Synaps

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Frequently asked questions about

SYNAPS PS

OM135/AP – OM135AR

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1 Ink - What are the recommended densities to offset print SYNAPS OM135/AP-AR?

Recommended densities (measurement on wet print, white backing) for process inks on SYNAPS OM135/AP-AR are:
K: 1.50 – C: 1.20 – M: 1.15 – Y: 1.20.
For printing pantone colours or other spot colours, use the (pantone or spot) colour sample book for uncoated paper as a reference.

2 Ink - Do I need special offset inks to print SYNAPS OM135/AP-AR?

No special inks are required. No need to use special oxidative drying inks. Standard offset inks are perfect to print SYNAPS OM135/AP-AR.
No special drying agents to mix with the inks or fountain solution are recommended.

3 Ink - Can I print SYNAPS OM135/AP-AR with UV curable offset inks?

Yes. You can print SYNAPS OM135/AP-AR with UV offset. Set the UV lamp power up to a level just high enough to cure the ink.
LED UV lamps generate less heat and are therefore less prone to cause waviness of the substrate.
LEC (Low Energy Curing) UV inks are also compatible with SYNAPS OM135/AP-AR.

4 Ink - Can SYNAPS OM135/AP-AR be overprinted with varnish or aqueous coating (dispersion lacquer)?

Yes. Varnish is in fact a transparent ink so we don't print a too thick layer of varnish onto a full colour job. The coating layer could get saturated when you apply a too thick layer which could result in ink drying problems and offsetting problems. When you apply a varnish the colour densities increase and therefore we recommend printing at somewhat lower densities before you apply the varnish.
Because SYNAPS OM135/AP-AR has a coating layer that absorbs the ink (and varnish) very well, you will notice a gloss effect on areas with high image coverage and a mat effect on areas with no or little image coverage when you apply a gloss varnish.
To avoid these gloss and mat effects, we recommend to apply an aqueous coating (dispersion lacquer) when you want to protect the printed image on SYNAPS OM because lacquer units on printing presses apply a thicker layer. Due to the fact that dispersion lacquer is instant dry, a printer even has the possibility to apply multiple layers so higher gloss + better image protection can be achieved.

5 Ink - Is SYNAPS OM135/AP-AR suitable for offset poster printing applications?

Yes. We advise the customer to choose inks with high light fastness properties (scale 1 - 8). Especially yellow and magenta are prone for colour fading after prolonged exposure to sunlight.
Every ink supplier has ink series with higher light fastness properties so talk with your ink supplier.
With dispersion lacquers and overprint varnishes, you increase densities and improve the light fastness properties.
There are special UV coatings in the market with colour protecting properties so when you overprint the posters with such a dedicated UV coating, you achieve higher densities and better print protection.

6 Ink - What are the recommendations when ink offsetting problems occur?

Conventional ink types are recommended to print on SYNAPS OM135/AP-AR. Special oxidative inks are more prone to cause offsetting problems. If you print process colours, please follow the ink density recommendations from our printing guidelines (K: 1.50 – C: 1.20 – M: 1.15 – Y: 1.20).
If you print pantone colours, use the pantone colour sample book as a reference for adjusting the print density

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It is important is that you use the printed sample book for uncoated paper, not for glossy paper. If not, you might print too high densities which can result in saturation of the SYNAPS OM135/AP-AR coating layer with possible problems like slow ink setting, bad in drying and offsetting.
Another attention point is the ink/water mix. Best printing results and ink drying properties are obtained when a printer prints 'on the edge' meaning that he prints with a dampening level just high enough to keep the non image parts clean. Lower dampening level means lower ink level and less emulsification on the press => best printing condition.
Please ask the printer to check the recommendations for mixing the fountain solution additive. Maybe he mixes a too high dosage which has a negative effect on the ink drying properties. When he uses an automatic fountain solution dosage mixing system, please ask him to check if the dosing system works correct (you can ask him to switch off the dosage system, empty the fountain tank and try again with a correct fountain solution mixture made by hand.
When a printer has everything under control on his offset press, no offsetting problems occur with SYNAPS OM135/AP-AR.
When printing very heavy and dark images (e.g. >250% image coverage), slight anti set-off powdering is recommended

7 Printing - Can I print SYNAPS OM135/AP-AR with UV inkjet?

Yes. Our experience is that the UV inkjet printing press operator has to find a good working point for printing UV inkjet on SYNAPS OM135/AP-AR. Press settings depend on image coverage and type of inkjet printing press (and especially type of UV lamps).
To achieve a good working point, the operator has to 'play' with: UV-power, vacuum setting, roll tension, printing speed, ink layer (% image coverage).
To avoid waviness of the substrate, please advise the operator to set the UV-power just high enough to cure the ink. LED UV lamps or less prone for waviness of the substrate.

