creating for tomorrow

Asahi Photoproducts

AsahiKASEI

AFP™-BFTH

First Built-In FlatTop plate to include CleanPrint™

CleanPrint™

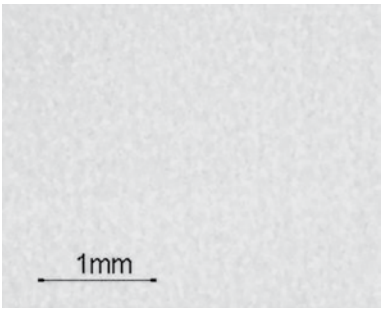
AFP™

Asahi´s AFP™-BFTH digital flexo plate features CleanPrint™ which allows a kiss-touch printing pressure setting with constant repeatability of printing quality during production runs and advanced homogeneous solid ink transfer.
No special workflow or equipment is required.

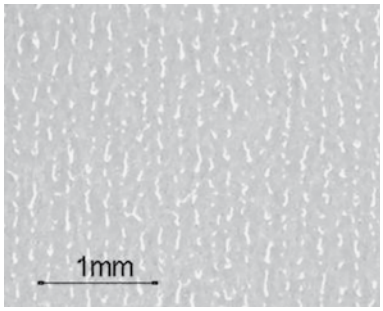
AFP™-BFTH

Description

- The AFP™-BFTH plate is the first FlatTop plate with CleanPrint™ that keeps the printing plates clean during print production runs, which allows consistent print quality and advanced solid ink homogenity.
- The plate is available in 1,14 and 1,7 mm as a hard plate (77°, 69° Shore A).
- The BFTH plate functions well with water-, solvent- and UV-based inks.
- In combination with solid area micro-screening technologies (❶+❷), it is possible to achieve 100% homogenous solid area coverage (❸) without any visible substrate voids. (❹)
- The BFTH plate fits seamlessly in all platemaking workflows available today, including standard tube UV, high energy UV diode exposure or FULL HD imaging systems.



3 Advanced solid ink homogenity with BFTH

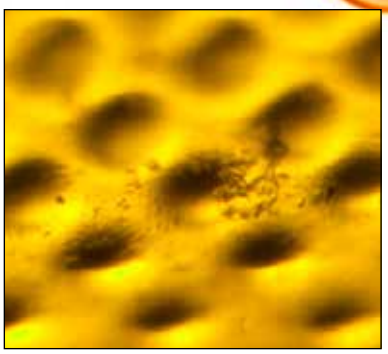


4 Poor solid ink homogenity with standard plate

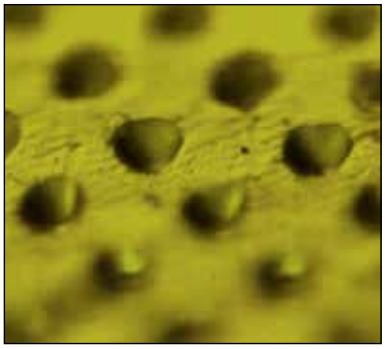
AFP™-BFTH Advantages

The details

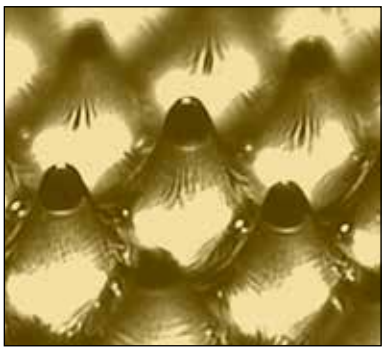
- FlatTop plate out of the box. No special workflow or equipment required. Compatible with any workflow, including UV tubes, UV LED or FULL HD exposure systems.
- With perfect printing balance between highlights and solids, delivers advanced homogeneous solid area coverage in combination with solid screening patterns. Exceptional printing performance with solvent- or water-based inks on film or coated paper and label substrates.
- Good performance for long run printing jobs. Very consistent print result on abrasive printing substrates from the start to the end of a job.
- CleanPrint™ enables significant improvement in printing press OEE; Reduced ink filling, particularly important for mid-tone printing, means fewer press stops for plate cleaning and consistent printing quality over the entire production run.



