

Heidelberg

News

The customer magazine
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TWO SWEDES MAKE AN IMPRESSION

Bengt & Mats Strand from Malmö

PRINTROOM AIR-CONDITIONING

The perfect humidity & temperature

DEBT MANAGEMENT

How to deal with invoices

HEIDELBERG



Dear Reader,

Have you ever been enticed into buying something because it's attractively packaged or has a fancy label? If so, you may have deemed worthy the work of one of our customers – for example, Freund, a German packaging print shop steeped in tradition, or Strand in Malmö which has become Sweden's largest wet-glue label manufacturer. In this issue of Heidelberg News, we explain the technology used by such companies to produce their printed seducers, and we explain to you among other things by way of an example, such as that of the Speedmaster CD 74 Duo, and by means of the Diana X 135 folder gluer, which can handle even the most unusual postpress requests thanks to its flexible design.

We take a look at the versatility of the Speedmaster SM 52, introduce to you one of the most cutting-edge print shops in the USA – Capital Spectrum – and familiarize you with the innovative print room climate control technology used at the German company of Wolf. We also take a trip back in time at the Gutenberg Museum in Germany, accompany you on a transcontinental trek through the “service desert” and report on the first unofficial world championship, for young printers. Last but not least, we give you a few tips on how to deal with defaulters. We hope you'll find something interesting in this latest issue.

Happy reading!

With best wishes,

Bernhard Schreier
CEO, Heidelberger Druckmaschinen AG

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CAPITAL SPECTRUM INC., USA

Face-to-face-business in Texas

Capital Spectrum Inc. is one of the most modern print shops in the USA. A key factor in the Austin, Texas-based company's success, lies in its personal relationships with its customers. The company does business "face-to-face", for only then can self-evaluation also take place. Smart business ideas and good marketing coupled with a high level of quality are additional basic ingredients in the company's recipe for success. Likewise, a ten-color Speedmaster SM 102 perfecter contributes its part.

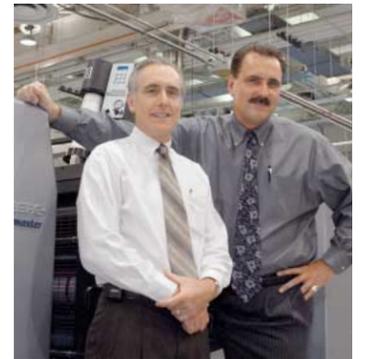
Printing runs in the blood of the brothers Chuck and Vance Sack. Both of these two New York-born Texans of German extraction were practically "raised from the cradle" with the printing trade thanks to their father, Charlie Sack. He was a board member of Hell Graphic Systems, a former Heidelberg division. Chuck Sack received training at the Hell headquarters in Kiel, in northern Germany, and speaks German very well. In 1982, the two brothers opened their company initially as a prepress operation and later took over a print shop in 1995.

Impressively on a hill in the middle of the city stands the "Capitol." You could almost believe you were in Washington. The building also houses the legislative and executive branches of government: that is, of the state of Texas. The city has many attractive shops and a nice bar scene with good beer and live music. Both brothers felt the choice of Austin as a base was also ideal for business reasons, because Chuck believes the capital of Texas has the largest growth potential of any city in the USA. In fact, it is the second-fastest growing city in the USA. "A highly reputable university, an ever-growing population of currently almost 600,000 people and land priced reasonably enough for new residential and business property is available, not to mention a flourishing tourist industry all promising lots of new customers for the printing industry," as Chuck Sack was confident from the very beginning. Companies like Dell Computer, Motorola and IBM are also headquartered in Austin. With a staff of around 145 in a 9,290 square meters (around 11,110 square yards) former missile assembly hangar, Capital Spectrum generates earnings of about 23 million euros (around 30 million U.S. dollars) from business with Fortune 500

companies like Yahoo, 3M, IBM, Motorola, Intel and AMD. Its average print runs range between 5,000 and 25,000 copies.

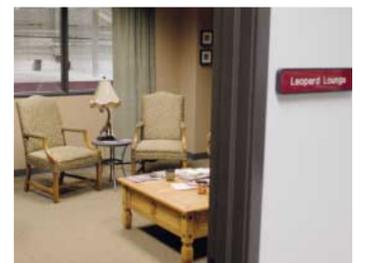
Palm or Leopard Lounge? Great importance is attached to absolute order and cleanliness throughout the company. The building is tastefully decorated with very impressive paintings. Customers and business partners instantly feel at home here. Two cosy rooms, the Palm Lounge and the Leopard Lounge, with televisions, Internet access and refreshments, are provided for customers to pass the time waiting for proofs. And clients make full use of this facility. In some 80 percent of jobs a proof by the customers is desired, so about six of them visit the site every day, where they enjoy the excellent hospitality of Chuck and Vance Sack. Every customer is always welcome. Situated on the top floor, the lounges have windows with an unobstructed view of the huge pressroom.

This consideration for the customer is part of Capital Spectrum's corporate philosophy. Chuck Sack attaches great importance to personal contact with his customers and calls it face-to-face business. His sales staff also has to develop close contact with customers in order to adequately convey to them the benefits provided by Capital Spectrum's high-quality services. The company's portfolio includes layout, prepress, press, postpress, storage and logistics. This is another reason why Chuck Sack does not see the Internet as a suitable platform for the printing business. The company does not take part in Internet bidding for jobs. "On the Internet, the emphasis is not on quality or trust, but on getting the job done as cheaply as possible. For the former a close relationship between the customer and the printer is required," says Chuck Sack assuredly. ▶



Brothers Chuck and Vance Sack, whose father came from Germany. In Austin, Texas, they have fulfilled their dream of running a print shop (left to right).

