

A Guide to Printing Tyvek® and Tyvek® Brillion™

Tyvek® is a tough, durable substrate made from 100% high density polyethylene. The sheet is formed first by spinning continuous strands of very fine interconnected fibres and then by bonding them together with heat and pressure.

Lithographic printing

Printing

Tyvek® can be printed in much the same way as paper. It has no grain direction; it is corona treated and has an anti-static agent to facilitate ink adhesion and runnability. Unlike other materials these treatments are permanent.

Tyvek® has a smooth and a slightly rougher side and although both sides are printable, solids are best printed on the smoother side. The swirl pattern of the fibres will show through most inks. Because Tyvek® is more compressible and owing to its inherent thickness variation, it may require more impression than paper of an equivalent thickness; blankets of medium hardness are recommended. Multi-colour work should be completed in one pass through the machine to avoid stretching. Heavy edge to edge ink coverage may cause curling; by leaving a border this can be avoided.

Inks

Most commercial inks contain Hydrocarbon solvent and plasticisers which may cause the substrate to swell and cockle. It is therefore important to use inks which contain less than 3% solvent. Most ink manufacturers will be happy to recommend inks for use on Tyvek®. As ink will set and dry more slowly on Tyvek® compared to paper, it is important to keep the pile height below 50cm when multi-colour printing.

Damping

This should be reduced and maintained at the lowest possible level; excess fount will retard or prevent the ink drying. Also, Tyvek® does not absorb water as readily as paper. It is unaffected by alcohol and alcohol substitutes. The printing of Tyvek® Brillion™ is particularly suited to thermal transfer printing. Hot laser printing is not recommended.

Spray powder

Always use a non-vanishing spray powder.

UV Litho printing

UV cured inks and varnishes print satisfactorily, but check with your ink supplier to confirm compatibility. Control the temperature of the lamps to avoid overheating and distortion.

Other printing methods

Tyvek® can be printed by all conventional methods. It is best to contact your ink supplier for suitable inks and our Technical Services department for printing advice. It is also suitable for some forms of digital printing, solvent based inkjet and Indigo Omnibus. Tyvek® Brillion™ is particularly suited to thermal transfer printing. Hot laser printing is not recommended.

Finishing and subsequent processes

Folding

Tyvek® will take a dead fold and can be folded on normal folding machines. An increase in roller and spring tension will produce sharper creases. Owing to the slippery surface, soft, rubber covered rollers will aid feeding.

Guillotining

Because Tyvek® fibres are very strong, each must be completely severed. Knives must therefore be sharp.

Punching and perforating

Best results are obtained from sharp, well registered and closely fit punches. The punches may be either smooth or serrated and cut best if ground concaved on the ends. As Tyvek® is stronger than conventional paper, a large tie area is not required when perforating. A 10:1 cut to reserve ratio is recommended, with a cut running off the edge to ensure initial tear.

Adhesives

Natural product adhesives based on dextrin, casein or animal by-products can be used. Water based synthetic lattices form fibre bonds with Tyvek® and hot melt adhesives are available. It is always best to advise your supplier that it is to be used with Tyvek®.

Further information is available from Robert Horne Technical Services.

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