

# ECO-IMPRES -5001

## Water-based General Purpose Duct Overprint Varnish

### TECHNICAL DATA SHEET



<b>INTRODUCTION</b>	<p><b>Eco Impres 5001 - General Purpose Duct OPV</b> is a coating product designed to offer reliable on-press application via the ink duct. It can be applied in-line over wet ink as well as via off-line coater unit. Excellent stability and press performance. High solid content ensures good gloss levels and slip characteristics. Fast drying and superior rub resistance properties provide maximum press speed potential with minimum transfer times between print and finishing. <b>Eco Impres 5001 Duct OPV</b> has all the benefits of water-based coatings without the need for a dedicated coating unit.</p> <p><b>Eco Impres 5001 Duct OPV</b> is suitable for use in the carton, catalogues and magazine sectors, and is recommended for food packings, if contact is indirect. It is not suitable for direct food contact. <b>Eco Impres 5001 Duct OPV</b> is suitable for use on toy packaging and certain school materials, where very high HR properties are not required.</p>
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<b>AREAS OF APPLICATION</b>	<table border="0"> <tr> <td>Carton printing</td> <td>Label printing</td> <td>Book covers</td> </tr> <tr> <td>Magazine covers</td> <td>Gift wrapper</td> <td>Product Catalogues</td> </tr> <tr> <td>Soap wrappers</td> <td>Coffee Table Books</td> <td></td> </tr> </table>	Carton printing	Label printing	Book covers	Magazine covers	Gift wrapper	Product Catalogues	Soap wrappers	Coffee Table Books	
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<b>FEATURES &amp; BENEFITS</b>	<ul style="list-style-type: none"> <li>❖ A gloss enhancing, slip promoting and protective water-based duct-applied overprint varnish</li> <li>❖ Provides medium scuff- and blocking resistance under standard printing and print processing conditions</li> <li>❖ Based on the combination of high quality imported and local raw materials, it provides desired print enhancement and protection characteristics coupled with competitive price regime</li> </ul>
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- ❖ Press performance of this product is tuned to suit most highspeed printing machines and carton packaging stocks
- ❖ Stable on the press but dries quickly on the printed stock
- ❖ Recommended for single sided applications only
- ❖ Suitable for the off-line coating operations. In case of in-line coating machines (wet-on wet coating over multi-station offset printing machine with in-line duct unit), print stock related prior testing is necessary. At times use of spray powder / smaller print stocks and intermittent airing of the printed stocks could be necessary
- ❖ APEO free formulation

**APPLICATION  
PROCESS & PRINT  
CHARACTERISTICS**

**Eco Impres 5001 Duct OPV** has been formulated for application via off-line coater units as well as in-line duct coating systems. The coating dries via a combination of absorption and evaporation and requires accelerated dryers in the form of hot air knives and IR lamps. Optimum stack temperatures are 28-32°C. Application of a medium to large sized spray powder is recommended.

**Eco Impres 5001 Duct OPV** can be applied as an all over solid image using a rough grained aluminium plate or as a spot image by stripping a blanket or by employing a photo-polymer plate.

Upon starting up, it is recommended to apply a heavier than usual film weight. This will assist with any initial drying/stability problems. The film weight can be reduced as required. During press stops, the plate and blanket should be cleaned using either warm water or a dedicated wash. Upon starting up, the rollers should be sprayed with a fresh start retarder in order to ensure a clean start up.

Single / Double sided	Single sided only
Heat resistance	Below 120 <sup>0</sup> C
Alcohol resistance	Not specifically designed for this end-use
Foil blockable / Glueable	Always check before use as glues behave differently and are based on different chemical entities
Soap and alkali resistance	Not specifically designed for this end-use

Though not specifically formulated for minimum odour and taint properties, the general exclusion of the toxic materials and overall selection of the raw materials make this product acceptable for food quality (indirect contact) and school materials.

**PRINTING STOCKS**

Different types of paper boards, coated paper stock (recommended stock GSM more than 80) or art cards

**TYPICAL PROPERTIES**

Brookfield Viscosity @30°C	: 5000 – 7000 cps
pH	: 7.5-9.5
Re-solubility / machine stability	: Excellent
Scuff / Rubs [wt 2 lbs]	: Medium
Solids	: 52 ± 2 %
Gloss (at 60° in GU on Paperboard - print with bar coater no. II)	: 55 - 60
Dry film clarity	: Highly transparent
Slip	: Reasonable (could be adjusted as per customer specifications)

**TYPE OF INKS RECOMMENDED**

For the high-speed printing machines, where backing up or further print processing is required to be carried out without much delays, quick set variety of inks are recommended to obtain better performance with these water-based coatings. Inks should be free of silicon, PTFE and hard PE waxes. Inks based on organic toners like violet, pink and reflex blue must be strictly avoided, as they tend to bleed or change colour because of the reaction with amines in water based coating systems. In all such cases inks based on chemical resistant pigments are to be employed.