The Leopard Lounge: If the process of approving the proof takes some time or is done at night, it's important for the customer to feel at home. Drinks, a TV set, Internet access and a printroom viewing window are all part of the good service. (center) The printroom at Capital Spectrum Inc. with large posters from a customer event still up in the background. (bottom)





“We set great store by close contact with our customers.”

Chuck Sack

Chuck Sack in the Palm Lounge with a view of the printroom.



The ten-color Speedmaster SM 102 in the printroom at Capital Spectrum Inc.



Printers Cary Lumsden and Bradley Pfeil checking print sheets and setting up the presses using the Prinect CP2000 Center (left to right).

Quality is paramount. Chuck Sack regards quality as extremely important in always achieving customer satisfaction. The prepress department employs seven staff members for quality management alone, and for some time now at Capital Spectrum digital workflow has been a matter of course. Capital Spectrum also relies almost exclusively on Heidelberg equipment: with Topsetters in prepress and a ten-color Speedmaster SM 102 perfecter, an eight-color Speedmaster SM 102 perfecter, with coating unit and extended delivery, a two-color Speedmaster SM 52 and a Quickmaster QM 46. The finishing department uses Polar and Stahl machines. To enhance cost-effectiveness and be able to produce longer runs, the company decided last year to invest in a new ten-color Speedmaster SM 102. “Compared to the now more than three-year-old eight-color Speedmaster SM 102, the new ten-color Speedmaster SM 102 perfecter naturally offers greater productivity,” explains Chuck Sack and adds: “But this isn’t just because of single- and double-sided printing. Thanks to CtP, AutoPlate and the Prinect software utilized, makeready times have been cut by an additional hour per job.” This time saving helps the two Texan printers with costing, thereby increasing competitiveness.

Quality printing & rattlesnakes. Chuck Sack sees the new Preset Plus feeder as a great productivity booster. “It’s one of those typically German inventions. It looks so simple, but it’s so innovative and useful. “The new Preset Plus feeder also further increases the degree of automation on the press as “it ensures the sheet is transported smoothly and reliably from the pile to the feed table. For that purpose the suction head automatically adjusts the control times to ensure that the correct quantity of air is used at the correct time when the press speed increases,” explains Stan Elliot, production manager at Capital Spectrum. Stan Elliot is a tough cookie and really difficult to impress with anything at all. At his farm just outside Austin, he’s also known to catch the odd rattlesnake or two. The bigger they are, the bigger the tales he tells about that to visitors and co-workers. And he always has pictures of the animals on hand as well.

Technology & quality. The newly designed feed table, now with a 3-chamber system and central suction tape, is yet another major improvement for fearless snake hunter Elliot. This slows the sheet down and guides it very gently to the front lays, before speeding it up

to full production speed again in the front- lay area. An additional multi-stage sheet monitoring system helps prevent double or damaged sheets etc. from entering the press. One of the major advantages for Elliot is the wider variety of preset functions. The key parameters for the preset functions are stored on the CP2000 Center and, as soon as the job data has been entered, the side guide, side stops, lateral sheet separation blowers and suction head are all set to the correct format. The air supply for the suction tape, active pneumatic side guide and drive rollers are also adjusted to the printing stock. These can also be manually adjusted afterwards if required.



The new Speedmaster SM 102 has been equipped with an automatic ink refilling system.

Details & knowledge. Stan Elliot is also impressed by the new PerfectJackets on the Speedmaster SM 102 because, when perfecting, the sheets don’t have time to dry before the reverse side is printed. When the sheet has been freshly printed and is still wet on one side, it must then be transported right through the press again to print the other side, so the impression cylinders have a considerable influence on print quality. “The print quality can be maintained at a high level throughout the entire lifecycle of the press thanks to the new PerfectJackets and their exchangeable jacket. The impression cylinder jacket can be changed without test printing the entire press or time-consuming cylinder mounting operations. Even highly pigmented inks and critical papers can be used. This lets us broaden our job spectrum,” reports Elliot enthusiastically. The new PerfectJackets also save the print shop a lot of time by significantly reducing the cleaning required.

Division of labor & productivity. The new ten-color Speedmaster SM 102 is used for all jobs with five colors or less. All jobs with more colors are produced on the eight-color Speedmaster. With the new press thus all jobs can run in one pass in one-sided and double-sided

mode and in record time. Because around 80 percent of the jobs use five colors or less, this means a considerable boost to the company’s productivity. The misgivings Vance and Chuck Sack and also Production Manager Stan Elliot had that the use of perfecting technology at high speed would not allow the press to be used at full capacity were soon laid to rest. The new press is even running in double-shift operation. The changeover from the SM 74 to the SM 102 was very easy for the employees of Capital Spectrum. Both presses have the CP2000 Center and are very similar to operate. The important thing for Chuck Sack is that every employee can operate every press. This means if a printer is absent, a co-worker can take over his press without any problems. It is therefore a great advantage to him for all his presses to come from the same manufacturer.

