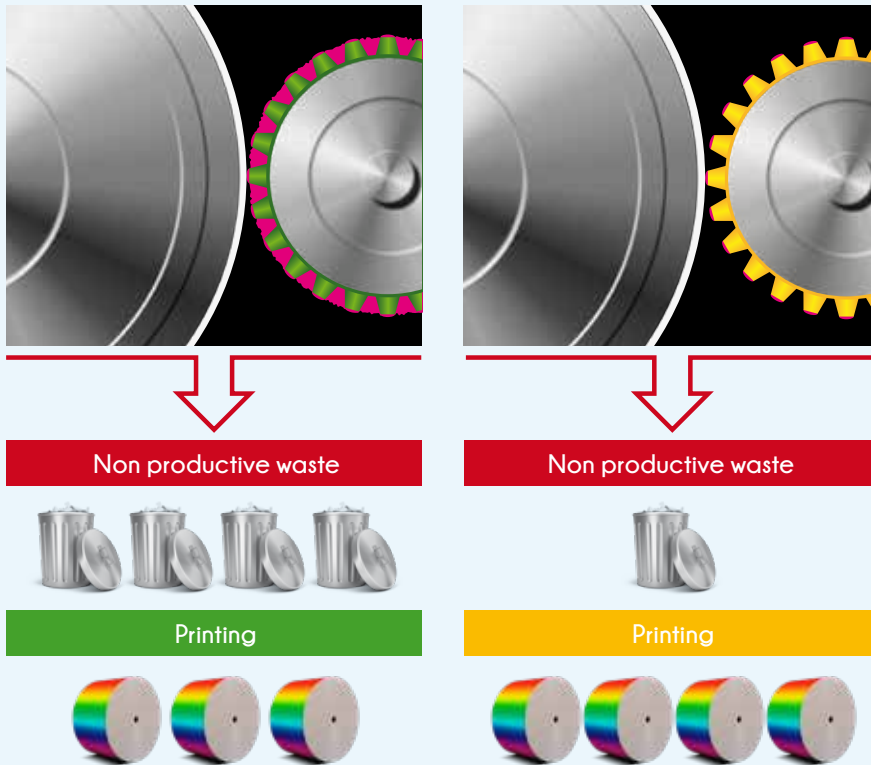




CleanPrint and its advantages

Press profitability based on printer cleaning stop reduction

CleanPrint plates have been specifically engineered to transfer all remaining ink to the printed substrate. This is due to the plate's lower surface energy. Pinning plates do not need to be cleaned as often as the conventional digital solvent plate. The reduction of press cleaning stops creates a significant profitability improvement to the printer as explained in the calculation example below.



Summary of CleanPrint

- CleanPrint allows for a low printing pressure, the plates last longer in the printing press
- Dot gain is reduced because of less pressure and CleanPrint
- Improves the printer profitability
- Is working well with fixed colour palette solution as it requires constant printing result
- New way plate surface energy reduction by plate solution
- Can fit easily into repro house existing digital work flow

AWP™-DEF/DEW is showing a high yield of printed material vs. the conventional solvent plate

Summary of the OEE Advantage

Printer	Sample Case: Film printer with CI press and waterbased inks. Anilox volume 4 cm ³ /m ² at 400l/cm. Press Speed 350 m/min.	Insert your Parameters:
Printers Shifts	3/24 hours	
Working days per Year	240 days	
Machine cost per hour ^①	350 Euro	
Total operating cost	€ 2.016.000	
OEE AWP™-DEF/DEW plate ^②		65%
Machine uptime cost	€ 1.310.400	
Non production cost	€ 705.600	
OEE Solvent plate ^②		49%
Machine uptime cost	€ 987.840	
Non production cost	€ 1.028.160	
OEE Advantage AWP™-DEF/DEW vs. solvent: 33% = € 322.560		

^① labour cost, machine depreciation, overheads such as electricity, water and gas, storage, machine space etc.

^② OEE data may vary from customer to customer. This example is a sample calculation experienced at a customer.



