

ProPrint

Stairway to Productivity in Print

Böttcher – Your Productivity Provider

In any modern production process, the key to sustained success in an increasingly competitive environment is productivity. Of course, quality is also paramount, but more and more, quality is assumed to be a given, and economic considerations take over as the decisive factor making the difference between success and failure. Accordingly, we at Böttcher look at ourselves as fundamentally a Productivity Provider. Our products are designed to enable you to produce day in, day

out at the highest quality levels, with the maximum consistency and productivity possible. But in today's industrial marketplace, it's not only about maximization. The key is to perfectly match the specific requirements of each customer, each product and each production process with products which are tailor-made to achieve the optimum balance of quality, economy and – in a growing number of industrial situations – ecological and other regulatory demands.

ProPrint System of individual product solutions

Böttcher's unique **ProPrint** system makes it easy to practically key in your requirements and – with the support and advice of your local Böttcher representative – find exactly the right combination of

technical features for the job you have in hand. We don't believe in forcing you down a particular technological avenue simply because the options we have to offer are restricted. Our goal is to offer you

a clearly graded system of product solutions which fulfills all of your needs, but doesn't force you into expensive technological overkill.

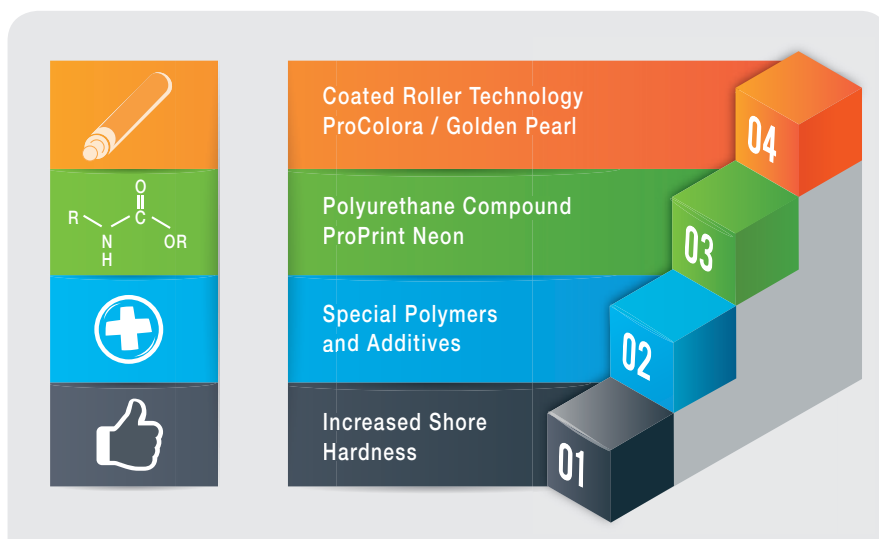


Illustration 1: Böttcher's ProPrint Concept at a glance

What does ProPrint do for you in practice?

In offset printing – whether in commercial sheet-fed or packaging applications – many of our customers are searching for ways to cut down maintenance time, speed up job and colour changes and generally achieve more productive time on their machinery. With run lengths clearly trending downwards, reducing the down time between

jobs becomes crucial in running a productive plant and maintaining a competitive edge. Our “Stairway” concept offers you a number of easily applied solutions to reduce the need to stop the press to re-set roller nips or cut the time needed to clean the ink train and get back up and running, even when changing from dark

to light colours in one or multiple units. And each of these carefully designed solutions comes with its own specific cost, enabling you to select the option which leaves you most margin and the greatest freedom in your job calculation and pricing.

Wash and other cleaning products

Let’s start with the step which is easy and fast to implement: the wash and other cleaning products (e.g. roller deep cleaners and decalcifiers). Whether your inks dry conventionally or are cured by one of the modern array of UV technologies, Böttcher, as the world’s largest and leading manufacturer of dedicated cleaning products for

graphic applications, can provide you with a carefully selected system of products which we guarantee will maximize the effectiveness of your roller and blanket cleaning and very probably reduce wash consumption at the same time (with all the implications for your carbon footprint that come with that). This is the first step on the

stairway, the substrate on which the rest builds. Illustration 2 shows the difference when changing from a dark colour to yellow when the rollers have been cleaned with a basic roller wash (on the left of the picture) and a specially formulated wash at the top end of the product scale.