News about the new ten-color Speedmaster SM 102-perfecter has now reached customers too. At the same time a great help and a very successful open house event with the company even flying in customers from outside the USA helped to publicize the new press. One of the results of the active marketing campaign has been an increase in the average

run size up to 80,000 copies. “Now agencies are asking more and more for nine- or ten-color runs,” reports Chuck Sack pleased. So anyone that enjoys Texas hospitality, beautiful and interesting cities and tales of snake hunting and is also looking for exceptional print quality is in extremely good hands with the Sack brothers in Austin. ■

Facts & Figures

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STRAND GRAFISKA AB, SWEDEN

Two Swedes make an impression



The stereotypical image of Sweden is one of natural beauty, with its endless forests, crystal-clear lakes, wolves, and elk. Who could possibly associate Sweden with industry or even print shops? But Sweden is of course famous for its quality paper and furniture. Labels for Swedish lemonade, baby foods and fish products and packaging for pharmaceuticals, cosmetics and health-care products are part of the wide range of products from Strand Grafiska AB of Malmö, Sweden. It is one of the most modern print shops in the country – its business model is based on medium-format work, or to be more precise on two Speedmaster CD 74 presses.



Imagine a bright blue sky and tranquil sea, with the waves lapping against the pier in Malmö. From here, you can see right along the coast as it stretches towards the horizon. Towering up above the water is the outline of the Öresund Bridge, one of the longest in Europe. It leads to Copenhagen, Denmark's capital that lies on the opposite coast. The bridge has connected the two countries and cities for several years. The proximity to Copenhagen – the trip over takes only around 15 minutes – has had a positive effect on Malmö's economy. Far cheaper than Copenhagen, Malmö is an attractive location for businesses and house hunters from Copenhagen.

To understand the success of Strand Grafiska, familiarity with this Malmö-based business as well as the history behind this city and region must be gained. Bengt Strand, founder of Strand Grafiska, was born and grew up in Malmö. His heart is attached to it. His son Mats, who is also his copartner in the business, feels the same way. Here, in Sweden's extreme south, very few elk and even fewer wolves wander around. Hunters as a rule very quickly put an end to their excursions into this region. Endless forest, rivers and lakes? That's a misconception, too. And yet, on the

other hand, meanwhile history abounds. Magnificent buildings, some over 500 years old, and in contrast to that a new, very modern bedroom community in the renovated harbor are the main attractions of Sweden's third-largest city of almost 300,000 inhabitants.

Father and son. Bengt Strand, at 67, really only wants to work sporadically at his own company now on an average of three days a week. He enjoys skiing, constantly going on vacation and going with his wife to a fitness studio twice a week. He also enjoys red wine (tasting). The day-to-day business is slowly becoming Mats' affair. Father and son complement each other in everyday life and both are well aware of the benefits – but also the risks – associated with Malmö's geographical location: Just as easily as goods like the labels can be exported to nearby Denmark, Norway, Germany and Poland, so also can printers import goods from there into Sweden. "Thanks to the European Union, the borders are now open – in both directions," notes Bengt pensively, and sums up: "This will further increase the competitive pressure, as companies now have to compete not only against domestic rivals, but also against foreign print shops." With a workforce of 30, Strand Grafiska is one of the largest print shops in Swe- ▶



Håkan Palmqvist refilling ink for the next print job ...

... and checking a freshly printed sheet with Prinect Image Control.



den. Even though there are a few others with 100 and more employees, the vast majority has only small workforces. The company's regular customers, around 50 Swedish customers and a number of Danish ones, all come from industry and Strand Grafiska has built up its machine park to cater to their needs. The products go via the customers on to their cans, bottles and packages and to all of Europe, Russia and the rest of the world. "We are the main producer of wet-glue labels in Sweden and have a market share of almost 80 percent. The customer for these labels dominates the Swedish food industry and is active throughout Scandinavia," explains Mats. Strand Grafiska is not engaged in commercial printing, leaving this to other print shops that are specialized in this line of business. In quantity terms, more labels are printed than packages, but the two sectors are equally important when it comes to actual sales figures. 500 t of label paper are printed every year, and the same amount of cardboard. The average run lies between 10,000 and 15,000,000 labels.

Higher quality means higher prices.

Strand Grafiska's "secret weapon" is its fleet of cutting-edge printing presses from Heidelberg. After all, higher quality means higher prices. "Once customers have had their highly refined labels printed abroad to save a few Euros, as a rule they will quickly come back to us. We recently had an example of this with beer bottle labels. The customer is accustomed to our service and quality. This is the only way for us to operate profitably," explains Mats Strand with conviction. And in order to be able to ensure this, in recent years the company has invested to meet market demands. Bengt does not want to leave his son Mats alone now and he continues to help out. If, for example, sales staff from the office in Stockholm, Sweden's capital, need to discuss technical details with customers, Bengt will in most cases be on hand to help out. His expertise is tremendous because he has worked



Mats and Bengt Strand talking to the HN team. Bengt Strand explaining the challenges of a print job. (left to right)

for a very long time in the graphic arts industry. In 1976, he established his own consulting firm that handled technical production work for agencies, specifically in the printing industry. In 1983, he bought up a post-press company and specialized, among other things, in binding and laminating advertising materials.

