Value added print applications in lamination are a growing sector of the print industry. Traditional lamination is already a well-known technology, but over the past ten years the technique of thermal lamination has made significant inroads towards acceptance. Due to decreasing run lengths and shortening production turnaround times, the market share of thermal lamination is growing. The development of digital printing, with its short run lengths and specific toners and inks, is also driving this phenomenon.

GBC is an important player in the field of consumables, as well as equipment for thermal lamination. A US-based company, GBC Films Group has its European headquarters and production plant in Kerkrade, located in the Limburg region of the Netherlands. Giel Klinkers, European Marketing Manager at GBC Films Group Europe, explained the factors that differentiate GBC from its competitors. ‘We have competitors, but none of them have the GBC range of offerings,’ said Klinkers. ‘We supply the machines, as well as the consumables, whereas other companies only do one or the other. Having our own film production facilities means that we can efficiently provide a complete programme – our customers don’t run the risk of being sent back and forth in case of problems. GBC is responsible for the complete solution.’

GBC is not the only company to recognise the momentum of the lamination process. Other suppliers are aware that more and more printers are promoting their capability to produce laminated print products as a selling point, and a strategic way to distinguish themselves from their competition.

‘By offering laminated capabilities, printers can present compelling advantages to their customers, such as the potential for a classier and more luxurious finish to printed products, the ability for strengthening, protecting, sometimes securing the product, and in many cases also a better colour rendition,’ noted Klinkers. ‘Regardless of the kind of printed products – books, folders, magazine covers, packages, annual reports or postcards, lamination always results in graphic products with more added value and a longer life cycle.’

Technology

For years, traditional lamination was considered to be the leading technology to provide printed products with a laminate. Now the thermal process is making a strong challenge. GBC is distinguished by their special thermal lamination technique. The following is a brief summary of the difference between both lamination techniques.

In the traditional lamination process, better known as ‘wet lamination’, the raw film and the adhesive are separately fed into the laminating equipment. The adhesive is then coated onto the raw film and dried in an oven. Pressure, generated through a counter pressure roller and a heated chrome calender, ensures that the coated film adheres to the printed paper or board.

In thermal lamination, better known as ‘dry lamination’, the film is already pre-coated with an EVA adhesive using an extrusion coating process. The pre-coated film is thermally re-activated via a heated chrome calender and then pressed onto the printed paper or board using a counter pressure roller.

As thermal lamination becomes more and more efficient and, in combination with smaller run lengths and shorter throughput times, GBC forecasts an increase of thermal lamination at printers (offset and digital) and trade finishers.

Applications

In the past, there were quite a number of applications that could only be realised with traditional lamination. The thermal technology, however, is in the process of catching up, Klinkers said, ‘About 95 per cent of the applications can now also be..."
realised with thermal technology. In the past, for instance, a textured film – think of linen or leather texture – could not be processed. Today, we have even seen the appearance of certain new high-end products exclusively for thermal lamination. Mattled laminates are still prone to scratches, but GBC has brought a scuff-free film to market, which makes this a problem of the past. It is a matt film on which an additional highly scratch resistant coating has been applied – a unique product that can only be achieved by means of thermal technology.

Furthermore, a Hi-Tac Lay Flat film has been developed specifically for the lamination of prints from toner systems, such as those from Xerox and Xeikon. ‘The problem was always that it was difficult for glue to stick on this specific toner. We have developed a new glue that reacts with the glycol from the toner, thus resulting in a good adhesion,’ explained Klinkers. ‘On top of this, the innovative formulation of GBC Hi-Tac Lay Flat film allows the paper to “breathe”, preventing any curling as the result of humidity. This film has been certified by Xerox in Rochester.’

For printed material from HP Indigo there is no need for a special film: as a result of extensive tests and co-operation between GBC and HP at R&D level, GBC standard films can be used.

Ease-of-use
Thermal lamination has many advantages from the perspective of graphical quality. Laminating directly on powdered prints is less problematic with the thermal process because the glue layer is thicker and therefore capable of absorbing the powder particles. Also, the common problem of Reflex Blue bleeding underneath a laminate layer is not an issue when using the thermal process.

‘From many standpoints, there are a number of important advantages,’ emphasised Klinkers. ‘The process is a lot less complicated. This is of most importance to companies who, for example, only use digital printing. For them, outsourcing of laminating jobs to third parties could be a problem, from a logistical viewpoint, as well as for meeting deadlines. Doing it in-house is the best solution, but then they need a push-button machine that is ready for use. Ease-of-use is of the highest priority for our laminating machines. Specialised knowledge of the laminating process is not required, and the change of film rolls only takes five minutes.’

Productivity and investments
Which laminating machine should be used, and when? A paramount question, not just to trade finishers, but also to printers who want to use this value-added application in-house.

‘We apply different business models for calculating the laminating costs and all lead to the conclusion that traditional machines require a three times higher investment than the thermal systems,’ said Klinkers. ‘In order to write-off these higher investments, it is necessary to do larger run lengths. This is in direct contrast to the general trend, which is to do smaller run lengths in combination with shorter throughput times.’

Obviously, the latter also holds for digital printing. For that market segment, with a typical width of 520mm, no machines are available for traditional lamination. ‘GBC recognises the importance of this market segment, and for that reason we do carry 520mm wide laminating machines,’ added Klinkers.

Profitability
In regard to the on-demand market, GBC also addresses the professional trade finishers. Klinkers noted, ‘Our new laminator, the Centurion2, is ideally suited for this market segment. This 1020mm wide machine runs at 60 metres per minute and provides the advantage that B1 sheets can be fed widthwise, resulting in a 35 per cent productivity increase.’

A large Italian trade finisher has decided to purchase the Centurion2 to replace its traditional laminating machine. A second Centurion2, also replacing a traditional laminating machine, is currently on order. A promising response to GBC’s new technology, but what does the thermal process have of becoming the leading technology in the market?

‘Many companies still assume that traditional lamination is cheaper, but we need to take a number of important factors into account,’ responded Klinkers. ‘If you consider the lower investment costs, higher speed, reduced waste, and lower labour cost by virtue of more production in a shorter period of time, it appears that in many cases the total cost of thermal lamination is lower. A very important factor in all this is the considerably higher productivity of the thermal process.’

Based on specially designed business cases, GBC will analyse a company’s needs for lamination and will provide professional advice, recommending how a company can enhance its profitability.

Safety and Environment
In the US, thermal lamination has become very well established. Klinkers pointed out that the US market share for thermal has increased to 95 per cent. ‘Ecological aspects seem to play a decisive role,’ he stated. ‘The glue used for thermal lamination is being classified as thermo-plastic material and therefore, perfectly recyclable. The user doesn’t have to stock glue containers and the machines don’t need to be thoroughly cleaned after each run.’

Thermally laminated print work readily meets the strict US safety and manufacturing regulations, enabling the technology to be used for applications such as packaging of food and children’s toys.

Future Perspectives
GBC is striving to achieve a five to ten per cent growth rate in the traditional laminating market. This will be achieved by demonstrating thermal lamination’s potential for increased business and profits.

‘We want to send a strong message that customers can enhance their productivity, and thus their profitability, by using thermal machines,’ Klinkers concluded. ‘In the market of on-demand jobs, we position ourselves as a complete solutions provider, not just equipment sales. We have the technology and expertise to help companies to strategically integrate thermal lamination, thus gaining the flexibility and responsiveness that is required by their customers.’