Illustration 2: Colour change dark/light using different washes

A question of hardness

If your primary concern is reducing stoppage time for roller adjustment (for example, if you are running mainly process colours and simply need to get your presses running more continuously), the simplest solution is to switch to a harder roller compound. For this reason, all our inking roller compounds for offset printing are available in a range of at least 4 different durometers: from 25 to 40 Shore A, with some compounds also being available in 45 Shore A or even harder, if required.

Illustration 3 shows the significantly reduced rates of roller shrinkage on harder versions of one and the same basic compound.

Many printers have been trained or become accustomed to running softer compounds, particularly in form roller positions, and are hesitant to increase the hardness of the compounds, in case they reduce operating latitude. But basically, the opposite applies: Inks and washes will always – in the long term – extract so-called plasticisers from the rubber, making them shrink and become harder. When you re-set rollers which have shrunk to the original stripes, you are effectively (because of the increased rubber hardness) changing the transfer pressure in the roller nips. This means that – with the best

will in the world – your process conditions are constantly changing, provoking frequent operator intervention to react to the changing transfer conditions. Running harder rollers in the first place gives you greater long-term consistency (rollers containing less plasticisers from the very beginning lose less over time) and process and quality stability. Besides, most sheet-fed presses running UV inks come equipped with rollers in 40 Shore A, rather than the 25 Shore A typically used in printing with conventional inks.

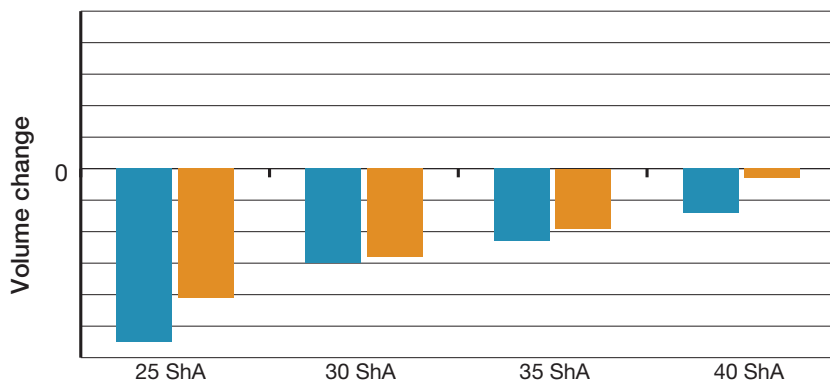


Illustration 3: Shrinkage rates in different ink in relation to roller hardness (after 7 days immersion at 50° C)

Inner values

The next step on the stairway is our ECS series of roller compounds. These compounds are designed to speed up colour and job changes while at the same time reducing waste and wash consumption. ECS compounds incorporate special polymers and additives which enhance the cleanability of the rollers and get you back up and running quicker than is possible with conventional roller coverings.

Special surface finishing techniques produce an ultra-smooth roller surface, reducing the volume of ink in the roller train and thereby enhancing the speed with which alterations in ink settings take effect.

The ECS product range covers the whole spectrum of offset printing and ECS compounds are available for both conventional and UV inks, and for

those printers alternating between conventional and UV on the same press.

ProPrint ECS 178 25 / 378 38

(we recommend using 178 25 for the form and 378 38 for the distributor rollers).

Besides their excellent cleanability, the 178/378 compounds are extremely shrink-resistant, retaining their dimen-

sional stability and original hardness for much longer than standard roller compounds. This equates to more consistent print quality, less operator intervention and longer roller life.

ProPrint ECS 718 40

This compound offers the same advantages as the 178/378 compounds, coupled with excellent compatibility with UV inks of all types and generations.

ProPrint ECS 277 30/377 35

These two compounds rank among the best rubber grades we have ever produced.