His son Mats, 44, joined him in 1986. Mats is a trained electrical engineer and responsible for production, quotes and costing. The print shop was founded in 1989, specializing in labels and packaging printing. In subsequent years it developed into a high-tech business. The upshot of this is that Strand Grafiska AB printed the world's second postage stamp bearing a holographic motif – for the Finnish postal authorities. "It was not through pure luck that we got this order, of course, since we were the first print shop in Sweden to be awarded ISO 9002 back in 1995," explains Bengt Strand. The company has earned its

excellent reputation on two counts – quality and price. "Our customers value our quality, service, punctuality and reliability in production and that naturally comes at a price. We also need to invest accordingly to achieve this and this is something that our customers accept," explains Mats, adding with a smile: "However, we are certainly not among the country's most expensive printers and in the end many of our standards have arisen in response to customer requirements."

Success in Sweden using technology made by Heidelberg.

A four-color Speedmaster CD 74 with coating unit and extended delivery was installed in the company's printroom some four months ago. However, the company's 'centerpiece' is a six-color Speedmaster CD 74, F format, equipped with UV and two coating units. It has been in use for one year and already has run 10 million prints. "We can use UV coating in every printing unit, depending on the needs of the par-

ticular job, while a mobile dryer means we are virtually unlimited in the print stock we use. You can't get more flexible than that," explains Bengt. UV printing offers his business distinct benefits: "We want to offer our customers more UV inks and coatings in the future, since they bond better with non-absorbent materials, don't rub off so easily, and deliver better gloss." The Speedmaster CD 74 has been on the market since the end of 2000 and can process a wide variety of print stock thicknesses ranging from 0.03 mm (0.0012 inches) to 0.8 mm (0.031 inches). What's more, it can do so without changing over the transfer grippers. "This flexibility and ease-of-use make for high productivity and profitable printing," states Mats.

The Speedmaster CD 74 dual-coating press.

"This new technology opens up a whole range of new design options. A high degree of automation, standardized procedures and the integration of processes in the

"Customers know the value of our standard of service and quality. Delivering high quality is the only way to achieve prices that offer good yields." Mats Strand



A selection of Strand Grafiska AB's labels. These products can be found in virtually all Swedish supermarkets.

press lead to material savings and reduced costs. This allows us to meet even the most demanding customer needs at competitive prices," summarizes Bengt Strand. Higher production speeds are generally possible, and this usually produces even glossier results than can be achieved with presses having only one interdeck coating unit.

F format. The six-color Speedmaster CD 74 is ideal for the Swedish products produced at Strand, thanks to the broad spectrum of print stocks that can be used and mainly thanks to the use of the F format. The F format 60.5x74 cm (23.82x29.13 inches) offers distinct advantages over the C format 53x74 cm (20.87x29.13 inches) for package printing. "With certain jobs, we now have six packages on a single print sheet instead of four, thus we thereby achieve an increase of 50 percent. With some labels, we are now achieving 36 instead of 27. These are quite significant figures for us. Since we produce relatively small labels and packages, the F format is just perfect for our needs. We use it for virtually all our label jobs," explains Mats.

High quality thanks to Image Control. "Our customers expect very high levels of quality – and this is where Image Control helps us. If we produce labels for 0.5 and 1.5 liter bottles, they both need to look identical

on the supermarket shelf. There is no room for color fluctuations. Quality is our hallmark. This is something that we can't leave to a printer who may well be exhausted on one day or have a different view of things on Mondays than he does on Fridays. What's more, we have many repeat jobs and these naturally may not differ from each other, even if there is a year between them," explains Bengt and adds enthusiastically: "We have just one type of quality – and that's top quality. None of our customers gets second-best, no matter what job we dealing with."

Since the new Speedmaster CD 74 with UV has been in use, wet-glue labels have also been printed on transparent film. "There is only one print shop in Sweden that can produce labels like these – and that's ours," state Mats and Bengt in unison. These labels create a particularly fresh look on water bottles. Strand Grafiska labels are aimed exclusively at the food market. Every Swedish supermar-

ket carries jars and bottles with labels from Malmö: for example, for applesauce, baby food, soft drinks, syrups and beer.

"The new machines give access to new products and customers, since they offer new possibilities for surface finishing. This is something that customers quickly pick up on," says Mats. Bengt adds: "With these new machines we deliberately want to be among the first companies in Sweden to use such cutting-edge technology because we want to take full advantage of the competitive edge over other print shops."

Postpress now has to work two shifts in order to handle the output of the two new presses. The company uses 4,000 printing plates a year, whereas many repeat orders come up and the printing plates can often be reused. Last year growth at Strand Grafiska was around 18 percent over 2003, with about 3.6 million euros (4.6 million U.S. dollars) in annual sales and this year it is expected to be about 15 percent. The Swedish recipe for success does exactly what it says, and now the two Swedes are the ones really putting pressure on the competition. ■

Facts & Figures

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Plate changing on the Speedmaster CD 74.

Malmö, City with history:

As they are little more than a stone's throw from Copenhagen and northern Germany, the Malmoites – as the inhabitants of Malmö call themselves – often feel they are closer to Central Europe than to their fellow countrymen "way up North". Many centuries ago, Malmö was part of the Hanseatic League of Northern Germany and for a time the city was also ruled by the German King of Pommerania who expanded the old Viking town, adding a fortress. Ultimately in the course of its history, the city became Danish and then Swedish. And that is how it has remained to this day. The architecture still has a Danish flavor, as does the local dialect. As a trading center, Malmö has always been a rich city and, thanks to the Öresund Bridge, has remained so to this very day. Important art exhibitions increasingly come to Malmö first and then to Stockholm, the capital of Sweden – a country with a population of 9 million – and is thus making a strong claim to be Sweden's cultural capital.