1 Poor reproduction of microcell structure on standard plate



2 Good reproduction of microcell structure on BFTH plate for advanced solid ink homogenity



5 Round Top Plate

6 Built-In FlatTop

AFP™-BFTH

Plate specification and processing recommendation

	AFP™-BFTH	
Plate specifications	1,14 mm	1,7 mm
Shore A Hardness (Teclock)	77	69
Applications	Film, Coated Paper and Label	
Ink recommendation	Water based, Solvent based and UV based Inks	
Resolution digital	175 lpi	175 lpi
Tonal range	1-95%	1-95%
Isolated line	80 µm	80 µm
Isolated dot	150 µm	150 µm
Dispro K-factor	5,98	9,89
Plate colour	green	green

	AFP™-BFTH	
Plate processing parameters ❶❷❸	1,14 mm	1,7 mm
Plate bump-up at 133 lpi (54 l/cm)	2%	2%
Plate bump-up at 150 lpi (60 l/cm)	2%	2%
Plate bump-up at 175 lpi (70 l/cm)	2%	2%
Back flash	680 mJ	650 mJ
Relief depth (test target)	0,6 mm	0,6 mm
Laser imaging	3,0 J	3,0 J
Front exposure	4000 mJ	4000 mJ
Wash-out speed/minute	140 mm	160 mm
UVA post exposure	1000 mJ	1000 mJ
UVC light finishing (max.)	1000 mJ	1000 mJ

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

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

❷ The plate making conditions cited herein are specific to Asahi Photoproducts technical centre equipment and cannot be transferred. Values should be used with caution and understood to be best practice start-up values for testing the platemaking conditions as described in the Asahi Photoproducts AFP™ training manual.

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

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

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

AFP™-BFTH

Summary

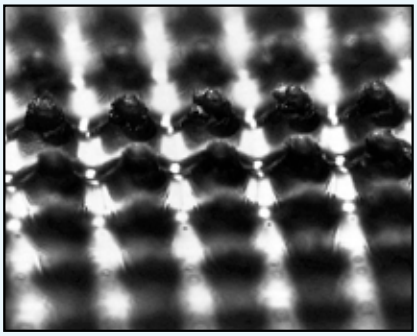
- Hard FlatTop photopolymer plate allowing advanced solid ink homogenity in printing.
- Capable for the reproduction of the finest stochastic pixel screens in the market.
- Smooth tonal transitions with good highlight dots.
- Finest transition allows job transfer from other printing technologies to flexo, increasing versatility for flexographic printing operations.
- Plates are compatible with solvent-, water- and most UV-based inks.
- Improves productivity and OEE due to significantly fewer press stops for plate cleaning.

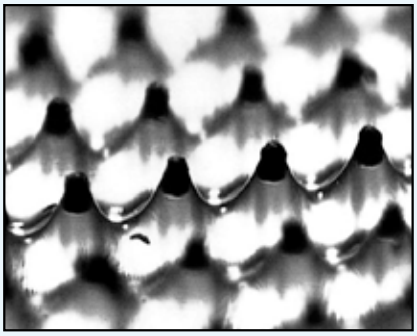
Advantages of CleanPrint™ with AFP™-BFTH Plate

