

**ACRYLAC®**

## Mother of Pearl

### System description

Pearlescent pigments are used in the offset process to simulate metallic, glossy, mother-of-pearl effects. The pearlescent effect is based on phenomena also familiar in nature. By applying extremely thin films to areas of a print, you can create iridescent and glittering surface effects. The light is refracted, reflected and scattered at the interfaces between the films of these small pigment particles. Superposition of the reflected rays results in a varying kaleidoscope of colours. The viewer perceives a different optical impression of the surface depending on the incidence angle of the light.

A pressman with a coating unit with screen roller, chambered doctor blade and filled with ACRYLAC Mother of Pearl coating is well equipped to produce packaging that features fascinating new effects.

A wide range of products is available for this application. The pearlescent effect varies from matt-satin to glittering finishes depending on the size of the pigment particles.

### Printing characteristics

The special pigments are integrated in water-based vehicles. The transparent appearance of the vehicle gives the surface of the board or paper a metallic iridescent character once the pearlescent coating has dried. If brilliant surfaces are to be obtained, it is essential that the pigment platelets position themselves plane-parallel to the surface during the flow phase.

ACRYLAC Mother of Pearl coatings are similar to water-based coatings in terms of vehicle formulation, and therefore have similar performance characteristics. They dry quickly by setting and by evaporation of their water component.

Unlike the oxidative-drying vehicle systems in offset inks, which emit a characteristic „offset odour“ as they dry, ACRYLAC Mother of Pearl coatings are based on an aqueous vehicle system. The organoleptic values of these inks, as measured by Robinson tests, are comparatively low, which means the inks are particularly suitable for striking and dramatic decorating of food and cigarette packages.

### Application instructions

The inks are supplied ready to use.

The viscosity of the product may increase if it is stored for a longer period.

We recommend you use a 4-mm flow cup (formerly DIN 53211) to accurately determine the viscosity. The draining time should be approx. 30 – 50 s (depending on the printing forme).

Use water to reduce the products.

The polymer plates must always be cleaned immediately whenever the press is stopped.

Due to their high inherent mass, the mother-of-pearl pigments have a tendency to settle. For this reason, always stir the coatings well before use.

## Press instructions

The ideal medium for transferring precisely metered quantities of the ink is a screen roller with chambered doctor blade system. Depending on the cell geometry of the screen roller, 40 – 50% of the cell content is transferred to the stock to be printed. The choice of a suitable screen roller depends on the size of the pigments in the mother-of-pearl coating used and on the desired effect.

Application of this product using a conventional coating unit (with pan roller, metering roller) is less favorable compared with a chambered doctor blade and screen roller system, because the quantity of ink transferred is too irregular and fine typefaces and details block up.

The draining time should be approx. 30 – 50 s from a 4-mm flow cup (depending on the printing forme). In order to prevent the pigments from separating and to reduce the amount of foaming, the ink should be stirred continuously and slowly in a vane agitator during application.

## Important information

ACRYLAC Mother of Pearl inks offer good lye penetration on drinks labels. They do not offer the same degree of lye resistance as offset inks do, because the water-based vehicle dissolves totally in the softening lye. The effect pigments disperse in the washup lye. Coloured pigments used to tint the ink are, thanks to their extremely small particle size, suspended so effectively that the lye appears coloured.

The degree of alcohol fastness, e.g. to package contents, must be tested in the field. What's more, these mother-of-pearl inks do not always offer adequate resistance to water in the event of ambient moisture or the water-based adhesive on the label acting upon them. You should therefore determine in advance whether or not the constituents of the label adhesive have a problematical influence on the ACRYLAC Mother of Pearl ink.

You must make sure before beginning a large print run that all potential reactions with the mother-of-pearl coating have been checked. This is the only way to achieve reliable production.

The same applies to other properties of the coatings:

- lye resistance
- lye penetration time
- alcohol fastness
- condensate fastness
- wet-blocking resistance
- UV lacquerability
- etc.

You must test whether the coating meets the requirements in the particular case in question, e.g. bottle labelling. Apart from that, you must consider what substances can act upon the print (e.g. label) and the ink. The range of applications is so diverse that we can't go into individual cases in more detail in this information sheet. What does, however, have to be taken into consideration are, for instance:

- the substrate used
- the bottling temperature
- the package contents
- sealing of the bottles in film

Heat-sealing resistance depends upon many parameters, which is why we recommend you carry out tests under field conditions in this regard.

Suitability for finishing with hot-stamping film must be tested in the field. It is dependent upon the substrate and the type of film used.

Heat resistance to the various tool materials (e.g. metal) must likewise be tested in the field.

If there is a possibility of the print being subjected to moisture (e.g. double-sided coating) or if the package contents (e.g. detergents, grease, etc.) could have a potentially negative influence on the packaging or the coating, you must likewise conduct appropriate tests to determine suitability.

When applied in line with recognised procedures, ACRYLAC Mother of Pearl coatings are suitable for manufacturing food packaging in accordance with food regulations. The coatings must not come into direct contact with the packaged foodstuffs and any transfer of substances through the substrate to the package contents must be excluded.

More information on the subject of food and consumables packaging can be found in the information sheet entitled „Druckfarben für Lebensmittelverpackungen“ (Printing inks for food packaging) published by the German Printing Ink Manufacturers' Association.

ACRYLAC Mother of Pearl coatings have a shelf life of 6 months from delivery if the container is not opened. After opening the container, the coating should be used up as quickly as possible. After being stored for a period of 6 months, the properties of the ink must be verified.

Always stir the ACRYLAC Mother of Pearl coatings well before application.

ACRYLAC Mother of Pearl coatings must be stored in a dry, cool but frost-free place.

## **Information about printing food packaging**

This water-based coating is not specifically formulated to ensure low migration. For this reason, we recommend this coating for manufacturing food packaging only if the transfer of constituents from the coating film to the foodstuff (by means of migration or invisible set-off) can be ruled out owing to the composition of the packaging and the processing conditions.

If this is not the case, we recommend that you use our specially formulated, low-migration ACRYLAC-MGA products.

For further information, please consult the EuPIA customer information leaflet „Printing Inks for Food Packaging“ or the hubergroup statement „Note regarding the use of standard inks and varnishes for the manufacture of food packaging“.

## **Classification**

Safety Data Sheet available on request.

## **How supplied**

25-kg plastic canisters

Contact addresses for advice and further information can be found under [www.hubergroup.com](http://www.hubergroup.com)

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