The printing industry in Sweden. According to Bengt Strand, commercial printing is not doing particularly well in Sweden, since there is stiff competition from foreign suppliers and a number of large companies are now relocating their offices abroad. The label and packaging sector is currently flat. Its main problem is a lack of well-trained printers. In 1995, there were still 23,000 people employed in the Swedish printing industry. Today the figure has dropped to around 17,000. Prices for labels are at around 1980s levels. Without more efficient machinery, many print shops would simply have been unable to survive in the face of international competition.



Old windmill in Malmö. The harbor with modern residential buildings. The city's old fortress. (left to right)



The Freund Group's management team: Walter Tebbe, technical director, Johannes Birke, commercial director, Karl-Heinz Freund, managing partner, Thomas Wirth, marketing manager, and Martin Hafer, sales manager (left to right).

FRIEDRICH FREUND GMBH, GERMANY

A one-stop shop for packaging solutions

The Krefeld plant of Friedrich Freund GmbH is the first packaging print shop in Germany to build up a production line based entirely on machinery from Heidelberger Druckmaschinen AG. The company has eliminated the bottleneck in its finishing operations with a Dymatrix 106 diecutter and a Diana Pro 74 folding carton gluer.

Founded in 1908, the Freund Group today is headed by Karl-Heinz Freund, 54, the third-generation Freund family Managing Director. Those who expect to see a modest little print shop here are mistaken – last year, the Group generated sales of around 34 million euros (43.5 million U.S. dollars) with a workforce of 240 people. Three specialty production facilities in Germany contribute to it. In Georgsmarienhütte near Osnabrück, where the Corporate Group is headquartered, 144 employees produce laminated corrugated cardboard and solid cardboard specialty packaging. In Krefeld, the company's site for eleven years, 70 employees make folding cartons and blanks for automatic packaging machines. Furthermore, for four years at the company's Dresden site, 26 employ-

ees have been producing merchandise displays and bakery packaging. The three sites process some 16,000 tons of solid cardboard and about ten million square meters (around 108 million square feet) of corrugated cardboard every year that are sold to small and midsize producers of branded company goods in the regional and international consumer goods and food sectors. "We try to service the regional market, while at the same time making our sites specialized – also because of cost considerations, in order to take full advantage of synergy effects," says Thomas Wirth, Marketing Manager and Executive Board Member. "In Krefeld, our activities are all focused on solid cardboard – printing, die-cutting, gluing for large quantities and with a trimmed production line," he explains.

Cutting-edge production. Setting up the site required a great deal of investment and some conversion work. When purchasing its machinery, the company was constrained by limited space and had to seek the optimum configuration. Freund's experience with the six-color Heidelberg Speedmaster CD 102 plus coating unit which it installed in 1998 was so good that the company decided to set up an all-Heidelberg production line. "The first Speedmaster has now printed 230 million sheets, and has had only minimal amounts of downtime. When the time came to make further investments, we therefore replaced a five-color press from a different manufacturer with a second six-color Speedmaster from Heidelberg," says Michael Raschke, Production Manager in Krefeld. He also rates Prinect Image Control highly: "The color measuring system provides quality control outside the press. Particularly when it comes to repeat jobs, fluctuations in quality can be avoided because Prinect Image Control performs spectrophotometric measurements over the entire print image and automatically generates recommended adjustments for the printer." For him, the best bit is the Logistics system for automatic pile-changing at the feeder. In the Logistics Advanced configuration installed in Krefeld, the presses sit 90 cm (36 inches) higher and the delivery is integrated. The empty pallets at the feeder are automatically transported to the delivery via a conveyor belt under the press. "As the material flow, provision of materials and their removal is a cost factor, the system offers us good potential for cutting costs and we save on space too," stresses Raschke. To prevent bottlenecks in the finishing stage, the company also decided to replace its existing machine (also from a different manufacturer) with a new Heidelberg Dymatrix 106, and also purchased a Diana Pro 74 folding carton gluer with a Japack Pro case packer to complement it.

Optimized finishing. The Dymatrix was delivered in early September 2004. "The die-cutter sits 90 cm (36 inches) higher than the printing press and uses the same system pallets so that tall pallets can be used in non-stop operation," explains Raschke. Aside from the precision technology, it was the quality of Heidelberg's service that particularly impressed Raschke. "Our diecutters must be operational at all times, since we work round-the-clock here. When repairs are required, Heidelberg sends an engineer really quickly, and replacement parts are always delivered the next day, either from Mönchengladbach just down the road or directly from the Heidelberg World Logistic Center in Wiesloch," he says. One of Freund's methods of compensating for the fact that the net output of the machines in its finishing room is slightly lower than that of its fast printing presses is to employ an optimized logistics system. "The machine runs non-stop, something that wouldn't be possible without flawless servicing" says Raschke. The Dymatrix has now processed over five million sheets and has completely met expectations."

Perfect gluing. Since June last year, the company has also been using a Diana Pro 74 folding carton gluer with a pile changer and Jagfeed prefeeder. "60 percent of our orders are only diecut. We process the other 40 percent in a single shift using the Diana Pro," explains Raschke. The company also uses a Japack Pro. Employees had no problems getting the hang of the new machinery, since many of the symbols used on their control panels are self-explanatory and are arranged in the same manner on the various different machines.

