

FOLACOAT / FOLACOMP – THE SYSTEM SOLUTION FOR INLINE COATINGS

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OVERVIEW OF SYSTEM COMPONENTS – PRODUCT DESCRIPTION

Coatings of high-quality packaging are faced with ever-increasing demands. Coating is promotion and protection in one. For this reason, Folex has developed high-capacity coating plates for partial and flood coating that are primarily used for the direct transfer of varnish.

In contrast to the familiar rubber blankets, the carriers of the Folacoat coating plates are based on dimensionally stable polyester foils, polyester foil laminates or aluminum polyester laminates. A varnish-transferring (cover) polymer is applied precisely to the respective carrier type.

Generally, the polymer is equipped with an additional slipping film that supports the movement of the cutting heads of CAD cutting systems. This prevents uneven cutting movements as well as damage to the plotter head and the coating forme. The slipping film also protects the polymer surface during transport and storage.

For smooth production with high coating quality, we recommend our Folacoat system solutions. The Combination of our Folacomp underpacking materials with the Folacoat coating plates offer a fully functional system.

Our compressible Folacomp underpacking forms the basis for a smooth production run and supports the Folacoat coating plate with regard to even varnish transfer. The compressible system components are also gentle on the roller bearings of the printing press.

Folacoat coating plates are designed for the direct transfer of the varnish onto the printing material. A polymer layer that has been specially developed for the transfer of varnishes (and not for the transfer of ink as is the case with blankets) achieves excellent gloss results with low ink build-up. In contrast, the rubber printing blankets, also often used for coating, were designed for the ink transfer and show ink build-up. In the case of Folacoat coating plates, the contours on non-varnish areas have to be cut in order to manually lift the relief areas.

The Folacoat Plus coating forms enable the even transfer of dispersion coatings + UV coatings. Key features are their high resistance to the substances contained in these coatings and the respective cleaning agents.

These forms are available with either a slipping film for preparation on cutting plotters or with light-sensitive Diazo coating for marking out the lines that will be subsequently cut out.

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Folacoat Extreme PET: the special top polymer shows less swelling in combination with aggressive UV coatings which lead to a longer life time of the coating plate. It's also useable for the transfer of water based coatings. The preparation of Folacoat Extreme PET is similar to Folacoat Plus PET and it's available in the thicknesses 1.15mm and 1.35mm.

Folacoat compressible: in order to meet demands when inking up coating forms using hard Anilox-Rollers, we have developed the compressible Folacoat coating forms. In addition to the carrier, these comprise a compressible foam layer and the familiar polymer for varnish transfer. The compressible Folacoat Comp is currently only suitable for the transfer of watery dispersion coatings and is offered in PET and ALU versions.

Folacoat Easyspot: self-adhesive, transparent Folacoat cover polymer as a functional layer for application on aluminium printing plates or polyester foils. Ideal for small coating areas and print runs.

Folacoat Basic NQ PET: cost-effective coating plate comprising a single layer polyester carrier and newly developed top layer which is suitable for aqueous and UV coatings.

The transfer layer avoids ink build up of high pigmented special inks and low migration inks.

Folacoat Ultra T: strippable and compressible coating plate with a pink transfer polymer, suitable for aqueous and UV- coatings. The slipping- / protection film on top of the polymer ensures a smooth move of the cutting head over the polymer surface.

Please note that positive coating areas should have a minimum width of approx. 1 cm (.40"), due to the ideally adjusted strip adhesive between top polymer and carrier.

MANUAL PREPARATION OF FOLACOAT COATING PLATES WITH DIAZO COATING

For the manual coating form preparation, the polymer has a thin, UV light-sensitive Diazo layer. This offers the user a simple method of transferring the cutting layout to the coating plate by using an additional positive film (e.g. FOLEX ReproJet P).

For a true to scale transfer of the varnish layer it is necessary to include a distortion factor during form production. This means that the circumference length of the positive film must be reduced by the distortion factor (please also refer to the information "Distortion factor calculation").

The areas that are later to transfer the varnish are light-protected by the positive film. In these areas, the Diazo layer remains unhardened and is washed out during the subsequent development. The Diazo layer that is hit by the UV light hardens and highlights the areas to be cut out manually. Non-coating areas need to be subsequently lifted out manually by a lifting tool. Any inadvertently exposed areas that should remain coating-transferring, are easy to free from the hardened Diazo layer using water.

You will find further information in our information sheet "Folacoat Diazo – Filmmaking and Exposure" and "Folacoat – Vorbereitung/Preparation".

COATING FORM PRODUCTION ON CAD CUTTING SYSTEMS

Machine processing on a cutting plotter offers the following advantages:

The distortion factor is taken into consideration by the software of the cutting system. The plotter also cuts much faster and more accurately. A cutting system also allows complicated areas to be cut, i.e. circles, half-circles, which are difficult to cut manually.

