

Pigment Inks for Lamination Papers

Introduction

Laminates printing is dominated by rotary gravure with spot colors mixed prior to printing to achieve a natural wood effect design. Typically, inks are printed onto a décor paper or foil and then post laminated to a base layer, most commonly via a melamine resin impregnation under high temperature and pressure. In some cases, an image is applied directly to the core structure and then a top varnish is applied. Digital printing has the potential to revolutionize the laminates industry by offering just in time production with greater design freedom and color accuracy potential whilst providing huge savings in inventory of printing cylinders and finished stock.

Benefits

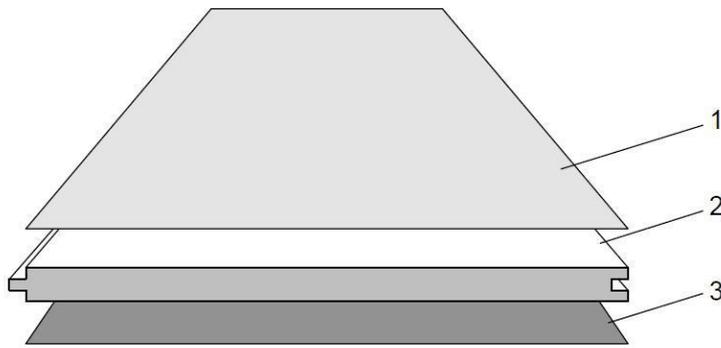
Digital printing offers significant benefits to companies in the flooring and furnishing industries using lamination technology. As consumer demand for bespoke products increases, digital enables producers of laminate materials to benefit from faster introduction of new designs, increased productivity and reduced printing and storage costs, especially for short runs. This is coupled with the potential to print higher detailed and more widely colored designs without needing to commit to minimum volumes to meet the required costs. Further to the print benefits, the requirement to keep stocks of product and huge libraries of analogue cylinders are reduced and impacts cash flow positively.

Sensient's focus is on innovation and offering value to our customers, giving them a competitive advantage in their business by enabling them to deliver outstanding quality prints to their buyers.

Sensient's SensiJet® HPL range of digital pigmented inks is specifically designed for the laminate market and uses carefully selected colorants that stand up against analogue equivalents. Such advanced technology allows HPL inks to offer the ultimate performance in color combined with outstanding production reliability, fastness and compliance to flooring and furnishing standards.

How laminate printing works

Inks formulated with carefully selected pigments are digitally printed onto lamination paper, which is either pre-impregnated with a melamine resin or will travel through a melamine bath after decoration. Laminate flooring and furnishings typically have a three-layered structure process, as detailed below:



Key

- 1 Surface layer
- 2 Substrate
- 3 Backing

1. Decorative paper + overlay
Layer consisting of sheets impregnated with thermosetting resins, pressed using three different techniques:
 - a. *High pressure laminates (HPL)*
 - b. *Continuous pressed laminates (CPL)*
 - c. *Directly pressed to the substrate (DPL)*
2. Main Core (typically MDF or HDF)
3. Stabilizing layer (backing, typically HPL or CPL impregnated papers or veneers)

The decorative layer, overlay and stabilizing layer are impregnated with special environmentally friendly resins. High pressure is applied to press them onto the core.

Sensient's knowledge of the lamination industry and its requirements allow us to offer products to fit with market processes and requirements and to ensure that any ink designed takes into account the need for color control, thermal and light stability and ease of use in maintaining the quality standards established by our customers.

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