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## Recommendations for converting API 'ONE' laminated boards

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### UV Printing Inks

The ideal process to print film laminates is without doubt UV curing inks. Set-off problems are overcome, and work can be released for cutting and creasing very soon after printing.

### Conventional Litho and Letterpress Inks

#### Ink Type

Special inks are required for printing Nitro Cellulose lacquered film lined board. Inks must be composed of fully oxidisable material. Drying is by oxidation only; no setting is experienced as with absorbent substrates.

#### Anti Set-Off Sprays

Spray powders should be kept to the minimum amount possible whilst avoiding set-off. Excessive use of spray spoils the rub or scuffs resistance of the print and foil surface.

#### Stack Heights

Stack heights must be kept to a minimum (12-18"). Adequate airing of the stack is also a sensible precaution to ensure good drying.

#### Ink Weight

Use low ink film weights to give faster drying whenever possible.

#### Water Settings

Use the minimum possible damper settings. It is advisable if possible to run plain water in the fount. Fount solutions, if used, should not be too acidic (pH 5.5 has been found satisfactory) and used sparingly. Some damping systems and orders with low print take off may require the addition of up to 12% Isopropanol to reduce the surface tension and minimise the amount of water carried onto the sheet.

#### Ink Viscosity

The inks can be run straight from the tin. If adjustment is required, follow the ink manufacturers' instructions. Generally, mineral oil, paste and gel reducers should not be used.

#### Drying Additives

Additives can be added to the damping solution for improved drying under difficult conditions e.g. low ink take off, again we would advise the printer to take the recommendations of the printing ink supplier. Care needs to be taken not to make the ink unstable on the press.

It is very important to ensure sheet damping is even across the sheet and an excess of water at the edges is avoided.

It is advisable to use additional driers in the ink to ensure hard drying.

### Screen Printing Conventional

API film laminated board can be printed by using conventional screen inks. We recommend that before printing, a test print is carried out with co-operation from the ink supplier.

### Screen Printing UV Cured

None of the suppliers of UV screen inks are prepared to give a guarantee or recommend a grade of ink without pre-production trials on film laminated board.

### Gravure Printing

API laminated board is suitable for Gravure printing however we recommend pre-production trials to optimise the ink and solvent formulation prior to bulk production.



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## Recommendations for converting API 'ONE' laminated boards (Cont)

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### Print Finishing

#### Foil Blocking

API film laminated board can be blocked using the recommended stamping foil for Nitro Cellulose coated foil board. A range of approved foils is available from API – please contact your laminates representative for further details.

#### Film Lamination

API film laminated board can be film laminated using OPP, Cellulose Acetate or Polyester films. Two component cross linking adhesives are normally used for OPP and Polyester. It is very important that no retained solvent is present at the laminating nip; a heated nip roller generally gives better results. Great care is needed with regard to retained solvent as the lacquer on API laminated boards is soluble in Ketones, Esters and Alcohols.

#### UV Overvarnish

UV overlacquers can be used as a substitute for film lamination but pre-production trials are recommended.

#### Normal Overvarnishing

Solvent based overvarnished can be used on API film laminated board, however, solvent selection is important and again pre-production trials are advisable.

#### Side Seam Gluing Adhesives

Side Seam gluing is best carried out using synthetic Copolymer adhesives of the VAE type. Suitable adhesives are available from all leading adhesive suppliers – please speak to your preferred manufacturer for details.

#### Embossing

API film laminated boards readily emboss and can therefore be recommended for this process.

#### Overwrapping

API film laminated board is suitable for overwrapping with the following films: coated and uncoated polypropylene, cellulose and nitro cellulose coated cellulose.

#### Reverse Printing

Printing can be carried out on the pulpboard surface by Litho, Letterpress and Screen using conventional and accelerated drying paper inks.

#### Creasing

Correct selection of creasing groove and depth of impression made by the creasing rule is important. The creasing rule depth/groove size is calliper related.

**Note: Before printing we recommend that the board is allowed to reach press room temperature before unwrapping. To prevent curl it is also advisable to keep the board covered with a moisture resistant wrapper between processes.**

For additional information please contact:

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