In-line coating of the print jobs with very heavy ink coverage, at times requires extra addition of the wetting additive (refer to water-based surface wetting additive - Eco Impres 6005 literature) to obtain trouble free coating performance.

Sometimes it is advisable to use special coatings on print jobs with heavy metallic gold inks.

**DRYING OF THE COATING**

Once the sheets are coated, they will be almost touch-dry on delivery. Drying is usually enhanced by a dedicated drying system, the most common of which being combination of IR lamps and hot air knives. The use of IR lamps allows the printer to control drying speed and print stack temperature. The ideal stack temperature for single side work would fall between 30 to 35° C (depending upon stack height, printing speed, relative humidity on that day, coating film weight, film weight of the ink underneath, the stock grammage and surface characteristics). This stack temp. recommendation drops down to 27 to 30°C, when coating is on the second side (double sided coating in case of commercial print jobs). Presence of effective exhaust system goes long way in obtaining trouble free print runs.

## COATING MILEAGE

Heavy grammage stocks, rapid press speeds, very high gloss coatings, highly inked print stocks and immediate back-up are all scenarios, where extra spray powder is recommended. A medium particle sized spray powder with medium to high spray coverage should suffice to cover such print job requirements (spray powder with larger particle size at a reduced coverage is more efficient than smaller particle sized powder with high spray coverage).

Recommended wet film weight for this coating is between 4 to 8 GSM (wet) depending upon nature of the stock used and the ink coverage on the print job. Usually highly coated stocks require only about 4 GSM of wet coating to give highly glossy effect. It is important to note that after a certain film weight is reached one does not get any further improvement in gloss and may face problems in terms of drying / crazing and lay of the coating. Hence as in the many other cases, optimum coating film weight is the name of the game.

It is erroneous to measure the coating mileage based on the setting of the sweep of the coating station. If the viscosity and/or tack of the coating is higher, then even at the lower sweep setting the coating film weight carried is a lot higher than that in the case of coating with low viscosity and/or tack. This problem is usually minimized in the case of "Flexo" coating units.

Although the coating mileage is primarily dependent on the solid contents/ resin solids of the water-based coating, one also has to factor in a few other important characteristics for the precise evaluation and these additional factors being:

1. Resin quality used in terms of its gloss performance and likely absorption in the stocks. Lower absorption in the stocks directly means at lower film weight one gets very high level of gloss.
2. Print job – as the ink coverage on the job makes a considerable difference in the desired gloss level, it is pertinent to carry out comparison on the same or similar jobs involving same quality of the print stock.

Other areas to be watched:

3. Amount of spray powder required to be used
4. Minimum oven temperature and possible curling of the stock (in case of low grammage stocks only), which may give further problems in punching and creasing operations.
5. Sometimes very high resin solids and correspondingly high coating tack results in ink transferring on the coating rollers – necessitating frequent stoppage of the machine to clean the coating blanket.
6. Finally, the machine stability and the lay of the coating are also important factors while comparing two different coatings.

**OPERATION  
RELATED  
PRECAUTIONS  
AND CLEANING  
PROCESS**

When the coating/printing operation is stopped for any minor adjustments / corrections - keep the coating roller or anilox idling inside the coating duct - this prevents coating drying on the roller / anilox.

In case of long stoppages, it is advisable to disengage the roller / anilox from the coating duct and clean the same off the aqueous coating to prevent the coating drying on the same.

**PACKING**

20 and 240 kg in HDPE containers

**STORAGE, SHELF  
LIFE AND  
HANDLING**

Store in shadow with temperatures not exceeding 30°C and not below 5°C. If kept unopened and under recommended storage conditions, then this product has a minimum shelf life of 12 months. Always shake before use. Always keep the lid tightly closed on the half-opened container. During the use, do not put the coating to intense or vigorous agitation, as this increases the tendency of foaming. If possible, use peristaltic pump on the printing machine. The return pipe from the coating duct must always be touching the bottom of the coating vessel/container, as this avoids excessive foaming. During the long print runs, make an attempt to keep the coating container lid tightly closed. Coating, when wet could be cleaned with water (cold or warm water).

For the information on use of water-based coating additives, which help to modify the coating properties (to suit the machine and print job requirement), please refer to our water-based coating additive guidelines. This literature will also help in overcoming some of the frequently experienced coating related problems or headaches.

**HEALTH & SAFETY**

**Formulation** : In accordance with BCF  
"Raw material selection"

**Manufacture** : Bulk manufactured in accordance  
with BCF "Good manufacturing practice"

**Hazardous Goods label** : Not required  
Risk in usage This coating will  
not pose any significant hazard  
provided reasonable standards  
of industrial practice are maintained.

## DISCLAIMER

The information contained in this product data sheet corresponds to our current knowledge and experience. The liability for the application and processing of this product lies with the buyer, who is also responsible for observing the third-party rights. Also, we reserve the right to alter any of the details presented here because of technical or manufacturing development

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