Freund GmbH aims to achieve an annual growth of 5 to 10 percent and these investments will help promote growth. "However, you can't produce more unless you combine the latest technology with a successful customer acquisition strategy," says Thomas Wirth. And he intends to achieve that with Heidelberg as a partner. ■



Fernando Martins-Teixeira and Uwe Roelen inserting a diecutting form in the Dymatrix 106 (left to right).

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News & Reports

IBEP/Companhia Editora Nacional invests six million euros

Brazil. The Instituto Brasileiro de Edições Pedagógicas (IBEP – Brazilian Institute for Educational Publications) and its subsidiary Companhia Editora Nacional are investing a total of six million euros

(approx. 7.5 million U.S. dollars) in a new print shop that primarily will be used for producing school textbooks. For this reason the IBEP print shop has now moved into its quarters in São Paulo and furthermore will update its machinery. The print shop's new acquisitions among other things include a Speedmaster SM 102, a Goss M600 and two Polar 137 X cutters. The revamped machine park will on the one hand help meet the growing demand for school books (the Brazilian school book market has doubled in the past decade), but should also enable the print shop now to handle third-party orders. Therefore, for example, plans are underway to begin producing magazines, newspapers and advertising flyers on the new premises. When moving all the print shop equipment into the new building, the Heidelberg service technicians clearly did not betray the trust the customer placed in them and performed a thorough job. The print shop is already back to shipping around 90,000 books and 1.4 million exercise books every day.



The new IBEP printroom covering an impressive 32,000 square meters.

For more information: www.ibep-nacional.com.br

Kenya Litho Ltd., Nairobi: Beyond East Africa

Kenya. Kenya Litho Ltd. in Nairobi has been one of the key players in the local printing industry for nearly 50 years. The company owes its continued existence even today to courageous entrepreneurial spirit and continuous investments in Heidelberg products. In the 1990s, this venerable label printer ran into a strong headwind with the ongoing liberalization of the African markets in the form of high-quality print products primarily from South Africa and Europe. Instead of burying its head in the sand, Kenya Litho Ltd. went on the offensive and in 1998 became the first company in the whole East African region to acquire a six-color Speedmaster SM 74. This enabled

Kenya Litho to hold its own against the competition from abroad, while at the same time demand rose so sharply within the region that the company was unable to meet it. So Kenya Litho went a step further in the middle of last year and not only installed a four-color Speedmaster SM 74-P-H including finishing equipment, but also a UV-compatible six-color Speedmaster CD 74 with two coating units – another first for the East Africa region. The result is that food labels and cosmetics boxes from Kenya Litho can now again be found in supermarkets in the U.K., Belgium, France and Germany. The 130 employees also quite regularly ship products to the neighboring countries

of Rwanda, Burundi, Somalia and Sudan. And Kenya Litho's CFO Mohan Krishnaswami (pictured) has long since forgotten the turbulent 90s.



Patio 13 - School for Street Children



Colombia. Now more than one million children have been left homeless as a result of the civil war that has been brewing for decades in Columbia. The majority of the refugees get stranded in city slums, further increasing the potential for violence in the country. To counteract this vicious cycle and give the street children better chances for a place in society, Heidelberg is supporting the "Patio 13" educational project along with the teacher training colleges

Escuela Normal Superior "María Auxiliadora" (Copacabana), Pädagogische Hochschule (Heidelberg) and the Universidad de Antioquia (Medellín) and Universidad Externado de Colombia (Bogotá). The project, which was launched in the Heidelberg Print Media Academy in December 2001, aims at giving the children a basic education (reading, writing and basic math and science). Therefore, among other things, school-like learning conditions were created in the vicinity of the children and a printing workshop set up where they can learn to read and write using lead and wooden letters. In addition, student teachers are trained in working with, instructing and educating street children. Heidelberg is providing initial support until the structures put in place by the project have taken root.

For more information: www.patio13.de

New showroom in Kuwait

Kuwait. In the spring of this year, Kuwait-based Heidelberg sales partner Mohammad Saleh & Reza Yousuf Behbehani Co. opened the doors to its new showroom. The ultra-modern building offers clients ample opportunity to find out about Heidelberg solutions, with products for prepress, press and postpress displayed on the 600 square meters ground floor. The showroom also presents service parts, consumables and advertising materials in addition to audiovisual info on a plasma screen. The premises include meeting, conference, seminar and training rooms on the gallery level and a storage system for replacement parts and consumables is housed on the lower level. The architecturally appealing building and its location in Kuwait's industrial center (Al-Rai, Shuwaikh), which is home to a number of print shops and publishing houses, will provide the best chances for the showroom to become a consumer mecca.



The showroom reflects Behbehani's partnership with Heidelberg Druckmaschinen AG.

Heidelberger Druckmaschinen AG among the Global 100



Switzerland. Heidelberg is one of very few mechanical engineering companies to be featured in the "Global 100" ranking of the

world's most sustainable corporations. The list, organized by Corporate Knights Inc. and Innovest Strategic Value Advisors Inc., recognizes the world's leading companies by including those that, according to the judges, have what it takes to remain in business 100 years due to their socially, environmentally and economically responsible management. To confirm which companies

live up to this assessment, Innovest Strategic Value Advisors closely examined the environmental management systems of a total of 2,000 companies from 53 industries. Published in the spring of 2005 for the first time, the list is now to be updated every year at the World Summit in Davos, Switzerland.

