RECOMMENDED INKS FOR PRINTING TERMAX THERMAL PAPERS

				NON TOP-COATED						TOP-COATED
PRINTING SYSTEM	MANUFACTURER	INK SERIES	REMARKS	Termax TES	Termax TEX	Termax TES+	Termax TFS	Termax TRF	Termax THR	Termax TC10
WATER - BASED FLEXO	SIEGWERK	AQUALABEL H - K	Use of 2-3 % specific crosslinker is recommended for higher printing thermoresistance.	✓	✓	✓	✓	✓	✓	✓
		UNILABEL T series 53-20		✓	✓	✓	✓	✓	✓	✓
	SUN CHEMICAL	SOLAR AQUA		▪	✓	✓	▪	✓	✓	✓
	FLINT	THERMOKETT TC		▪	✓	✓	▪	✓	✓	✓
	KAO-CHIMIGRAF	ETILUX	Use of water and transparent white Etilux reducer is recommended for colour reduction.	▪	✓	✓	▪	✓	✓	✓
		HIDROGRAF EC	For reverse side.	▪	✓	✓	▪	✓	✓	✓
	ZELLER & GMELIN	MULTIFLEX FW/FS		▪	✓	✓	▪	✓	✓	✓
		HYDROTEK YW	Low migration.	▪	✓	✓	▪	✓	✓	✓
	ARZUBIALDE	SERFLEX HR		▪	✓	✓	▪	✓	✓	✓
		SERFLEX INT	If there is no thermal printing on the area perviously printed	▪	✓	✓	▪	✓	✓	✓
UV FLEXO	SIEGWERK	SICURA FLEX 39 - 8			▪	▪		✓	▪	✓
		SICURA FLEX 39 - 10 LM	Low migration.		▪	▪		✓	▪	✓
		SICURA FLEX 39 - 20 LM	Low migration.		▪	▪		✓	▪	✓
	SUN CHEMICAL	SOLAR FLEX INTEGRA			▪	▪		✓	▪	✓
		SOLAR FLEX FSP			▪	▪		✓	▪	✓
	FLINT	FLEXOCURE FORCE			▪	▪		✓	▪	✓
	ZELLER & GMELIN	UVAFLEX Y80			▪	▪		✓	▪	✓
		UVAFLEX FCM Y81	Low migration. Food Contact.		▪	▪		✓	▪	✓
	SERICOL FUJIFILM	UVIVID FLEXO JD			▪	▪		✓	▪	✓
	TOYO INK	STERAFLEX			▪	▪		✓	▪	✓
UV OFFSET	SIEGWERK	SICURA LITHO 900			▪	▪		✓	▪	✓
		SICURA BOARD NUTRITEC	Low migration.		▪	▪		✓	▪	✓
	FLINT	ULTRAKING 6100			▪	▪		✓	▪	✓
		LITHOCURE PREMIUM			▪	▪		✓	▪	✓
		ULTRAKING PLAS XTN			▪	▪		✓	▪	✓
	ZELLER & GMELIN	UVALUX			▪	▪		✓	▪	✓
	HUBER GROUP	NEW V SET			▪	▪		✓	▪	✓
	SUN CHEMICAL	SUNCURE			▪	▪		✓	▪	✓
		SUNCURE ULM	Low migration.		▪	▪		✓	▪	✓
UV LETTERPRESS	SIEGWERK	SICURA TYPO 41-2			▪	▪		✓	▪	✓
	FLINT	LITHOCURE ANCORA			▪	▪		✓	▪	✓
	SUN CHEMICAL	SUNCURE STARLUXE			▪	▪		✓	▪	✓
		SUNCURE FOR LITHO			▪	▪		✓	▪	✓

✓ SUITABLE INK

▪ RECOMMENDED INK. PREVIOUS PRINTING TEST IS ADVISED.

Details in this list are only an advice and they must not be considered a guarantee nor do they relieve the need of doing the relevant previous tests.
It is advised to consult the following recommendations for printing TERMAX papers.

Lecta Main Operational Offices
Llull, 331 - 08019 Barcelona – SPAIN

RECOMMENDED INKS FOR PRINTING TERMAX THERMAL PAPERS

PRINTING RECOMMENDATIONS FOR TERMAX THERMAL PAPERS

1. INTRODUCTION

Thermal paper is present in a wide range of applications in the market, like receipts for points of sale and cash dispensers, show tickets, parking tickets, self-adhesive labels, etc. Printing provides the final product with extra features as a vehicle for information, advertising and corporate / brand image.

