

USER GUIDE FOR DESENSITIZING INKS

Desensitizing inks are practically colorless inks that contain de-activating products. They are applied to areas on the top sides of **Eurocalco CFB** and **CF** sheets where copy reproduction is not important.

These inks desensitize the Lewis acid of the mineral load, which is the main component of the coated CF side, thereby preventing the microcapsule coloring from reacting with the Lewis acid of the load and developing the coloration.

They can be used in typographic, dry offset and wet offset printing. Machine wash of desensitizing ink is carried out with common oil-based solvents.

Inks for typographic and dry offset printing

- Water-soluble inks that should be used only with these two printing systems.
- As a rule, desensitizing ink should always be applied to the last printing unit, assuring that the printing inks applied to the anterior units are alkali-resistant in order to avoid frayed edges.
- Reduce the tack and thickness by adding between 1 and 3% thinner or anti-tack pulp for conventional inks.
- The printing and inking units must be completely free of previously used inks in order to avoid dirtying as a result of coloring of the desensitized areas.
- The application of heavy loads of desensitizing ink (4 - 6 g/m²) should totally deactivate the area reserved for copying. Still, it is advisable to carry out preliminary tests before the definitive print run in order to determine how to obtain the optimum desensitizing effect.
- Excessive or uncontrolled use of ink may cause local desensitizing of the top sheets when these come into contact in the exit stack of the printer or during roll winding.

Wet offset desensitizing

- While using a significant ink load (> 2.5 g/m²) is recommended, the amount should be determined gradually, increasing the load until satisfactory desensitizing results are obtained.
- Place the ink in the last printing unit, after black or any other color, making sure that the inks of the previous units are alkali- and alcohol-resistant so as to avoid defects (bleeding, migration, decoloration, etc...).
- During the print run, periodically check the amount of ink applied in order to ensure optimum desensitizing. This must be observed and controlled under ultraviolet light (normal or stroboscopic) with a wavelength of 366 nanometers.
- During the print run (especially in rotary presses) make sure that the ink does not accumulate on transfer rolls and web guides and consequently get deposited in areas that should not be neutralized.
- Wetting solution can be the same as that of other inks used in offset printing, although it is advisable that the isopropyl alcohol content not exceed 15%. Desensitizing ink for wet offset printing, however, requires more water than normal offset ink.
- The pH of the wetting solution must be slightly acidic, between 4.8 and 5.2.
- Desensitizing ink can be used on the majority of plates. As a general rule, the plates should be resistant to solvents. Some plates, however, are sensitive to solvents and

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can be damaged by the ink. It is therefore recommended to carry out a preliminary test, applying a layer of desensitizing ink to a colored image area of the plate and waiting 24 hours. If the transparent layer is not colored by the ink, the plate can be considered resistant to desensitizing ink.

- Desensitizing ink can be used for both positive and negative plates.
- Desensitizing inks are guaranteed for a period of two years, in appropriate storage conditions.
- Polyurethane inking rollers cannot be used with desensitizing inks.
- For machine washes (plates, blankets and inking rollers) normal solvents can be used.

Controlling the desensitizing effect

Proper desensitizing can be confirmed in the following manner:

- 1) place a recently desensitized CF or CFB sheet at the exit of the machine
- 2) wait 5 minutes to allow penetration of the neutralization in the coated layer
- 3) superimpose a CFB or CB transmitter sheet and, using a pen, draw a line across the neutralized area without tearing the paper
- 4) After a minimum reaction time of the colorless substance (leukocyte) of the microcapsules with the coating of the CF side, the effect of this ink can be confirmed with a line tester or by transparency

The desensitizing effect is considered sufficient if no visible coloration appears on the desensitized surface of the paper (not to be confused with the temporary mechanical deformation of the paper due to the pressure exerted by the typewriter or pen).

However, it is more practical to use Eurocalco Spray Developer. It is recommended that the spray be applied at a distance of 20-30 cm from the desensitized zone. If correctly desensitized, the area will remain totally white.

Properties of desensitized areas

- Can be written on with a pen
- Minimal yellowing due to ageing
- Permanent desensitizing effect even with prolonged exposure to sunlight
- Highly water and moisture resistant

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