8 Printing - Can I print SYNAPS OM135/AP-AR on HP Indigo presses?

SYNAPS OM135/AP-AR is printable on HP Indigo sheetfed presses.
For very long production runs, experience learns that the blanket needs to be replaced sooner compared to paper printing. Adjusting the blanket temperature up to a level just high enough to dry the HP Indigo
ElectroInk will extend the lifetime of the blanket.
For printing SYNAPS OM135/AP-AR on HP Indigo web presses you need to apply a primer before printing.

9 Printing - Can I print SYNAPS OM135/AP-AR on latex inkjet printers?

Latex printing on SYNAPS OM135/AP-AR is possible but you have to take following recommendations into account.
Printing speed has to be slow (unidirectional printing in many passes) in order to avoid waviness of the substrate caused by too high drying settings. Heavy images are more prone to show these phenomena.
You need to search for the best working point and test on beforehand for critical jobs.

10 Printing - Can I print SYNAPS OM135/AP-AR on Riso duplicators?

No. SYNAPS OM135/AP-AR is not compatible with Riso duplicator systems.

11 Printing - Can I print SYNAPS OM135/AP-AR on Océ Colorwave printers?

No. The print result looks ok but the printed images are very sensitive for marking caused by guiding wheels of the printer. The printed images are also very scratch sensitive so we do not recommend using SYNAPS OM135/AP-AR on these types of presses.

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12 Printing - Can I use SYNAPS OM135/AP-AR on desktop inkjet printers?

No, SYNAPS OM135/AP-AR is not compatible with desktop inkjet printers. The coating layer of SYNAPS OM135/AP-AR rejects the water based ink.

13 Printing - Can I use SYNAPS OM135/AP-AR for screen printing?

Yes. SYNAPS OM135/AP-AR was tested successfully on UV and solvent screen printing presses.

14 Printing - Can I use SYNAPS OM135/AP-AR on flexo printing presses?

Yes. We tested SYNAPS OM135/AP-AR with water based flexo ink (hot air drying) and UV flexo ink (UV lamp curing).
Both tests were successful.

15 Printing - Can I use SYNAPS OM135/AP-AR on thermal transfer printers?

Yes. We successfully tested SYNAPS OM135/AP-AR on a Thermaline T5000R thermal transfer printer equipped with a wax/resin ribbon.

16 Printing - Can I use SYNAPS OM135/AP-AR on dry toner printers?

Yes. SYNAPS OM135/AP-AR can be printed on a range of dry toner printers but it is important to know that perfect print results depend on the capability of the dry toner printer used.
You have to take the following recommendations into account.
To avoid glue build-up on the fuser drum, don't print with too high fuser settings. Use a fuser setting just high enough to cure the toner onto the substrate (test toner adhesion by scratching the printed image with your finger nail).
To avoid heat generation in the printed pile, don't print more than 20 consecutive sheets.
Always do a compatibility test before deciding to use SYNAPS OM135/AP-AR for a specific job.

17 Printing - Is it possible to print on the liner side of SYNAPS OM135/AP-AR?

Yes. The backside (liner side) of SYNAPS OM135/AP-AR can be printed.
Our recommendations are as follows:

- Print the SYNAPS OM135/AP-AR side first. In the second printing stage, you can print the liner side.
- Print the liner side with oxidative drying inks (special foil inks that only dry by oxidation) inclusive sufficient anti set-off powdering.
- Try to avoid printing heavy ink coverage on the liner side. Heavy ink coverage will have more difficulties to dry and are more prone to result in set-off problems.

18 Finishing - Can I cut SYNAPS OM135/AP-AR on guillotine cutting machines?

Yes. The hardened steel cutting blade has to be sharp and clean for optimum cutting result. Don't cut lifts higher than 5cm (2 inches). The angle of the cutting blade is important. The sharper the angle of the blade, the cleaner the cut.

19 Finishing - Can SYNAPS OM135/AP-AR be used for die cutting?

Use sharp hard steel blades with rounded inner corners. Avoid inside die-cuts less than or equal to 90 degrees. Keep retention points small and few to avoid tearing when you take away the waste material. The best results are obtained on cylinder type presses. Platen type presses are less suitable especially for complex die cut shapes.