2. PRINTING GENERAL RECOMMENDATIONS

- Details about inks and printing conditions are only for information, so previous printing tests must always be carried out to achieve optimum results.
- The thermal sensitivity of the paper must not be affected after printing, something that can happen even some days or months later.
- It is advised not to use solvent based products nor any additives, accelerators or retarders not expressly specified for non-protected thermal paper.
- Ink drying and curing must be complete to guarantee good adhesion, water resistance of inks and to avoid darkening and deactivation of the thermal layer.
- Opaque white inks, metallic inks (gold and silver), matt varnishes, polystyrene containing inks or fluorescent inks must not be used because the thermal heads get damaged or dirty by abrasiveness.
- It is recommended to contact Technical Assistance or to visit the web page of the used ink manufacturer to consult the recommended additives, the optimum printing conditions and the troubleshooting information. Inks datasheets show their suitability for printing on non-protected thermal paper and the quantity to be used.

3. PARTICULAR PRINTING RECOMMENDATIONS

Water-based flexo printing

Thermal side and reverse side

- This kind of inks are dried up by evaporation of their solvent, and water-based flexo inks containing less than 5% of solvents must be used, and not water-dilutable flexo inks. These water-dilutable flexo inks may contain higher proportion of solvents (alcohol type), which can interact with the thermal layer in a non-desirable way (colour change), even several days after printing (depending on how long it takes for the alcohol to evaporate).
- It is recommended to apply as little quantity of ink as necessary and to guarantee good printing conditions (speed, air blowing...) to allow complete drying, thus avoiding additives and ink components to interact with the thermal layer.
- Use of inks containing as little quantity of alcohol and ammonia as possible.
- Both the thermal side and the reverse side of Termax papers are suitable for water-based flexo printing system using adequate inks.

UV flexo printing

Thermal side

- These inks do not contain any solvents, they are 100% solid systems and no additional solvents like alcohol, etc., must be added. If gloss needs to be increased or curing needs to be speeded up, only special additives recommended by each ink manufacturer for printing on thermal paper can be used. Solvents may cause the paper colour to change.
- UV curing inks contain waxes, plasticizers, photoinitiators and monomers with low molecular weight, so, if the ink curing process is not complete, they can migrate towards the thermal layer, causing a reaction with it in the following way:
  - When the thermal layer is printed, especially when light colours like yellow are used, insufficient curing will darken the printed surface or desensitize it.
- To avoid this kind of problems, it is recommended to apply as little quantity of ink as necessary to cover the paper and to guarantee complete curing with the applied UV radiation.
- The machine cleanliness is very important. Rests of inks that are not compatible with the thermal layer and that remain on the rollers without being cured must be avoided to enter in contact with the thermal layer, which would deactivate it and cause “ghost printing” when the thermal image is developed later.
- It is recommended to install one or more UV drying lamps after each ink application, to guarantee curing by radiation before applying the next colour, and it is also recommended to guarantee curing with additional lamps at the end of printing, especially if high thickness of inks is applied. Power of UV lights must be adjusted depending on the working speed, the quantity of ink applied and the sensitivity of the thermal paper used, avoiding the thermal layer to become darkened by the heat generated during the process.
- It is essential to carry out a suitable maintenance of the UV drying system to confirm that there is enough intensity and that lamps and reflectors are clean.

Reverse side

- When printing the reverse side, if the ink is not properly cured, the thermal layer may be deactivated by the ink getting in contact with the thermal layer on the following turn of the little roll. To avoid this kind of problems, it is recommended to apply as little quantity of ink as necessary to cover the paper and to guarantee complete curing with the applied UV radiation.

UV offset printing

Thermal layer

- For this printing system it is also recommended to apply as little quantity of ink as necessary to guarantee subsequent drying and curing.
- The fountain solution must contain as little quantity of alcohol as possible and it must always be less than 10 % (< 5 % would be better).
- Ink curing must be guaranteed using UV radiation, without provoking too much heat on the area that would darken the thermal layer.
- Paper type-ink-speed must be adjusted to achieve optimum conditions.
- Only inks and additives recommended by ink manufacturers must be used, having as low tack as possible.
- The machine cleanliness is very important. Rests of inks that are not compatible with the thermal layer and that remain on the rollers without being cured must be avoided to enter in contact with the thermal layer, which would deactivate it and cause “ghost printing” when the thermal image is developed later.

Reverse side

- Complete curing of inks must be guaranteed.

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