The features of the CleanPrint™

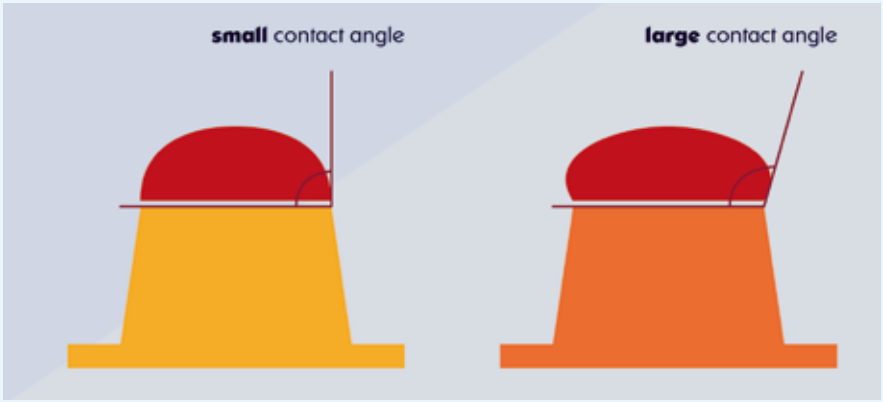
The Asahi AFP™-BFTH plate is the only FlatTop plate in the market that features premium CleanPrint™, enabling kiss-touch printing pressure and a clean print. Lighter printing pressure brings constant repeatability of printing quality during the production run as well as longer plate life. This characteristic is achieved with a unique Asahi-engineered photopolymer chemistry that reduces the surface energy of the printing plate and enables better ink transfer to the substrate during printing.

AFP™-BFTH plate fits seamlessly into existing customer environments without the need for additional equipment investments or process changes. This flexibility enables customers to react to changing market demands and trends, and keep a sustainable business efficiency improvement. Furthermore, AFP™-BFTH plates are ideal for use with high definition screening and microcell patterning technologies.

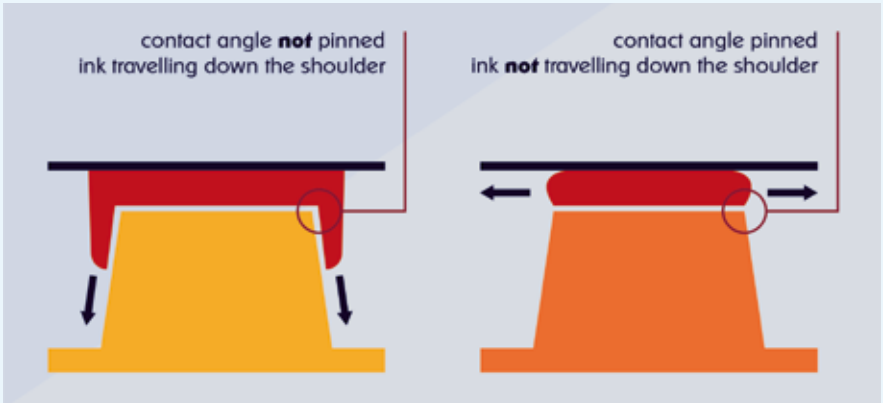




The CleanPrint™ Plate features a reduced surface energy and thus enables a better ink transfer to the substrate