Always a leader in the field of dual purpose compounds for mixed mode UV/conventional printing, Böttcher has adapted the classic Chameleon compound series to offer benefits to all printers using modern UV drying technology:

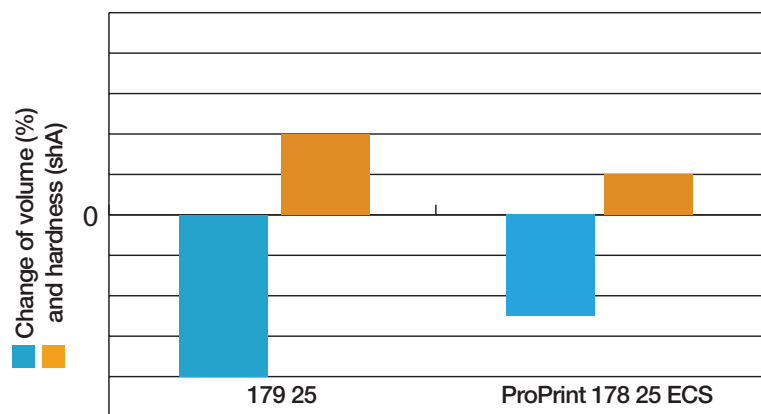
- Supersmooth surface and special polymers work together to afford unparalleled washability.

- Excellent compatibility with even the most aggressive UV inks (e.g. for printing on plastic and other non-absorbent substrates).
- The compound of choice for LED-UV systems.

On account of their exceptional performance, the ProPrint ECS compounds have quickly established

themselves as original equipment materials on many new sheet-fed press types. These compounds represent an ideal blend of technological performance and economical cost, bringing many benefits of ground-breaking roller technology to printer who prefer to remain with rubber as their roller covering material.

Comparison between ProPrint 178 25 ECS and 179 25, both 25 ShA, with Eco Masterprint Black (7d, 50° C)



ProPrint Neon: Polyurethane roller technology at your service

The next step on the stairway is a brand new compound made not of rubber, but of a polyurethane material. Up until now, polyurethane rollers have seldom been used in offset printing, due to their susceptibility to react with moisture and gradually degrade on press. However, Böttcher has developed a new polyurethane material which – while not fundamentally negating the process of hydrolysis – significantly delays its onset, enabling the printer to benefit from the undoubted benefits poly-

urethane brings to the offset printing process. ProPrint Neon comes with dramatically increased resistance to mechanical wear or surface cuts and abrasion, can be used in conjunction with both conventional and UV inks (separately or alternately on the same press) and has an inherently smooth and easy-to-clean surface finish. Like all elastomer roller coverings, this material is also subject to the diverse chemical influences of inks, fountain solutions washes, etc., all of which can affect them and

cause among other things changes in roller hardness. While rubber normally becomes harder, polyurethane will tend to become softer over time. For this reason, the roller hardness should be checked regularly, in order to recognise any signs of the beginning of a process of hydrolysis. In this way, the undoubted benefits polyurethane offers to the offset printer can be enjoyed without the constant fear of premature chemical breakdown.



No more compromises: coated roller technology

The “top step” on the stairway is the best and most advanced roller technology we have to offer. Special surface coatings enable what we call “function separation”, a huge step forward in optimizing roller performance. “Normal” roller materials have to satisfy different requirements, some of which are almost contradictory and accordingly difficult to achieve.

For example, making a highly elastic roller covering for today’s high-speed presses which at the same time affords good chemical resistance to inks, washes, etc. is not an easy task. The result is



always to some degree a compromise, usually leaning in one direction or another, allowing the

printer to select the best option for his specific process needs.

Böttcher ProColora and Golden Pearl

ProColora coated rubber rollers allow the surface coating to optimize ink transfer and make the roller practically insensitive to chemical attack, while the underlying rubber takes care of the dynamic requirements of even the fastest presses. For the first time, there are no more compromises. Furthermore – in contrast to some other coating technologies on the

market – **Böttcher’s ProColora** coatings are impervious to cleaning chemicals, so practically no restrictions apply. Having said that, the unique cleanability of **ProColora** enables you to use a mild cleaning agent, and a lot less of it as well! Production trials in print shops have shown that wash consumption can be reduced by more than half and washing time

is cut by up to 40%. Think of what that extra time can do for productivity in your pressroom!

A similar concept in dampening rollers is also available, under the name **ProAqualis**.

While **ProColora** works well on its own, in conjunction with standard rilsan-coated vibrators, the ultimate result is achieved when **ProColora** rollers are paired with our **Golden Pearl** alternative vibrators. These are covered in a specially developed hard elastomer compound which offers much greater mechanical strength than rilsan, has a mirror-like surface and – on account of its very thin coating thickness – greatly improves the performance and effectiveness of water-based vibrator cooling systems, removing most of the insulation effect of the thicker rilsan coating.

