



Prints like paper.

**Frequently asked questions  
about  
SYNAPS XM**

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## 1 Printing – Can I print SYNAPS XM on all laser printing devices?

In general, the following experiences apply:

For best colour reproduction on desktop/office printers, SYNAPS XM135 is recommended, although SYNAPS XM230 can also be used on some desktop/office printers (simplex printing). SYNAPS XM230 runs well on midrange digital equipment. SYNAPS XM300 prints best on production colour presses. SYNAPS XM450 can only be used on specific production colour presses that can handle very thick substrates (MGI, Xerox iGen).

See our printer compatibility overview on [www.agfa.com/synaps](http://www.agfa.com/synaps).

## 2 Printing – Can I print SYNAPS XM on Xeikon equipment?

SYNAPS XM135, XM230 and XM300 were successfully tested and have been authorized by Xeikon HQ for Xeikon 8000 series QA-P (see <https://www.xeikon.com/en/print-media> for test reports and press settings).

## 3 Printing – Static charge build-up when printing SYNAPS XM.

Our SYNAPS XM is not static by itself but receives static charge when printed in xerographic devices.

Standard paper is more easily discharged compared to synthetic substrates, this is logical.

We have had good results with leaving the stack of printed material for 30 minutes to 1 hour on an earthed (grounded) metal surface (e.g. metal table of guillotine cutting equipment). You will feel the difference when you try to align the stack or try to separate the sheets.

A higher environmental humidity will also help.

## 4 Printing - Can I use SYNAPS XM for UV flexo printing?

Yes. SYNAPS XM can be printed with UV flexo ink (UV lamp curing).

In case you need to print variable data onto the pre-printed sheets on laser printer equipment, make sure the UV flexo ink is compatible with laser printer equipment (should not melt onto the fuser).

We recommend to not pre-printing areas that afterwards need to be printed with toner, as no guarantee can be given on print quality, nor on possible negative effects on the printer/copier engine.

## 5 Printing - Can I print Synaps XM on KIP or Ricoh poster printing devices?

No. SYNAPS XM is not compatible with KIP or Ricoh poster printing devices.

## 6 Printing - Can I print SYNAPS XM on HP Indigo presses?

No. SYNAPS XM is not compatible with HP Indigo presses. We recommend using SYNAPS OM for printing on HP Indigo (certified by RIT for HP Indigo sheetfed presses).

## 7 Printing - Can I print SYNAPS XM in offset?

Offset pre-printing is possible but should be limited to single colour solids and/or 2-colour images. In case of 2-colour printing, total ink laydown should not exceed 100% (e.g. 30% cyan and 70% yellow is ok).

We recommend using inks formulated for use in xerographic devices (laser ok inks). Please note that oxidative inks generally will have a stronger tendency to ink set-off.

Use ink densities as for uncoated paper, or lower. For black ink, do not exceed density 1.50.

For printing pantone colours or other spot colours, use the (pantone or spot) colour sample book for uncoated paper as a maximum density reference; print a somewhat lower density preferably.

**Important!** Use SYNAPS XM make-ready sheets to adjust accurate ink/water balance and density. Print with minimum dampening level and ink film to achieve the recommended density. Do not use anti-set-off spray powder as it will contaminate the printer/copier engine.

For Synaps XM300, XM375 and XM450 we however recommend to use anti-set-off powder due to the weight of these Synaps grades. After the ink has dried, please keep in mind to remove the anti-set-off powder as thorough as possible. Limit printed stack height (maximum 10 cm) and air the stacks a few times after the ink has set to facilitate drying of the ink.

We recommend to not pre-print areas that afterwards need to be printed with toner, as no guarantee can be given on print quality, nor on possible negative effects on the printer/copier engine.

## 8 Printing - Can I print SYNAPS XM 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 XM. 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.

## 9 Printing - Can I print SYNAPS XM on latex inkjet printers?

Latex printing on SYNAPS XM 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 XM on Riso duplicators?

No. SYNAPS XM is not compatible with Riso duplicator systems.

## 11 Printing - Can I print SYNAPS XM 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 XM on these types of presses.

## 12 Printing - Can I use SYNAPS XM on desktop inkjet printers?

No, SYNAPS XM is not compatible with desktop inkjet printers. The coating layer of SYNAPS XM rejects the water based ink.

## 13 Printing - Can I use SYNAPS XM for screen printing?

Yes. SYNAPS XM was tested successfully on UV screen printing presses.

## 14 Printing - Can I use SYNAPS XM on thermal transfer printers?

Yes. We successfully tested SYNAPS XM on a Thermaline T5000R thermal transfer printer equipped with a wax/resin ribbon.

## 15 Finishing - Can I cut SYNAPS XM 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.

## 16 Finishing - Can SYNAPS XM 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. For die cutting the thickest SYNAPS XM gauges, you can consider to use dies for die cutting polycarbonate cards. These dies are very hard and produce the cleanest cuts.

## 17 Finishing - Can I cut SYNAPS XM 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 engraving is also possible on SYNAPS XM.

