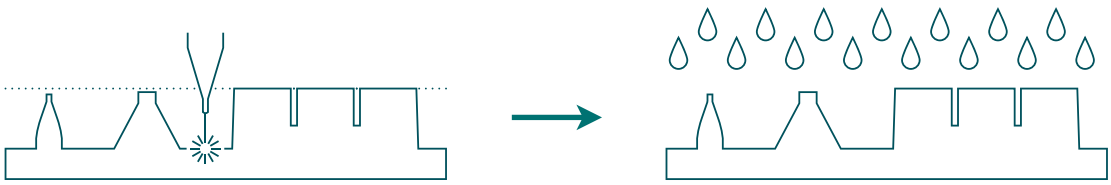
“Plate on Demand” – flexographic printing forms when you need them

In offset printing, the production of printing plates has largely been standardized. The equipment involved in the process is straightforward and consists of a small number of devices that are easy to use. The high level of standardization and minimal complexity of the plate manufacturing process mean that most offset printers now produce their printing forms themselves. But what is the situation in flexographic printing?

Printing form production in flexographic printing

In flexographic printing, printing forms are generally manufactured by service providers and delivered to printers. If you look at the reasons for this, two situations immediately stand out. The production process for a photopolymer printing form involves a lot of stages and requires a lot of equipment. In addition to these material resources, the production of high-quality flexographic printing forms demands a certain level of specialist knowledge. The print data needs to be prepared in a “flexographically friendly” way, color profiles need to be adjusted to suit the printing conditions and the process parameters in printing form production also need to be monitored. Print shops often do not have these material and personnel resources. As a result, it is very difficult for print shops to produce their own printing forms themselves.



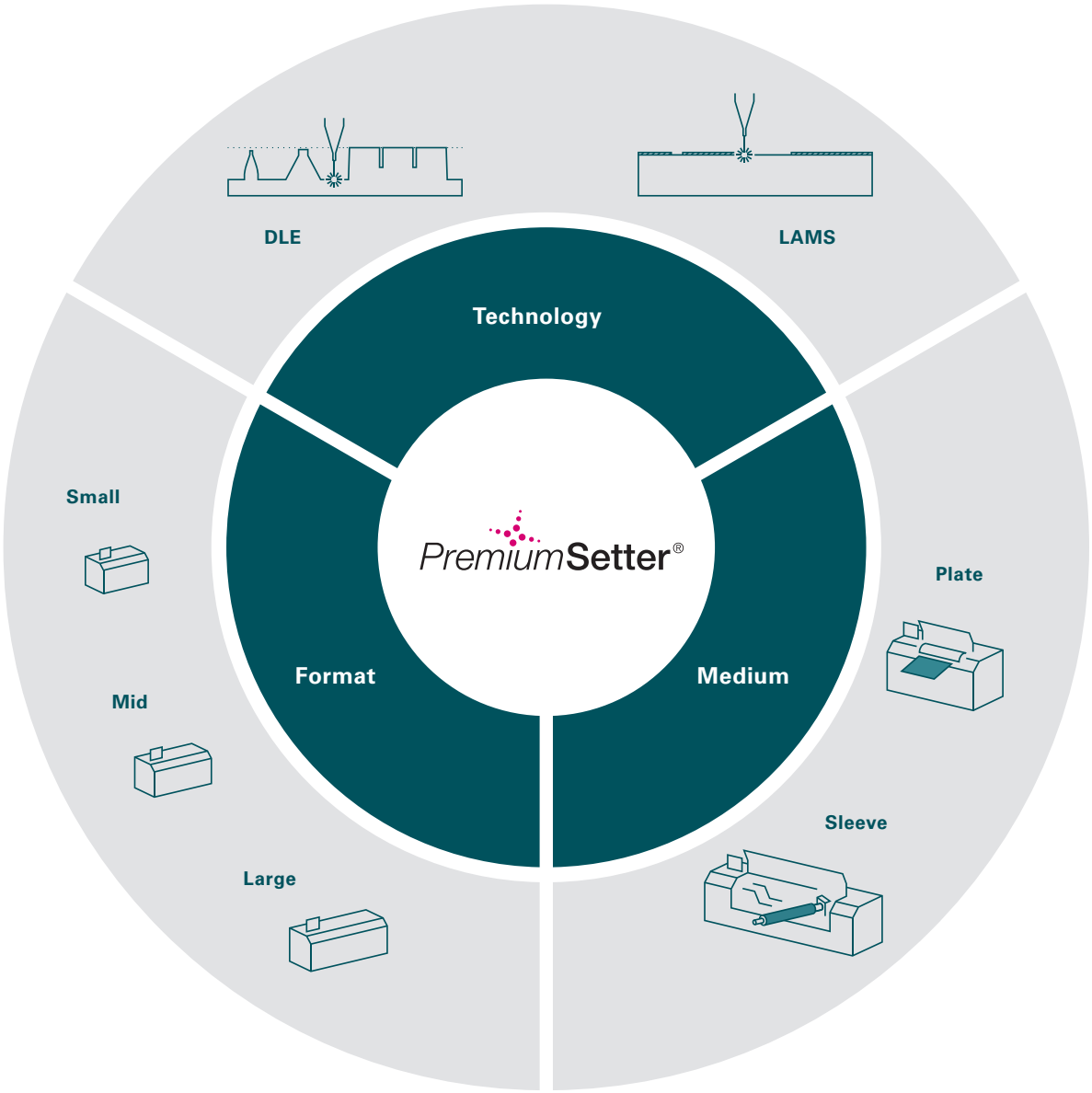
In direct engraving, the imaging is done in a single step. After subsequent cleaning with a high-pressure water jet and brush, the printing plate is ready for printing.

