similar to a normal finisher unit. For a VCF85 is this Gum 2 section directly behind the gum 1 section. Only the VCF Finisher can be used in the VCF85 as gum 2. 2 different gums can create cross-contamination in gum1, which has a negative impact on the performance of gum 1. In the VCF85, gum 2 ensure the hydrophilic properties of the non-image areas. The gum 2 section ensure a uniform gum layer. The hose under the clean-out unit are marked "Gum 2". This hose contains input circulation pump and back flow from Gum 2 section.
For "classic" polymer processor is the gum section in the same conditions like for N91v or Aspire. Gum 2 for a "classic"polymer processor is a standard storage gum advise f. e. (RC795 or Unifin). Violet clean-out gum may NOT be used as gum 2 in a "classic" polymer processor.

Maintenance

Good maintenance minimize downtime and plate remakes.
We suggest to check regularly your clean out unit.

Frequency	Action
Daily	• Check volumes gum 1 and gum 2 • Check circulation gum 1 in the section • Check Gum 2 flows smoothly over the whole width of the finisher application roller • Check the evenness gum layer (no sticky plates) • Check that the plates are dry when they left the clean out unit
Weekly	• Check cleanness of the exit gum 1 end gum 2 roller • Check cleanness of the exit roller dryer • Check condition of gum 2 Replace gum 2 if the bottle is reduced with 70% or when it has a strong blue colour • Check water level in the chiller
Azura Violet Gum change	• Detailed description : see module 4 : Processors • Main steps of cleaning ◦ Drain gum 1 section ◦ Drain gum 1 filter ◦ Drain gum in the chiller (available for some processors) ◦ Refill with fresh Azura Violet Gum ◦ Start the rinse cycle from the control panel for 10' ◦ Drain and keep the clean-out gum for next plate processing ◦ Remove all rollers / spraybar / guide plates and wash the roller with fresh clean-out gum in a sink ◦ Jet gum 1 with cold tap water: limit the use of water ◦ Use a wet sponge sopped in fresh clean-out gum and remove all blue coating residue ◦ Replace or clean the filter ◦ Mount all rollers / spraybar / guide plates ◦ Refill the clean-out unit with the clean-out gum which is used during the rinse cyclus

Maintenance short procedure

The short procedure for cleaning the unit has already approved by the field. However an in-depth cleaning is advised on regular base. The short procedure prohibits using a sponge or rag for cleaning the section.

What	Action

Azura Violet Gum change - short procedure	• Main steps of cleaning
	  • Drain gum 1 section
	  • Jet gum 1 with cold tap water: limit the use of water - don't use any sponge or rag. Just jet and drain all water and sludge.
	  • Remove all rollers / spraybar / guide plates and wash the roller with fresh clean-out gum in a sink
	  • Drain gum 1 filter
	  • Drain gum in the chiller (available for some processors)
	  • Refill with fresh Azura Violet Gum - start plate processing

Processing gum

Gum 1

The clean-out solution for the :Azura Vi is Agfa :**Azura Violet Gum.**
It is ready to use and has a working temperature of 24°C +/- 2°C (75F) .

Key properties of clean-out solution

- Water based solution with as main components :
  - Gum substance --> plate protection
  - Surfactant --> clean-out properties / keeps washed-off coating in solution
- pH of Azura Violet Gum : pH ± 9,2
  - pH below 8,5 gives clean-out problems
- Viscosity of gum is 1,7 Cp which increased during the exhaustion
  - Good circulation (in gum 1) is required for a stable clean-out

- Shelf-life of Azura Violet Gum :
  - 24 months
  - Storage : 4°C - 35°C
- ABC code VCF Finisher : 4MXGK

Gum 1 lifetime

The following lifetimes are advised for processors with a width of 85 cm :

Processor / Clean-out unit	VCF 85 Lastra	VCF85 G&J VPP85
Working volume (L) Gum 1	60L	40L
Max. plate area (m^2)	900	600
Max. gum Life time (weeks)	6	4
Gum 1 consumption (mL/m^2)	66	66

Gum 2

- In VCF 85 : Dedicated VCF finisher is used
  Time / m^2 exhaustion level is not defined yet
  Evaporation is the limitation. Recommended to use smaller bottles to limit the evaporation.