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20 Finishing - Can I cut SYNAPS OM135/AP-AR on laser cutting equipment?

Yes. Laser cutting works well. The power of the cutting device needs to be adjusted according to the thickness of the substrate. Laser kiss cutting is also possible on SYNAPS OM135/AP-AR.

21 Finishing - Can I cut SYNAPS OM135/AP-AR on rolling trimmers and cutting plotters?

Yes. Rolling trimmers and cutting plotters work well with SYNAPS OM135/AP-AR. Before you decide to use SYNAPS OM135/AP-AR, a test is recommended.

22 Finishing - Can I drill SYNAPS OM135/AP-AR with graphic drilling equipment?

Yes. Use sharp and clean drill bits. Drills have to be free of nicks. Use short dwell times during drilling to eliminate heat generation. Don't drill too high lifts. Recommended drills are steel drills coated with Teflon (to prevent sticking). If possible, lower the speed of the drills to prevent heat generation.
Intermediate spraying on the inside and the outside of the drill with 'dry silicone spray' or intermediate drilling in wax paper (lubrication inside the drill bits) will facilitate drilling and will extend the life and sharpness of the drill significantly.
The best results are obtained with drilling equipment that have drill bit lubrication and drill bit cooling.

23 Finishing - Can SYNAPS OM135/AP-AR be laminated.

Yes. SYNAPS OM135/AP-AR can be laminated with PET/PE film and OPP film. The operating temperature should not exceed 120 °C (248 °F). Tests with PVC film were not successful.

24 Finishing - Can I use SYNAPS OM135/AP-AR for hot foil stamping?

Yes. SYNAPS OM135/AP-AR can be used for hot foil stamping.

25 Miscellaneous - Is SYNAPS OM135/AP-AR writable?

Yes, SYNAPS OM135/AP-AR is writable with ballpoint, fountain pen and pencil. When you use an alcohol or solvent based marker pen, the coating layer of SYNAPS OM135/AP-AR can be dissolved certainly when you apply more streaks on the same spot. When you want to write and draw on SYNAPS OM135/AP-AR with a marker pen, it is recommended to apply a UV coating layer on the surface first.
We also performed a test with a highlighter pen (text marker pen) on SYNAPS OM135/AP-AR and we did not notice any dissolving of the coating layer.

26 Miscellaneous - Does the whiteness of SYNAPS OM135/AP-AR change due to exposure to sunlight?

Yes. SYNAPS OM135/AP-AR becomes slightly yellowish after prolonged exposure to sunlight. After this shift, the level of whiteness remains the same. Important: the SYNAPS OM135/AP-AR coating layer stays intact and does not deteriorate.

27 Miscellaneous - Is SYNAPS OM135/AP-AR available in sheets and rolls?

No. SYNAPS OM135/AP-AR is only available in sheets. Please check www.agfa.com/synaps for more information.

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28 Miscellaneous - Is SYNAPS OM135/AP-AR resistant to chemicals?

Lab tests were performed with the following fluids (internal Agfa test method – 10 minutes submersion):

Demineralised water => no attack

NaCl 10% => no attack

H2SO4 38% => no attack

Ethanol => attack

Aceton => attack

29 Miscellaneous - What are the recommendations for waste disposal of SYNAPS OM135/AP-AR?

SYNAPS OM135/AP-AR has plastic recycling code "7 - Other". SYNAPS OM135/AP-AR is a polyester that is quite different from the type of polyester that is used for the production of PET bottles for instance. It can be recycled but post-print SYNAPS OM135/AP-AR is to be treated as waste because the ecological cost of collecting and selecting the waste is higher than the ecological benefit. Regulations for waste disposal may differ per country so please consult the local regulations.

30 Sustainability – PVC-free: Why is it important that SYNAPS OM135/AP-AR is PVC-free?

The term PVC-free communicates that SYNAPS OM135/AP-AR does not hold any chlorine or phthalates, two toxic ingredients of some PVC. Phthalates are additives that make PVC soft and pliable but are reported to be hazardous to health because they easily migrate or evaporate, which makes it easy to inhale or ingest. This is a reason why products containing phthalates have been banned in toys for children under age three by the European Union since 1999. Chlorine is a toxic substance which production results in mercury emissions and releases dioxins in the environment. Dioxin is classified as known to cause cancer to humans by the International Agency for Research on Cancer (part of World Health Organization, WHO).

More on the effect of dioxins: http://www.who.int/mediacentre/factsheets/fs225/en/

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