

AFP TSP

The flexo plate for film and paper with »Pinning Top Dot« technology

Flexo plate with
»Pinning Top Dot«
technology

Asahi's AFP-TSP is a medium hardness digital flexo plate, optimised for a wide range of printing materials. From absorbent paper substrates such as pre-printed liner, paper and carton board to non-absorbent film and label materials. Asahi's AFP-TSP incorporates the »Pinning Top Dot« Technology, which allows a kiss touch printing pressure setting with constant repeatability of printing quality during the production run. The »Pinning Top Dot« Technology also reduces the ink infill in the mid-tone area during the length of the printing run, leading to fewer cleaning intervals and press stop downtimes for the printer.

Asahi's AFP-TSP plate was developed to achieve a firm homogeneous ink density on printed lines and solids and staying clean and open over the printing run in halftone screens. The AFP-TSP plate is the perfect combination for halftone and solid printing and is part of the same polymer family as the harder AFP-TOP plate. By using AFP-TOP; which is able to provide a fine, smooth gradation towards zero and combining it with the homogenous ink coverage of fine lines, bar codes and solids capable with AFP-TSP, it is possible to transfer jobs to flexography from other technologies that deliver very challenging, high demanding quality.

The Asahi's AFP-TSP plate is a product solution, which can easily be fitted into existing customer environments without the need of additional machine investment. This flexibility enables the customer to react to changing market needs and keep their business environment sustainable. The AFP-TSP is compatible with solvent, water and most UV based inks. Furthermore it can be used with the high definition screening and microcell patterning technologies.



The product advantages in detail:

- ▶ Combination plate for halftones and solids
- ▶ Homogeneous ink film printing in lines and solids
- ▶ »Pinning Top Dot« Technology enabling a superior ink transfer
- ▶ High printing performance with solvent, water and most UV based ink on film and paper substrates
- ▶ Strong plate abrasion resistance with good base film lamination strength
- ▶ High performance plate in aggressive printing condition
- ▶ Reduced ink infill in mid-tone printing leading to less press cleaning stops
- ▶ Kiss touch printing pressure setup giving increased plate longevity
- ▶ Consistent printing quality over the production run due to »Pinning Top Dot« Technology
- ▶ System compatibility with recent screening and microcell technologies

	AFP TSP Digital Plate			
Plate specifications	1,14 mm	1,7 mm	2,54 mm	2,84 mm
Shore A Hardness (Teclock)	69	58	49	48
Applications	Paper- and Plastic Bags, Flexible Packaging, Preprint, Labels, Aluminium Foil, Flat Carton			
Ink recommendation	Water based, Solvent based and most UV based Inks			
Resolution digital	175 lpi	175 lpi	175 lpi	175 lpi
Tonal range	1-95%	1-95%	1-95%	1-95%
Isolated line	80 µm	80 µm	80 µm	80 µm
Isolated dot	150 µm	150 µm	150 µm	150 µm
Dispro K-factor	5,98	9,89	15,17	17,05
Plate colour	yellow	yellow	orange	orange

	AFP TSP Digital Plate			
Plate processing parameters ① ② ③	1,14 mm	1,7 mm	2,54 mm	2,84 mm
Plate bump-up at 133 lpi (54 l/cm)	4%	4%	5%	5%
Plate bump-up at 150 lpi (60 l/cm)	4,5%	4,5%	6%	6%
Plate bump-up at 175 lpi (70 l/cm)	5,5%	5,5%	7%	7%
Back flash	1400 mJ	900 mJ	900 mJ	1300 mJ
Relief depth (test target)	0,6 mm	0,6 mm	0,8 mm	0,8 mm
Laser imaging	3,4 J	3,4 J	3,4 J	3,4 J
Front exposure	8000 mJ	8000 mJ	8000 mJ	8000 mJ
Wash-out speed/minute	170 mm	160 mm	130 mm	120 mm
UVA post exposure	1000 mJ	1000 mJ	1000 mJ	1000 mJ
UVC light finishing (max.)	2000 mJ	2000 mJ	2000 mJ	2000 mJ

① The mJ intensity is measured by ORC. To calculate the equivalent exposure time in sec. The following formula can be used:

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

② The mentioned plate making conditions are particular to the Asahi Photoproducts technical centre equipment and solvent specification 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 AFP training manual.

③ In case the light intensity is not measured with ORC, but with Kuehnast, the following conversion can be used:

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

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

The AFP-TSP digital flexo plates can be produced in all Asahi AFP processing systems or corresponding processing equipment. The plate is exposed on the back to produce the desired relief depth and achieve maximum sensitivity to UV light. After removal of the protective film, the black mask layer is imaged by a laser. Commonly available laser types are YAG, diode or fibre laser. Then the plate is exposed, processed by a solvent wash process, dried and finished by UVA and UVC light to ensure the optimum properties of the print-ready plate. AFP-TSP plates feature excellent compatibility with commonly used solvent, water and most UV based ink systems on film and paper printing materials. After printing, the plates should be thoroughly cleaned. Direct exposure to sunlight and heat during storage is to be avoided.