- "Classic" polymer processor : standard Machine storage gum can used
  - Agfa **RC795** ready-to-use finisher
    Dilution up to 1 + 1 volume parts of water possible.
  - Agfa **Unifin** ready-to-use finisher (recommendable as general purpose gum)
    Dilution up to 1 + 1 volume parts of water possible if the plate is not baked.
  - Agfa **VCF Finisher** - ready-to-use finisher. Dilution is not recommended.

- ABC code VCF Finisher : 4LPOR

Gum 2 lifetime

Processor / Clean-out unit	VCF 85 Lastra VCF 85 G&J	VPP
Working volume (L) Gum 2	20	20/10
Max. plate area (m^2)	900	-
Max. gum Life time (weeks)	4-6	4-6

Compatibility

pH	Chemistry	N94 VCF	Azura Vi	Aspire/N91V
7,2	Violet CF Gum NP	Recommended chemistry	No clean-out	No clean-out
9,2	Azura Violet Gum	Possible with limitation	Recommended chemistry	No clean-out
12,5	PL10 / PL10Ri	Possible with limitation	Possible	Recommended chemistry

<u>Processing N94-VCF in Azura Violet Gum:</u>
No field experience has been obtained yet.
Possible disadvantages:

- Engine power needs to be adapted
- No experience on runlength for N94-VCF.
- Storage of N94 VCF can be limited

Baking step

Pre-treatment

:Azura Vi can be baked*. The plate must be pre-treated with non-diluted RC510.
The baking gum can be added in the developing machine, replacing the regular gum.

In mixed processing (baked and non-baked plates), baking gum RC510 has only short storage properties. An additional rinse-gum unit is needed if long term storage is needed.

Baking

The actual Thermodur step should be done in a **travelling oven** at a speed of 0.7 m/min (27 in/min) at a temperature of 270°C (518 F) or in a **stationary oven** (5 min at 240°C/464 F).
After baking the colour of :Azura Vi is not changed.
Deletion of a baked :Azura Vi image is possible with an Agfa polymer deletion pen.
But the correction time is 4 times longer of a non-baked image.

Post treatment

Although usually the baked plates need no special post-treatment.
It might be advisable to wash off the baking gum after the Thermodur step and treat the plate either with UNIFIN / RC795 . This procedure might be advisable if the plates has to be stored for more than 1 day before printing.

* No field experience today.

Auxiliary agents

For a more efficient use of :Azura Vi, Agfa recommends the use of the dedicated Agfa pressroom solutions. As both Plates and Agfa pressroom solutions are developed alongside each other. Agfa pressroom will provide you the best combination of plate and pressroom chemistry for offset printing, ensuring a stable production environment.

Fountains

:Azura Vi is compatible with a wide range of fountains.
All Agfa founts are compatible with :Azura Vi :

- Prima FS303 SF — Sheetfed - FOGRA approved
- Prima FS404 AS — Sheetfed - FOGRA approved - IPA reduced
- Prima FS605 — Sheetfed
- Prima FS808 AF — Sheetfed - FOGRA approved - IPA free
- Prima FS909 AF WEB — Heatset - FOGRA approved - IPA Free
- Antura Fount AFS1 — Sheetfed - FOGRA approved - IPA free

Plate care

A lot of competition platecare products can cause damage on the image of the :Azura Vi plate. We strongly recommend to use the Agfa plate care products which are compatible with the :Azura Vi plate.

- CtP Plate cleaner — General Plate cleaner
- Cleangum — Washout storage gum (short term storage)
- Reviva Plate — Scratch remover liquid
- Reviva Plate pen — Pen for removing scratches
- PlateEtch Plus — Desensitizer

For manual gumming the following gums can be recommended :

- Agfa Stabigum **RC73** as medium - long term storage gum
- Agfa **Aragum RC71** arabic gum for long term storage (blinding is a potential risk)
- Agfa **Cleangum** as cleaner- gum (short term storage) *

* could be critical for fine screens.

Deletion correction

Minus corrections can be made on non-baked or baked plates with the Polymer deletion pen.

How to do a deletion with Polymer Deletion pen

- The gumming must be washed off with water
- After applying the fluid, the plate layer dissolves (this can take up to 20sec.)
- Wipe off the solved coating with a damp sponge.
- If necessary the procedure can be repeated until the layer is fully removed.
- Wipe with an Agfa dedicated plate cleaner over the corrected area and remove with water the cleaner. Desensitising needed to prevent toning of the solved coating.
- After correction, the plate must be gummed again (with standard storage gum and not with the violet clean-out gum).