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Asahi Photoproducts Distributor:

creating for tomorrow



AWP™-DEF/DEW

premium plate with CleanPrint



Asahi's AWP™-DEF/DEW digital flexo plates feature CleanPrint, which allows a kiss touch printing pressure setting with constant repeatability of printing quality during the production run.



AWP™-DEF/DEW



AWP™-DEF/DEW - driving print forward in balance with the environment

AWP™-DEF/DEW our water wash plate development is a unique plate making technology and a beneficial alternative to other print processes. It incorporates CleanPrint which provides a simple way to improve print quality. High printing resolution, bright pictures and excellent press performance are a small selection of all the advantages you can get out of the CleanPrint AWP™-DEF/DEW plates, and that will help you save time and money, reduce waste and assist in preserving precious energy resources. The system enables the necessary control to consistently reproduce the finest image quality time after time.

AWP™-DEF/DEW is in the center of our future product development

A particular feature of the AWP™-DEF/DEW technology is the excellent plate dimensional stability. As the plate is processed in water without the use of aggressive solvent or high temperature, AWP™-DEF/DEW is very quick in press make ready hitting perfect colour to colour registration at first time (1).

AWP™-DEF/DEW is Asahi's Best-In-Class performer in the label printing segment using UV based inks, but can equally be used with a variety of substrates in water and solvent based ink applications. Another feature of the plate is its limpness. Particularly if small cylinder diameters are used, the plate edges remain on the cylinder without any danger of plate lift-off during the production run (2).

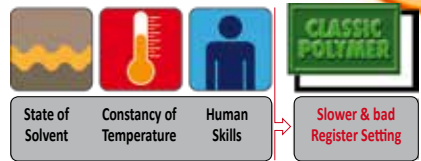
As environmental legislations are gaining increased momentum, the water wash AWP™-DEF/DEW plate technology is Asahi Photoproducts key future technology product driving print forward in balance with the environment.

AWP™-DEF/DEW the »home« of Fixed Colour Palette printing

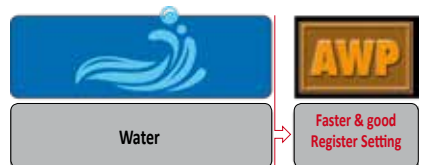
With the arrival of the new technique of Fixed Colour Palette (3) printing to penetrate the flexographic market, we believe that AWP™-DEF/DEW is the home of the Fixed Colour Palette printing technique. Fixed Colour Palette is eliminating the use of spot colour printing and uses four or seven process colours to simulate spot colours. To achieve this difficult challenge, it is particularly important to ensure a perfect plate to plate registration and also a stable print quality over the whole production run to make sure that there is no deviation in Delta E colour shift. AWP™-DEF/DEW is fulfilling those challenging requirements with a perfect fit for purpose for this exciting printing technique.

AWP™-DEF/DEW Benefits at a glance:

- consistent Plate reproduction
- very high plate resolution makes small printing dots
- plate making time usually under one hour
- only 5 minutes drying required at low temperature of 40 °C
- perfect plate registration properties (1)
- stable print production run
- excellent ink transfer with CleanPrint
- durable plate capabilities improves plate life time on press
- vignettes fading out towards zero
- superb plate limpness for small printing cylinder (2)
- CleanPrint reduces press cleaning stops
- driving print forward in balance with the environment
- plate registration and plate printing stability facilitate the printing offixed Colour Palette techniques (3)



1 Conventional Plate: Influence of Register



1 AWP™-DEF/DEW Plate: Influence of Register



2 Conventional Plate: plate lifting



2 AWP™-DEF/DEW: no lifting



3 FixedColourPalette: 4 or 7 Process Colours

Plate specification and processing recommendation

	AWP™-DEF/DEW Digital Plate	
Plate specifications	1,14 mm	1,7 mm
Shore A Hardness (Teclock)	77	70
Applications	Film, Coated Paper and Label	
Ink recommendation	Water based, Solvent based and UV based Inks	
Resolution digital	175 lpi	175 lpi
Tonal range	1-98%	1-98%
Isolated line	80 µm	80 µm
Isolated dot	150 µm	150 µm
Dispro K-factor	5,98	9,89
Plate colour	yellow	yellow