Classic Polymer | CleanPrint™ Polymer

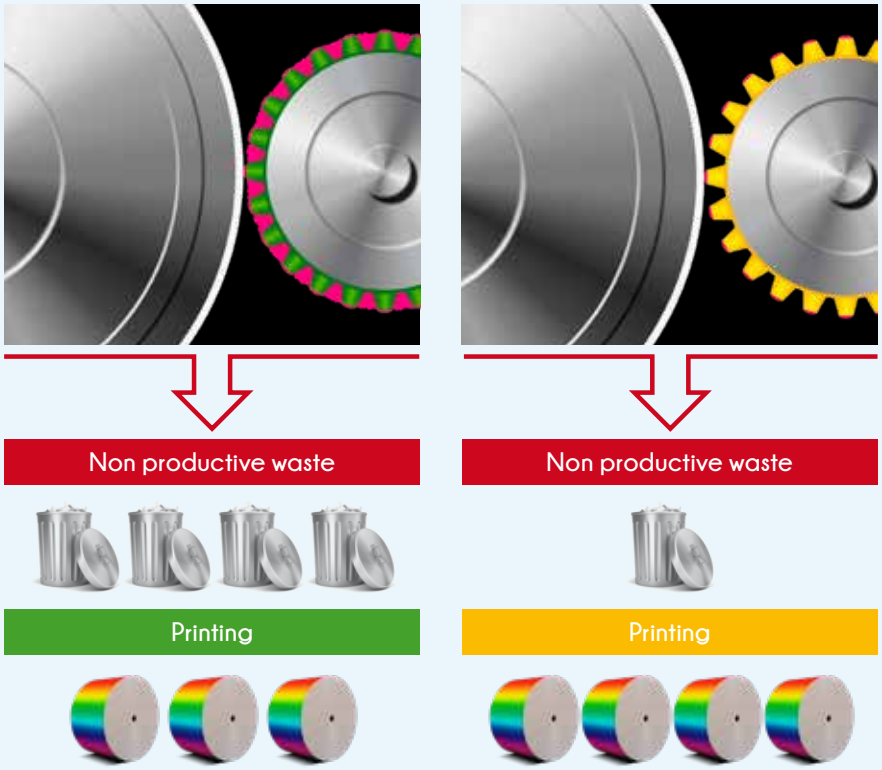


Classic Polymer | CleanPrint™ Polymer

CleanPrint™: A Production Advantage

Improved press productivity with reduced press stops for plate cleaning

CleanPrint™ plates from Asahi have been specifically engineered to transfer all remaining ink to the printed substrate. This is due to the plate's lower surface energy. CleanPrint™ plates do not need to be cleaned as often as conventional digital solvent plates. Reduction of plate cleaning stops creates a significant productivity improvement, as shown in the example calculation below.



Summary of CleanPrint™

- With the low printing plate pressure of CleanPrint™, plates last longer on press.
- Dot gain is reduced because of less pressure and the benefits of CleanPrint™.
- CleanPrint™ improves productivity, reduces waste and increases throughput due to increases in uptime and overall equipment effectiveness (OEE).
- CleanPrint™ works well with fixed color palette printing, delivering constant repeatability of print quality during production runs.
- Lower surface energy results in complete transfer of ink to the printed substrate and reduced press stops for plate cleaning.
- Seamlessly fits into existing digital workflows for any platemaking operation.

Summary of the OEE Advantage

Printer	Sample case: Film printer with CI press and NC solvent based inks. Anilox volume 3,5 cm3/m2 at 470 l/cm. Press speed 180 m/min.	Insert your parameters:
Printers shifts	3/24 hours	
Working days per year	240 days	
Machine cost per hour ❶	350 Euro	
Total operating cost	x 2.016.000	
OEE AFP™-BFTH plate ❷	58%	
Machine uptime cost	x 1.169.280	
Non production cost	x 846.720	
OEE Solvent plate ❷	49%	
Machine uptime cost	x 987.840	
Non production cost	x 1.028.160	
OEE Advantage AFP™-BFTH vs. solvent: 18% = € 181.440		

❶ labor cost, machine depreciation, overheads such as electricity, water and gas, storage, machine space etc.

❷ OEE data may vary from customer to customer. This example is a sample calculation experienced by a customer.

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Asahi Kasei Corporation
Photoproducts Division

1-1-2, Yurakucho, Chiyoda-ku,
Tokyo 100-0006, Japan

Phone: +81(3)6699-3353
E-mail: info@asahi-photoproducts.com

Asahi Photoproducts
(Europe) n.v./s.a

Paepsem Business Park
Boulevard Paepsem 22
B-1070 Brussel, Belgium

Phone: +32 (0)2 526 05 30
E-mail: info@asahi-photoproducts.com

Asahi Kasei Electronics Materials
(Suzhou), Co. Ltd

Asahi Flexo Technical Center
261 Xinglong Street,
Suzhou Industrial Park
Jiangsu, 215021 China

Phone: +86-512-62836188-162
E-mail: info@asahi-photoproducts.com

Asahi Photoproducts Distributor:

19407 AF