For more information: www.global100.org

Print Media Academy fifth anniversary

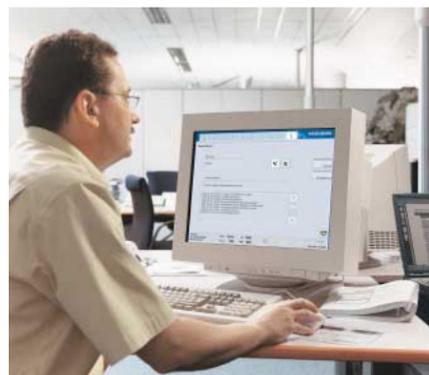
The Heidelberg Print Media Academy (PMA) celebrated its fifth anniversary on April 14 of this year. The PMA was opened as an international print media industry center for training, communication and information in the same year that Heidelberger Druckmaschinen AG celebrated its 150th anniversary. Since then, the PMA with its distinctive glass cube has firmly established not only its place on the Heidelberg skyline, but also its popularity with the public. Last year, more than 58,000 visitors flocked to the PMA for various events and 7,000 participants took advantage of training courses on topics such as “management,” “sales and marketing,” “controlling and key data” and “succession in family-run businesses.” In addition, around 2,500 school and university students and teaching staff completed one to three-day print media seminars at the academy. What began in 2000 with the Print Media Academy in Heidelberg has now become an information network with sites in Atlanta, Cairo, Kuala Lumpur, Moscow, São Paulo, Shenzhen, Sydney and Tokyo.

For more information: www.print-media-academy.com



The PMA building in Heidelberg, Germany. The ultra-modern glass structure is an eye-catcher and modern conference and office complex.

Web-based Remote Service now also for press and postpress



Web-based Remote Service enables countless problems to be resolved quickly and often without a service technician on site. The global spread of the Internet means even customers in remote locations can now reap the benefits of this service.

Heidelberg has been shipping its Speedmaster presses (incl. CP2000 Center) with the new software version V42 since April of 2005. This software, appropriately equipped, enables presses for the first time to be inspected via the Internet. Not only that, this capability is also being extended to more and more postpress products – a real breakthrough, since such online diagnosis and maintenance work based on Internet technology used to be limited to the prepress stage. What is called Web-based Remote Service is now increasingly replacing the more established remote maintenance by modem, as it offers significantly more functionality than its analog predecessors. As a result, there is less need for service technicians to resolve problems on site. A print shop only requires its own Internet

connection for the new service, which is already successfully in use on more than 70 Heidelberg presses. It goes without saying that Internet technology makes this state of the art version of Remote Service available the world over. Therefore, users worldwide can access Heidelberg service expertise around the clock. A neat extra: service technicians dealing with seemingly irresolvable issues on-site can also get backup from an experienced coworker on the Heidelberg global expert network by letting the latter quasi-virtually ‘look over his shoulder’ while resolving the problem.

New inking and dampening unit as standard



CEO Ralf Schindler is delighted with the new inking and dampening unit on his Speedmaster SM 74-5 with perfecting device.

Germany. Heidelberger Druckmaschinen AG’s Printmaster PM 74 and Speedmaster SM 74 press lines are to be fitted with a new inking and dampening unit as standard as of June. Heidelberg-based Schindler Print Shop has been using the components on its Speedmaster SM 74-5 with perfecting device since 2003. The full-service family company with a workforce of ten, founded in 1961, produces commercial print products in runs of up to 100,000 sheets. “From slight adjustment and maximum stability for large runs right through to printing fine

screens with 140 lines per centimeter, the new inking unit has significant benefits across the board,” says CEO Ralf Schindler. “With the new inking and dampening unit, we are once again setting new standards for the Printmaster PM 74 and Speedmaster SM 74 as successful press lines. It will be available to customers starting in June,” explains Arnd Westermann, product manager for Sheetfed Offset 50×70 cm (19.68×27.56 inches) at Heidelberger Druckmaschinen AG.

Way Up High



Singapore. Heidelberg customer Voxprint has in service what is probably the highest press in Singapore. The new Printmaster PM 52-2 was hoisted with a 400-ton crane to its designated location on the eighth floor of a high-rise building. It took around three hours for the press’s flight up to around 30 meters (approx. 100 feet). Four hours later it was in position. Installation began the very next day, an accomplishment that greatly impressed Voxprint CEO Allan Wu: “It was really no small feat, but the team was wonderfully up to the task!” Wu decided to purchase the Printmaster after seeing it in operation at the Singapore Demo-Center. He found the print speed for small envelopes particularly impressive. That envelopes printed at lofty heights by Voxprint are now also being delivered by carrier pigeon is nothing more than an idle rumor.



“World record” in small format

Russia. Moscow print shop Extra Print in the spring achieved a supposed world record – the company’s barely three-year-old Printmaster QM 46-2 printed its 90 millionth sheet! “The Printmaster QM 46 is the ideal press for our job structure,” says Extra Print CEO Mikhail Malanov (pictured). “There are days when we produce between 150,000 and 180,000 prints within 24 hours.” Founded in 1996, the print shop concentrates on business cards, business stationery, calendars, posters and brochures. It has customers in 80 Russian cities and is also shipping its first products abroad. In addition to the record-breaking press, Extra Print also has a further QM 46-2 and a QM 46-1 in service. It is soon to add a Printmaster GTO 52-4 to meet growing customer demand for four-color printing. Mikhail Malanov believes the new press will prove to be just as much of a workhorse in the four-color sector.

