

Special process series for films and metallic surfaces

Printing on films and film-like stocks generally requires special printing inks based predominantly or entirely on vehicles which dry by oxidation, i.e. in air. The stocks in question are usually very smooth and have no pores into which the ink or its constituents can penetrate and become physically anchored. Ink adhesion can also be impaired by release- and slip agents present on the surface, and by plasticizers.

Advice to the printer

- Since foil inks in most cases can dry only by oxidation, conditions are to be avoided or limited during printing which interfere with this drying mechanism:
 1. In wet offset, damping should be kept to a minimum. (If ink transfer is too low, try switching to dry offset or providing additional ink consumption surfaces.)
 2. Use smooth-surfaced printing plates.
 3. Avoid working in damp, cold areas.
 4. The pH of the damping solution must be greater than 5.
 5. Aside from isopropanol, we recommend using only **HYDROFIX®-B 8013 09** as damping additives (see TI 25.04 E).
- If at all possible, the ink should contain no additives. Drying agents such as **Grafo-Drier Extra 10 T 5001** may be added if necessary (no more than 3%). Since all film-printing inks dry by oxidation, avoid long press downtimes.
- When printing, always carefully follow the product instructions provided by the manufacturer of the stock being used, including any statements that the film in question requires mineral oil-free inks.
- These inks have a greater tendency to set off and stick. Correct delivery (i.e. as flat as possible) is therefore important. Pile height depends on the type of film, but is always very limited. A powder of appropriate grain size must be applied, and only the minimum ink film thickness should be used (undercolor correction). To promote oxidative drying of the inks, make sure plenty of air is available.
- Soft PVC film is a particularly difficult printing stock. The plasticizer in this material can interfere with ink drying or cause resoftening of dry ink long after printing. Satisfactory results on this material can be achieved only in exceptional cases.
- It is imperative to test prior to the production run whether the ink dries satisfactorily on the substrate used and its keying and rub resistance meet the requirements of the intended use of the prints. This can best be done by printing a small preliminary run.

The specific inks recommended for printing on films and foils are listed below. These are stock inks that can be ordered in any desired quantity.

		Fastness characteristics per DIN 16 524/25			
		Light WS ¹	Alcohol	Solvent mixture	Alkali
Standard inks					
e.g. for acetate film, metallized materials, gold foil, rigid PVC, cast-coated materials					
Process inks					
Foil Yellow	41 N 5030	5	+	+	+
Foil Red	42 N 5030	5	+	+	- ²
Foil Blue	43 N 5030	8	+	+	+
Foil Black	49 N 5030	8	+	+	+
Improved light fastness					
Foil Yellow	41 N 5040	7	+	+	+
Foil Red	42 N 5040	7	+	+	+

¹ Printed films are often used outdoors where they are exposed to the elements. Premature bleaching may therefore occur despite the use of pigments with high DIN light fastness values. The possible chemical effects of film materials have also not been taken into account. The durability of a printed article can therefore be assessed only under actual service conditions.

² Not suitable for outdoor posters.

Specific special ink colors (in-house or trademark colors), with the same properties as the process inks, are available by special order.

Minimum order for special colors is 20 kg per shade.

Labelling

German Hazardous Substances Ordinance (GefStoffV): none

German Flammable Liquids Ordinance (VbF): none

Safety data sheet available on request.

How supplied

1.0-kg vacuum tins

2.5-kg vacuum tins

Contact addresses for advice and further information can be found under www.hubergroup.de

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