## 18 Finishing - Can I cut SYNAPS XM on rolling trimmers and cutting plotters?

Yes. Rolling trimmers and cutting plotters work well with the lighter versions of SYNAPS XM. Heavier versions may give problems, depending on the equipment used. Before you decide to use SYNAPS XM, a test is recommended.

Heavier versions of SYNAPS XM can be cut on flatbed cutting plotter devices as this type of equipment can cut thicker substrates.

## 19 Finishing - Can I drill SYNAPS XM 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.

## 20 Finishing – Can I stitch SYNAPS XM?

Yes but you have to take into account that the irregular punches from the needle(s) can promote tearing of the substrate so therefore we do not recommend stitching for e.g. flag cord applications or other applications where there is a possible sensitivity for tearing.

## 21 Finishing - Can I fold SYNAPS XM on regular folding equipment?

The thinner versions of SYNAPS XM can be folded on a regular folding machine. Folding can be difficult, especially with the heavier versions of SYNAPS XM. Cross folding (superimposed or transverse fold) is not recommended for all gauges.

Scoring is recommended to obtain a tight fold with the heavier versions of SYNAPS XM. The ridge of the score should be on the outside of the fold.

Avoid folds that cause air entrapment, since SYNAPS XM is not permeable.

It is recommended to apply pressure after folding to keep the fold tight.

**Important!** Always do a folding test before deciding to use SYNAPS XM for a specific job!

## 22 Finishing - Can SYNAPS XM be laminated.

Yes. It is however important to know that not all laminates can be used to laminate dry toner printed images/substrates. The adhesion on the toner image can be poor if you do not use a dedicated laminate.

We have very good experiences with GMP Perfex Gloss Ultrabond PT lamination film.

## 23 Finishing - Can I emboss SYNAPS XM?

Embossing on a cylinder press works well with all SYNAPS XM weights.

On a platen press the pressure and evenness of pressure can be a problem especially with thicker SYNAPS XM grades and more complex embossing forms. We recommend using hardened embossing moulds.

Before you decide to use SYNAPS XM for embossing, a test is strongly recommended.

## 24 Finishing - Can I use SYNAPS XM for ultrasonic welding?

No, SYNAPS XM is not suitable for ultrasonic welding.

## 25 Finishing - Can I use SYNAPS XM for book finishing?

SYNAPS XM is a perfect material for Wire-O, Unicoil-Spiral and comb binding. Use round holes to avoid tearing.

For book covers, we recommend applying a top coating on SYNAPS XM to avoid scratching or marking.

For 'perfect binding' book covers, we recommend to use SYNAPS XM230. Thicker SYNAPS XM is prone to cause cover gapping at the book spine. As glue for perfect binding books, we recommend to use EVA or PUR glue. As there are differences in book finishing quality on perfect book binding equipment, we recommend always doing a binding test before deciding to use SYNAPS XM for a specific job!

## 26 Finishing - Can I finish printed SYNAPS XM with a UV varnish?

Yes. SYNAPS XM can be finished with an offline UV varnish coater.

## 27 Miscellaneous - Is SYNAPS XM writable?

Yes, SYNAPS XM is writable with ballpoint, fountain pen and pencil. The porous coating of SYNAPS XM however makes erasing impossible. When you use an alcohol or solvent based marker pen, the coating layer of SYNAPS XM can be dissolved certainly when you apply more streaks on the same spot.

We also performed a test with a highlighter pen (text marker pen) on SYNAPS XM and we did not notice any dissolving of the coating layer.

## 28 Miscellaneous - Does the whiteness of SYNAPS XM change due to exposure to sunlight?

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

## 29 Miscellaneous - Can I use SYNAPS XM for underwater applications?

Yes. Synaps XM is a perfect substrate for underwater applications.

### 30 Miscellaneous - Can toner set-off problems occur with synthetic papers?

Yes. When printed SYNAPS XM is exposed to temperatures higher than 50°C, printed toner is subject to soften which can result in toner set-off. E.g. menu's, we recommend to not expose printed SYNAPS XM to strong sunny conditions especially when the top cover is printed with heavy and dark image coverage as dark images may absorb sunlight which can result in severe heat accumulation inside the menu's or not to place a stack of menu's close to a heat source.

### 31 Miscellaneous - Does SYNAPS XM qualify for use in direct contact with foodstuffs?

No. SYNAPS XM does not qualify for use in direct contact with food.

### 32 Miscellaneous - Is SYNAPS XM available in sheets and rolls?

Yes. SYNAPS XM is available in sheets and rolls. Please check [www.agfa.com/synaps](http://www.agfa.com/synaps) for more information.

### 33 Miscellaneous - What are the recommendations for waste disposal of SYNAPS XM?

SYNAPS XM has plastic recycling code "7 - Other". SYNAPS XM 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 XM 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.

### 34 Sustainability – PVC-free: Why is it important that SYNAPS XM is PVC-free?

The term PVC-free communicates that SYNAPS XM 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/>