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ECO-IMPRES - 4008

Aqueous Paper/ Carton MATT Roller Coating OPV

TECHNICAL DATA SHEET

INTRODUCTION	**ECO IMPRES 3008 i**s suitable for application via the majority of in-line or Wet over Wet coaters on modern Offset Printing Machines like Heidelberg's, Komori's, Mitsubishi, Roland, KBA, Ryobi, etc. Application can be via conventional three roller methods, doctor blade and anilox or new technology enclosed chamber anilox systems. A fast-drying premium emulsion, exhibiting a reasonably neutral matt (gloss level up to 10) finish without much compromising on scuff and rub properties. Formulated as a double-sided emulsion. Also, could be employed as wet – on – dry or off-Line application where necessary. ❖ A matte gloss level, slip promoting and protective water based clear over-printing varnish - popular along with Matte finish coatings for Cosmetic packaging requirements ❖ Provides high scuff and blocking resistance under standard printing and print processing conditions ❖ Based on the combination of high quality imported and local raw materials to provide desired print enhancement and protection characteristics coupled with competitive price regime ❖ Press performance of this product is tuned to suite most high speed printing machines and carton packaging stocks ❖ Stable on the press but dries quickly on the printed stock. ❖ Suitable for double sided applications. ❖ Suitable for the off-line coating operations as well as in-line coating machines (wet-on wet coating over multi-station offset printing machine with in-line coater unit). ❖ Low VOC, APO and Glycol free formulation ❖ Minimal effect on the underneath printed ink shade ❖ Appreciably resistant to nail and scratch marking
AREAS OF APPLICATION	Carton printing Label printing Book covers Magazine covers Gift wrapper Product catalogues

	Soap wrappers Coffee Table Books
APPLICATION PROCESS & PRINT CHARACTERISTICS	**ECOIMPRES 3008 Aqueous Paper/ Carton Matt Roller Coating OPV** is applicable via off-line coater units as well as in-line tower coatings based on "Anilox" or Roller coating systems. For the Gravure / Fountain Duct or Ink Duct application systems refer to supplier.
PRINTING STOCKS	Different types of paper boards, coated paper stock (recommended stock GSM more than 80) or art cards
TYPICAL PROPERTIES	Viscosity Ford cup IV (@ 30^0 C) : 50-60cps pH : 7.5-9.5 Re-solubility / machine stability : Excellent Scuff / Rub - 2 Pounds (face -to- face) : Medium Solids : 40 + /- 1 % Specific gravity : Close to one Dry film clarity : Highly transparent Slip :Reasonable
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 as for as feasible 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 w/b coating additive 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 35^0 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 30^0 C when coating 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. Heavy grammage stocks, rapid press speeds, very high gloss coatings, highly inked print stocks and immediate back-up are all scenario's 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).
COATING MILEAGE	Recommended wet film weight for this coating is in 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 on the basis of 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 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 (read here resin solids) of the water based coating one also has to factor in 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 considerable difference in 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 is also a important factor while comparing two different coatings.
VISCOSITY	❖ For high speed machines and in-line coating 35 to 45 seconds ❖ For off-line coatings or slow machines 45 to 60 seconds Since addition of water lowers the viscosity at rapid rate, it is recommended that water should never be added at levels more than 2 to 3 %. Addition of excessive water results in sinking of the coating in the stock, thereby lowering the gloss level. Further, presence of excessive water means demand for additional heat energy to dry the coating this in turn may result in curling problems in case of low grammage printing stocks
FOAMING ISSUES	Foaming is an inherent phenomenon of chemistry employed in these aqueous systems. The foam is generated due to turbulence / agitation levels within the aqueous coating application process. The foaming is curbed by employing external surfactant, called defoamers and or de-aerators. Generally these surfactants are of sacrificial nature - which means they themselves get consumed in the process of killing the foam generated. Excess addition of these defoamers at the coating manufacturers end presents problems, such as fish eye effect and or imperfect lay of the coatings. Certain grades of these surfactants, when used in excess are likely to affect the Over-Printing / Gluability / Foil Stamping acceptance characteristics of the dried aqueous coating film. The precautions required to be taken at the time of coating application to prevent excessive foaming being: 1. Ensure minimum feasible level of turbulence while applying the aqueous coatings a. The coating duct outlet pipe must be left deep inside (bottom) of the coating holding container b. If feasible employ peristaltic pump (operating on the squeezing like tooth paste technology) rather than normal pumps c. In case of excess build up of foam in the coating tray or tank, spray or add recommended dosage of the defoamers compound supplied by the coating manufacturer 2. Once the coating work is finished, the coating application system could be cleaned with hot ammonical or soap water. It is important that the coating is not allowed to dry completely on the roller or anilox as then the removal of the same becomes that

	much difficult. The steps to follow as soon as the work is finished are: a.Dis-engage the anilox or rubber roller from coating duct b. On one hand apply hot soapy water to the anilox / rubber roller / rubber blanket - to prevent coating from hard drying c. On other hand empty the balance coating from the coating duct. d. Simultaneously clean the coating duct and anilox / rubber roller etc thoroughly off remaining aqueous coating
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.
PACKING	20 and 240 kg in HDPE containers
STORAGE, SHELF LIFE AND HANDLING	Material should be store in shadow within 5 - 30^0 C temperature. 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 these 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 w/b coating additives, which help to modify the coating properties to suite the machine and print job requirement, please refer to our W/B coating additive guide-line.
HEALTH & SAFETY	**Formulation** : In accordance with BCF "Raw material selection" **criterion** **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 as a result of technical or manufacturing development.

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