Baked plates need more and harder rubbing by the Polymer deletion pen.

Addition correction

For addition corrections, the correction pen **KC091** can be used.

How to do a addition correction with KC091

- The gumming must be washed off
- Dry the addition area (should be fully dry) - preferably using a hot-air dryer.
- Make the addition correction.
- The correction fluid must be dry which can also be supported by a hot-air dryer.
- The plate must be gummed again (with standard storage gum and not with the Azura Violet Gum).

Waste Disposal

When disposing of liquid waste, i.e. used processing agents, cleaners and rinsing water, please make sure to observe applicable legal regulations in your country.
If draining of liquid waste in the sewers is banned, the waste must be collected and disposed of accordingly.
For detailed information please contact your local water board.

Processor cleaner

For cleaning of the clean-out section of the processor, we recommend

Fresh clean-out gum

For detailed instruction please check chapter “Maintenance” in this document. A technical note is also available on the AGFA Service Library.

MSDS

Safety data sheets for all Agfa agents are available on intranet

http://intra.agfanet

- choose environment
- choose EHS product information

Lithostar conversion

Platesetter

Laser power	Min. 30mW Galileo needs a 60mW carriage.	●
Productivity	Max. of platesetter	
Technician for optimizing (power - focus - plate transport)	Needed Power: 2,5 -> 45microJ/cm²	●

Processor

Used processor	Change to VCF85	●
Water supply	Not needed	
Power supply	1 x 11Amp (230V)	
Floor space	1,75m² (-24%)	
Stacker	Lithostacker cannot be used anymore	
Dark room	V50 light tubes	
Online connection	LP150 processor has to be replaced by **L-bridge** + COU	

Chemistry

Gum consumption	66 ml /m² (-75%) - (LAP-V: 270ml/m²)	
Waste generation	66 ml /m² + cleaning water	
Exhaustion cycle	900 m² (+25m²) or 6 weeks - (LAP-V: 1200m²)	
Processing stability	Stable	
Processing latitude	Wide	
Room conditions	Temperature: 22°C ± 4°C Relative humidity: 45% ± 5% **Lithostar is not sensitive for room conditions.**	●
Cleaning	**1 hour - (LAP-V: 4 hours)**	

Plate characteristics

Max. screening AM	ABS 200	
Max. screening FM	**Not supported**	●
Max. screening Hybrid	Sublima 210 H2S4 Different as Sublima as Lithostar SUB210 (H2S2). **XM screening not supported on all platesetters.**	●
High light reproduction	OK	
Shadow reproduction	Linearization needed	●
Evenness	< 2%	
Linearization	Not linear plate - Linearization is needed	●
Plate storage (after processing)	> 14 days	
Chemical resistance	Close to LAP-V	
Shelf life	18 months - (LAP-V: 36 months)	●
Fingerprints sensitivity	Sensitive as Lithostar	
Scuff sensitivity	None	
Plate handling sensitivity	Sensitive as Lithostar	
Latent image	< 10 min. Not present at Lithostar - important for manual systems	●

Press characteristics

Ink acceptance	OK
Blinding sensitivity at startup	No blinding
Blinding sensitivity during the run	No blinding
Water behavior	OK
Dry start	OK
Dotloss	3 % (fast dotloss) **Not existing on Lithostar**
Runlength conventional	150.000 runs - depending on printing conditions **Lithostar > 200.000 runs**
Runlength UV inks	Limited compatible **Lithostar can do UV ink**
Mechanical resistance	OK

Summary

Lithostar is the plate with an extreme broad application.

- Main attention points
  - Platesetter needs min. 30mW laser.
  - Lithostar has a much higher resolution as Azura Vi.
  - Chemical resistance is slightly more critical.
  - Room conditions are more critical for Azura Vi.
  - Latent image not present by Lithostar (attention point for manual systems)
  - Linearization is needed (compensation dotloss to be included)
  - Runlength is lower for Azura Vi
- Strong points of Azura Vi
  - Ecologic processing
  - No chemistry, only clean-out gum
  - Easy maintenance

Contact

For further information :

- Cenral support e-mail address
  platesystemsupport@agfa.com

  Central support hotline
  +32 34 44 74 44

- Marketing
  - Reinhilde Alaert ext. 4179