As a consequence, on top of the benefits of further reduced cleaning and changeover times, energy consumption (and cost) also falls.

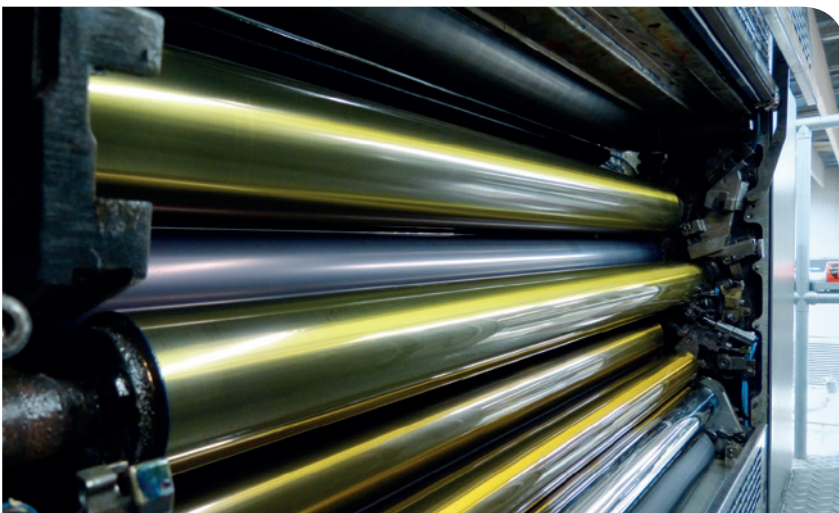


Illustration 6: ProColora and Golden Pearl rollers on press



The value proposition

Of course, having a range of technical solutions catering to all requirement levels is great for the printer, but what about cost? And this is precisely where Böttcher's unique Stairway to Productivity in Print concept comes into its own. Each step comes with its own cost

model. Starting with wash optimization and the shift to harder compounds gives you more than half of the total benefit at no or negligible added cost. The next step, the **ECS** roller compounds, does come with a slight cost increase, but you will

quickly find that the time and consumption reductions far outweigh this. And so it goes on: with **ProColora** rollers at the top of the scale costing around twice the price of "normal" Böttcher roller coverings, our stairway concept offers you the choice not only of technologies, but of how much benefit you really need. With Böttcher, you are only paying for what you really need to get the most out of your production, never for things you don't need. In short, you are in full charge of your spend and your productivity level. And – every step of the way and all over the world – Böttcher will be right there at your side to back you up with first-class service and technical support, whenever you need us.

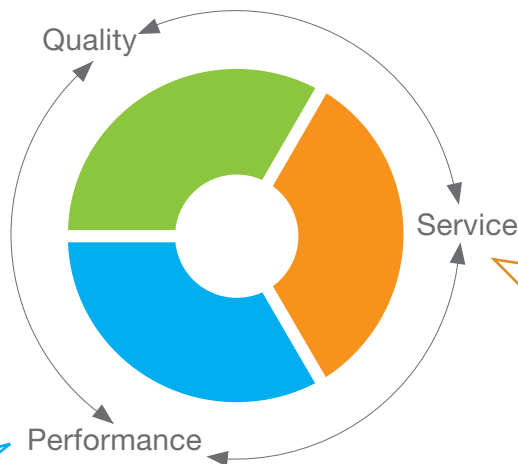
Rely on us for Quality, Service and Performance

Böttcher quality is not merely the result of a tightly controlled production process. It also requires a great deal of research and development.

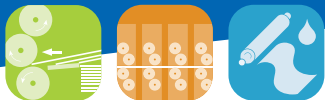
We test 3,000 new compounds for rollers every year, for example. Of those, the field is narrowed to 300. And only the 30 materials that meet

our requirements without reservation eventually reach the market – so that you can be sure of working with the best possible solution at all times.

Böttcher performance has only one objective: to make you even more productive with our high-quality solutions. We make your concerns our concerns, so that your processes become even more reliable and your operations more economical and efficient.



Böttcher service combines the experience gained over 280 years with state-of-the-art know-how and ambitious commitment to our products and our customers. That gives you the assurance of having a reliable partner who knows his business and has his eye on future developments to be prepared for each new trend and challenge.



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