Making printing form production lean

Manufacturing a photopolymer printing form requires up to seven partly analog process steps. This means printers that want to produce their own printing forms need to invest in imagesetters, washers, lasers, dryers/finishers, as well as possibly a laminating machine and a distillation system. All in all, it is an undertaking that requires a lot of staff, a lot of space and involves a lot of costs.

If continuous print motifs also need to be produced, the equipment for manufacturing printing sleeves needs to be provided too, in addition to printing plate production.

Fully digital direct laser engraving offers a way out of this difficult situation. The ready-for-press cliché is imaged with just one device in a single step. A high-energy laser produces the three-dimensional relief in a single operation. The laser is extremely easy to use and can be operated even by non-specialists after a little training. Direct engraving systems can also be configured as hybrid machines so that printing plates and sleeves can be manufactured on the same device.



The PremiumSetter direct engraving system is fully configurable, for example as a hybrid machine for imaging plates and sleeves.

Are direct lasers slow?

Print quality has reached an extremely high level with both photopolymer and elastomer printing forms, which means that print quality alone is often no longer the deciding factor when choosing the printing form.

Direct lasers can now process up to 1 m^2 of printing form within one hour at a maximum resolution of 5080 dpi with a screen ruling of up to 80 l/cm. In two-shift production, it is therefore possible to meet demand for around 4,000 m2 a year.

The main advantage of photopolymer printing forms is the throughput in square meters per hour, which is far higher than in direct laser engraving. Service providers naturally have to produce a high volume of square meters to remain profitable. For print shops, however, the productivity of a direct engraving laser is in many cases sufficient.

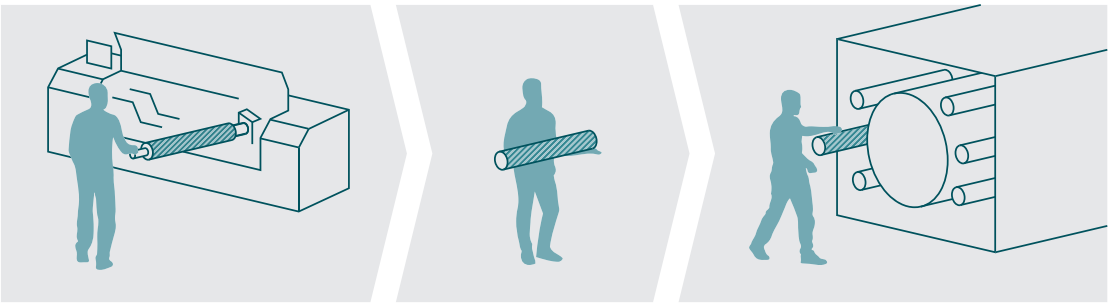
The PremiumSetter D2000 images up to 1m² of elastomeric printing plates per hour in HD quality.

Integration into the print shop

Systems for the direct engraving of elastomer materials require little space and consist of a manageable number of units. After laser engraving, the printing form only needs to be cleaned with a high-pressure water jet and brush. This can be done by hand or by using fully automatic washing equipment. Such equipment can be installed in just a few days.

On the hardware side, it is therefore relatively easy to get a print shop in a position where it can produce its own printing forms “at the touch of a button”.

This leaves the question of how to prepare the print data. If a print shop does not have its own prepress department, one practical solution is to have classic prepress service providers create the print data and only bring the imaging of printing forms into the print shop. Lasers can be supplied with engraving data via an Internet-based interface.



With "Plate on demand", the printer generates the printing forme himself and is in print within a very short time.

Faster to the press with “Plate on Demand”

Plate on Demand means moving the imaging of flexographic printing forms into the print shop. One big advantage of this for everyone involved in the process is the fast availability of the printing form on the press. Once the print motif has been approved, the printer creates the required printing forms and is at the printing stage within an extremely short time. Nothing needs to be physically transported from the prepress provider to the printer, which cuts costs further and benefits the environment.

If printing forms are faulty, jobs can often be interrupted because it can take a lot of time to get replacement printing forms. An in-house direct engraving system makes it possible for printers to provide a replacement printing form for the press within an extremely short time without having to interrupt the job.

To sum up, it can be said that using appropriate equipment can help flexographic print shops get their products on the market faster. Direct supply routes can help cut costs and minimize press downtimes.