The surface layer of our coating forms has a slipping film, which also functions as a protection film. This supports the simple movement of the plotter head of a CAD cutting system over the polymer, which in turn prevents damage to the coating form or the cutting plotter caused by the jolting movements of the cutting blade.

Furthermore, the slipping foil supports the visualization of the polymer areas to be cut out. The separated slipping film is clearly visible and reduces the likelihood of overlooking any relief areas in the cover layer.

After the slipping film has been cut and removed, we recommend cleaning the varnishing polymer surface with a soft cloth and water in order to remove any contaminants or sticky leftovers of slipping film.

The correct cutting depth can be found in the respective data sheet that is available for each product. When using the PET coating plates, it is reached when you can see the fine white line of the rear side. When using ALU coating plates, there must be no visible imprints of the cutting blade on the rear side. Cutting tests should be carried out first in order to prevent damage to the lower base film. Please refer to the respective data sheet for the product used.

After cutting, the non-varnishing areas can be removed (stripping). If larger areas need stripping, these should be cut in strips no larger than 5 cm (2 inch) wide. This is important to prevent damage to the carrier. The Folacoat lifting tool is used to lift a corner of the polymer. The polymer layer should be pulled off slowly so that the carrier film does not lift up, which could cause deformations. (Please refer to the information sheet "Vorbereitung/Preparation").

The polymer that has been removed can be disposed of together with normal household waste as it is not damaging to the environment. The coating form is finished when all areas that are not to be varnished have been removed.

APPLICATION OF FOLEX COATING PLATES

For information on how to use the coating forms in the coating unit of printing presses, please refer to the manufacturer's operating manual for the machine.



Depending on the machine type, it may be necessary to improve the damping characteristics of the cylinder design during runtime, due to the hard polyester base film or the aluminum carrier. To optimize the damping behavior of the cylinder design specially for machines with chambered doctor blades, we recommend using our compressible Folacomp underpacking together with our compressible coating forms.

Folacomp enhances the compressibility of the packing and achieves an ideal rolling.

CLEANING OF FOLACOAT COATING PLATES

As a suitable cleaning agent, we recommend a 1:1 mixture of petroleum ether/water, a 1:1 mixture of Isopropanol/water or lukewarm water. Never use slowly evaporating or greasy cleaning agents. For further details, please refer to our information sheets "Folacoat Cleaners" or "Folacoat UV cleaners"

STORAGE OF FOLACOAT COATING PLATES

All Folacoat coating plates should be stored in their original packaging in small stacks until they are required (avoid subjecting plates to pressure from above). The storage time for new coating plates should not be longer than one year. In order to prevent pre-exposure of the Diazo layer, we recommend storing Folacoat coating plates with Diazo coating in their original packaging and in black packaging film to protect them against light and moisture. The ideal storage temperature is between 18-22°C with a relative humidity of 50-55%.

After cleaning and drying, the coating plate can be stored for repeat jobs. Always ensure that the polymer is clean and dry. Ideally, they should be stored suspended. The form should be wrapped in a film in order to prevent the surface of the polymer being covered in dust. PET coating plates (not aluminum plates) can be rolled up for storage purposes if required. Always protect against dust.

ADVANTAGES OF FOLACOAT COATING FORMS

- High dimensional stability due to polyester/aluminum base film
- The PET coating plate has a carrier comprising two laminated polyester foils, the carrier of the ALU coating plates comprises one layer of aluminum and one of polyester respectively. Even when the top carrier foil is cut, the bottom carrier is undamaged and strong enough to prevent the coating form from tearing.
- Can be used again, high print run stability
- The forme can be prepared outside the printing press, thus preventing costly downtimes.

- The preparation time for a format, e.g. for Speedmaster CD 102 is
 - approx. 1 – 1.5 hrs. plotter setup
 - approx. 2 – 2.5 hrs. Diazo version,
 - manual cut (depending on the number and shape of the relief areas).
- The dimensionally stable polyester/aluminum foils improve fitting accuracy of the register punching.
- The micro-rough surface means it is possible to achieve a better gloss than when using a blanket or photo-polymer plate for varnish transfer.
- Due to the water-friendly surface of the polymer, the ink build-up during "wet-on-wet" printing is considerably less than when using a blanket, the surface of which is intentionally ink-friendly.
- This reduces the need to clean the coating forms, which in turn reduces time-consuming downtimes. Customers report that they have been able to process 30,000 or more printed sheets before having to clean the form.
- No need to re-tension the coating form. This also reduces downtimes.

If required, our coating forms can be supplied barred. Please contact your local retailer if you require this service.