



Koehler
THERMAL PAPER



PRINTING RECOMMENDATIONS FOR KOEHLER THERMAL PAPER

PRINTING RECOMMENDATIONS



Today, we encounter thermal paper constantly and in almost all areas of daily life – as check-out receipts with advertising or information on the back side in supermarkets, as bank statement, gaming or admission ticket. But printing is what gives these paper products that extra something, creating individuality – whether as a platform for advertising messages, image promotion or as a source of information.

If you observe the following recommendations and guidelines for printing with the most common printing methods for thermal paper, flexo and offset printing, you will be able to achieve the best possible printing results on Koehler Thermal Paper.

In general, the key factor in printing on thermal paper is to ensure that the function of the paper in thermal printers is not impaired.

WATER FLEXO PRINTING



- Not all water flexo inks are suitable for use with Koehler Thermal Paper. Please refer to our ink recommendations table on the last page.
- The printing of the functional side with unsuitable inks may lead to deposits on the printing head of thermal printers when thermal printing is also required on pre-printed areas.
- Apply only as much ink as is absolutely necessary.
- The recommended ink volumes are approx. 6 cm³/m² wet weight.

OFFSET PRINTING

The **functional side** of most Koehler Thermal Paper types is not designed for printing using the wet offset process. Nevertheless, when the right ink is selected and the correct machine settings are in place, this method can achieve good results. The **reverse side** of all thermal paper types for label applications can generally be used for wet offset printing. For **POS applications**, we recommend the addition of an antitack paste on the reverse side.

- We recommend only using UV-curable inks. Our ink recommendations on the last page can be used as a starting point for selecting the right ink.
- Please note that the quality of the printout may vary when printing rolls with more meters.
- Inks with low tack are preferable, and adding anti-tack paste on the **front side**

may also be necessary. Apply only as much ink as is absolutely necessary.

- Only the minimum ink volume necessary should be applied when printing the reverse side as well. Thick ink layers on the reverse side may lead to insufficient drying and, in turn, to a deactivation of the thermal side caused by direct contact between the reverse side and the thermal side when the printed paper is rolled. The printing pressure should be kept to a minimum → 'Kiss Printing'.
- It is advisable to make your own tests to determine the most suitable rubber blankets. Experience shows that 'quick release' rubber blankets produce the best results.
- The fountain solution should not contain more than 10% by volume of alcohol additives.





- In the case of slow feed rates, the heat from the UV bulbs may cause discoloration of the thermal layer. Higher feed rates minimise the effects of direct heat radiation on the paper and ensure that only the UV radiation is responsible for drying.
- Check the machine settings and ink selection if problems occur, such as picking or thermal deposits on the rubber blankets.
- The ink-water balance and ink tack in particular are important considerations.
- Each printing unit must be individually configured in terms of the amount of water used. For example, printing unit 1 may need a maximum quantity, while printing unit 2 may need a minimum quantity. The water quantity can vary based on the individual printing unit, from very little to a huge amount. Don't be afraid to carry out your own tests!

UV FLEXO PRINTING



All Koehler Thermal Paper may be printed using the UV flexo process without any problems. However, it must be noted that applying too much ink can impair print intensity in cases where thermal printing is also required on pre-printed areas.

The maximum amounts of ink applied should be sufficient to ensure complete drying of the ink in the UV flash drying process.

Any undesirable discoloration of the thermal paper can be best observed in the case of light colors, such as yellow. A solution may then be to use another ink: Low-migration inks will result in the least amount of discoloration of light colors. Again, please refer to our ink recommendations table.

INK RECOMMENDATIONS TABLE

Manufacturer	Series	Comments	Koehler Thermal Paper Quality													
			FA		PF		Blue 4est®		LFA		LPF		TC		Blue 4est® Pro	
			F	R	F	R	F	R	F	R	F	R	F	R	F	R
10,000 meter rolls were tested F = front/functional side, R = reverse side																
UV offset																
Hubergroup	New V pack MGA Premium	Approved for indirect contact with food	–	○	–	○	–	○	○	✓	–	✓	✓	✓	✓	✓
Siegwerk	NUTRIPLAST 2 N Process	Approved for indirect contact with food	–	○	–	○			–	○	–	○	○	○		
Jänecke+Schneemann	Supra UV		–	○	–	○			✓	✓	✓	✓	✓	✓		
Zeller & Gmelin	Uvalux U40		–	○	–	○	○	○	○	✓	○	✓	✓	✓	✓	✓
	Uvalux U41	Approved for indirect contact with food	–	○	–	○	○	○	○	✓	○	✓	✓	✓	✓	✓
SunChemical	Suncure Lazer		–	○	–	○			○	○	○	○	○	○		
UV flexo																
Siegwerk	Sicura Flex 39-8		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hubergroup	NewV flex MGA		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Flint	Flexocure Force		–	✓	–	✓			✓	✓	✓	✓	✓	✓		
Jänecke+Schneemann	UV Supraflex		○	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Water flexo																
Siegwerk	40% / 60% Uni-base colors with Unicor Postprint T Blend 4% Uniadd Wax Additive	Modular system / Approved for indirect contact with food (Viscosity cup 18 ± 2s)	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Siegwerk	Aqualabel HK with 3% Crosslinker		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Siegwerk	UNI T Euroscale	Approved for direct contact with food					–	✓							–	✓
Jänecke+Schneemann	ConcbaseAQ / FL-Pantone Gr. 5/B or V2 13/C	Modular system	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		
Hubergroup	50% / 50% Hydro Base GA / Hydro-Gloss Heatresitant GA with 5 % Hydro-X GA Cross-linker Additive	Modular system / Approved for indirect contact with food	–	✓	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
GSB Wahl	TL Process		–	✓	–	✓	–	✓	–	✓	–	✓	–	✓	✓	✓

✓ = Suitable ○ = Limited suitability – = Not suitable

The table shown above shows only a limited selection of printing inks that are, according to our current knowledge, suitable for printing on Koehler Thermal Paper. However, as the market offers a considerably greater selection

of inks for printing on thermal paper, we always recommend checking whether the combination of thermal paper, ink, and thermal printer you are considering is suitable.



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