❶ The mJ intensity is measured by ORC. To calculate the equivalent exposure time in sec. The following formula can be used:

$$\frac{\text{ORC target exposure mJ}}{\text{measured light output mW/cm}^2} = \text{sec}$$

❷ The mentioned plate making conditions are particular to the Asahi Photoproducts technical centre equipment and cannot be transferred. The values should be used with caution and understood to be a best practice start-up values for testing the plate making condition as explained in the Asahi Photoproducts AWP™-DEF/DEW training manual.

❸ In case the light intensity is not measured with ORC, but with Kuehnast, the following conversion can be used:

$$\text{UVA: } \frac{\text{Kuehnast mW/cm}^2 \text{ measurement}}{1,43} - 0,63 = \text{ORC mW/cm}^2$$

$$\text{UVC: } \frac{\text{Kuehnast mW/cm}^2 \text{ measurement}}{2,1} - 1,1 = \text{ORC mW/cm}^2$$

	AWP™-DEF/DEW Digital Plate	
Plate processing parameters ❶ ❷ ❸	1,14 mm	1,7 mm
Plate bump-up at 133 lpi (54 l/cm)	4%	4%
Plate bump-up at 150 lpi (60 l/cm)	4,5%	4,5%
Plate bump-up at 175 lpi (70 l/cm)	5,5%	5,5%
Plate bump-up at 200 lpi (70 l/cm)	6,5%	6,5%
Back flash	1100 mJ	750 mJ
Relief depth (test target)	0,6 mm	0,6 mm
Laser imaging	2,8-3,0 J	2,8-3,0 J
Front exposure	8000 mJ	8000 mJ
Wash-out speed/minute	20 - 30 min	20 - 30 min
UVA post exposure	1000 mJ	1000 mJ
UVC light finishing (max.)	1500 mJ	1500 mJ

Full HD Setting 1,14; 1,7														
	Plate Back Exposure	UV Diode				Laser Power	Screen set/ Bump-up HD screen/ Bump-up Circular FTD					Pixel Boost		
		mJ (0,5 mm P)	RPM	Exp. Sec	Dot Fail		UV mW	Mask mJ	124 dpi screen	133 dpi screen	149 dpi screen	174 dpi screen	198 dpi screen	WSI
Customer A		5					C25TPH SD10/1,4	C25TPH SD10	C19TPH 7/1,3/1,5	C19TPH SD04	C16TPH SD04			
Customer B		5	600	20	22	3,8						220	200	140

AWP™-DEF/DEW Summary

- Hard type hardness premium photopolymer plate allowing high screening resolution
- Smooth tonal transitions with highlight dots fading down to zero
- Finest transition allow job transfer from other printing technologies over to flexo
- Plate compatibility with solvent, water and most UV based inks
- Capability to improve printers profitability thanks to less plate press cleaning stops



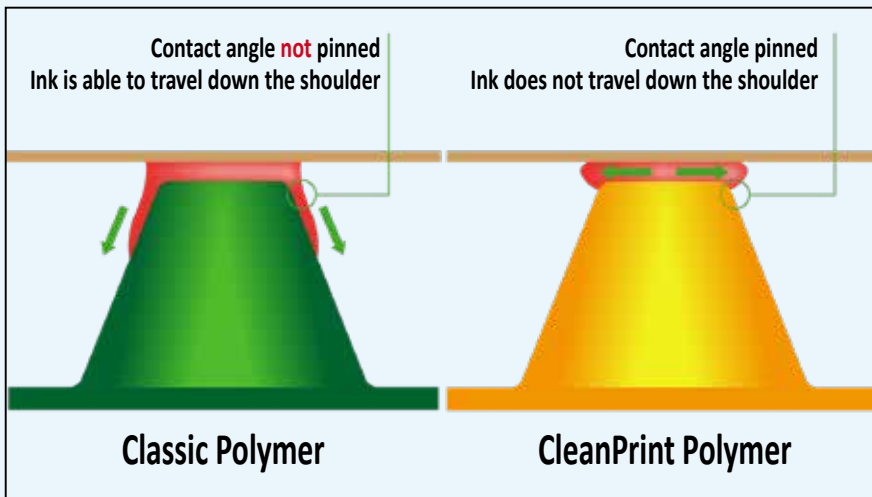
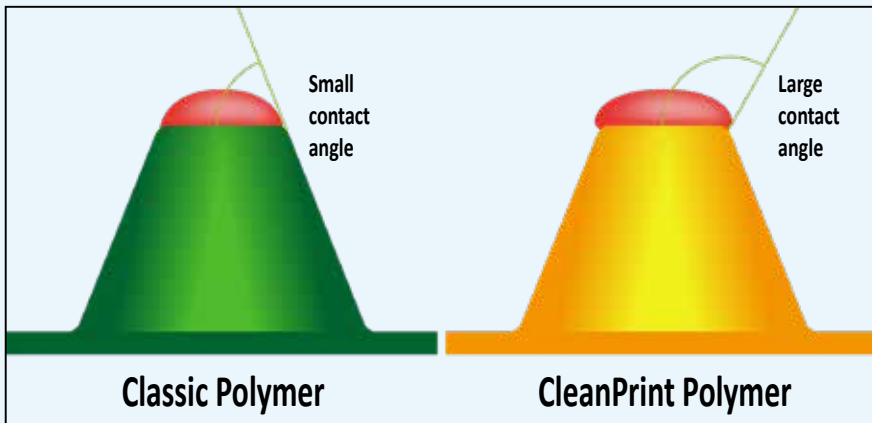
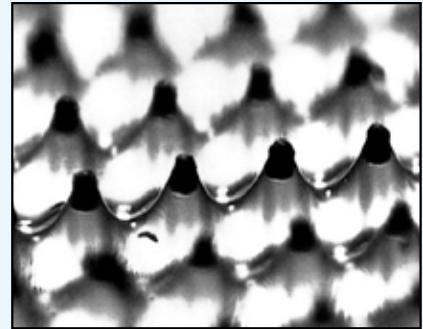
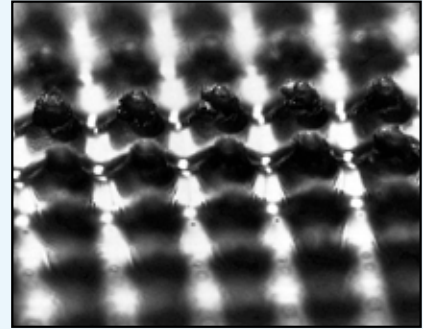
CleanPrint and its advantages

The features of CleanPrint

Asahi's AFP™-DEF/DEW plates feature CleanPrint, which is designed to facilitate kiss-touch printing pressure. Lighter printing impression produces constant repeatability of printing quality during the production run. This characteristic is achieved, by engineered photopolymer chemistry, reducing the surface energy of the printing plate.

CleanPrint has the beneficial effect of reducing the ink filling in at the mid-tone area during the printing run leading to fewer cleaning intervals and downtime for the printer. The graphical printing performance, and the improvement of the printers profitability was at the focus of Asahi's CleanPrint plate development. The plate Technology, of AWP™-DEF/DEW improves press uptime during the printing process. That way, CleanPrint becomes a synonym for performance and profitability in one. The AWP™-DEF/DEW plates are a product solution, which can easily fit into existing customer environments without the need of additional machine investment.

This flexibility enables the customer to react to changing market demands and trends whilst ensuring that the business efficiency improvement is sustainable. Furthermore AWP™-DEF/DEW can be used with the high definition screening and microcell patterning technologies.



The CleanPrint polymer plate features a reduced surface energy and thus enables a better ink transfer to the substrate