SPEEDMASTER CD 74 DUO

“Flexo meets offset”...

... now also in the medium-format sector. Thanks to the success of Duo technology in 70×100 cm (27.56×39.4 inches) format, Heidelberg is now offering a high-end coating press in half format that boasts outstanding versatility.

The proven “flexo before offset” concept of the Heidelberg Speedmaster CD 102 Duo is now available for half format applications in the form of the Speedmaster CD 74 Duo.



Typical Duo effect: Finest elements are printed on top of flexographic gold with offset colors (top). Opaque white over the flexographic unit produces high-ink coverage, also on metallized materials (bottom).

The trend toward shorter runs and smaller formats in packaging and label production accompanied by an ever-broader range of specialist coatings means the technology used in this sector is expected to deliver maximum flexibility and efficiency and, in view of the high cost of the printing stock, to minimize waste. In order to facilitate high-quality, versatile inline coating in a single pass (One Pass Productivity), Heidelberg is already making a success of positioning the Speedmaster CD 102 Duo, a press that employs hybrid printing technology (flexographic and offset), on the market. Now, the company is sending out the Speedmaster CD 74 Duo to conquer the medium-format sector.

Offering attractive products. Thanks to integrated flexographic printing units with a chambered blade system upstream and downstream of the offset stage, the CD 74 Duo facilitates a whole host of applications which until now were only possible using gravure technology or by performing several press passes. The Speedmaster “flexo before offset” concept is particularly useful when applying opaque white with high white intensity (water-based or UV), using pearlescent coatings underneath transparent offset inks to enhance the effect of metallic coatings, applying metallic coatings for brilliant silver and gold effects, and using primer underneath metallic inks to enhance scuff resistance. “Following the launch of the Duo in 70×100 cm (27.56×39.4 inches) format, more and more customers in the medium format sector are expressing an interest in special effects with the Duo,” explains Andreas Lang, senior product manager for specialty printing 50×70 cm (19.68×27.56 inches) at Heidelberg. “That’s why we took the decision last year to begin offering a CD 74 Duo,” he continues.



The Speedmaster CD 74 Duo is also designed for printing stock such as transparent or bromide film.

A wide range of uses. The Speedmaster CD 74 Duo can be employed in a huge range of applications. Even when it is being used as a “standard” medium-format offset printing press without using the front flexographic unit, it can easily be converted into a specialty press for the very next job – for example if gold or silver coatings need to be applied for beer labels. The basis for this versatility is the modular design of the CD 74 and its flexible interdeck dryer concept, which allows the customer to effortlessly switch between infrared, hot air and UV slide-in units.

Andreas Lang believes that the new Speedmaster CD 74 Duo will be popular in the label printing sector, and has recently noticed that “more and more packaging companies are now climbing aboard and looking to produce new packaging concepts inline using the Speedmaster CD 74 Duo.” ■



“The ideal machine for special-effects”, according to Andreas Lang, who considers the greatest strength of the Speedmaster CD 74 Duo to be its versatility.

Labels for East Africa

The first Speedmaster CD 74 Duo was supplied to Tanzania Printers, a large printshop in East Africa employing 350 staff and with annual sales of around Euro 7 million (approx. 9 million U.S. dollars). Heidelberg News spoke to the company’s Managing Director, Aliraza Khimji, 41, about the investment.

HN: Mr. Khimji, how are you using the new Speedmaster CD 74 Duo?

A. Khimji: We wanted to bring back to Tanzania the out-sourced production of beer labels for one of our key accounts from a printer in South Africa. This work involved gravure printing on expensive metallized label paper. When we heard of the capabilities of the CD 74 Duo we developed the idea of creating a metallic look for the labels by printing a silver base in the first flexographic unit and then adding the remaining colors in offset. Test runs with the press at Heidelberg, coupled with Heidelberg’s experience of the CD 102 Duo, showed that this was possible. This solution – which allows us to use normal label paper and supports low-waste, inline production with only a single pass – enables us to keep costs within an acceptable framework over the long term.

HN: Did you buy this new press specifically to meet the printing needs of a single customer or are you looking to open up new areas of business with other customers?

A. Khimji: We are naturally looking to expand our product spectrum. We expect that the some 1.3 billion labels in their 10 different versions will keep the CD 74 Duo running at around 60 percent capacity in double shift operation. In order to make use of the remaining capacity, we are currently running print demos for plastic labels for use on mineral water bottles and the like. We believe there is a sizeable market for this in Tanzania. We’re also looking to reinforce our role as a technical pioneer in Tanzania – a position that we have occupied for many years – and are keen to win back customers who have had to send print orders abroad in the past due to lack of UV or plastic printing capabilities in Tanzania.

HN: Thank you very much for talking with us! ■

DIANA X 135

Modular gluer for folding cartons

With the huge variety of packages and packaging materials available these days, it is essential for a finishing company's survival to be able to handle even the most complex customer demands. The new Diana X 135 folding carton gluer leaves no demands unmet. With its smart design, it can be configured to suit individual needs.

The new Diana X 135 high-performance folding carton gluer boasts maximum versatility thanks to its outstandingly modular structure. Designed for the packaging printing, corrugated board processing and specialist print finishing sectors, its various modules can be configured in numerous different ways. "This machine can be put together to suit any requirement. Whether you're looking for high terminal velocity with long runs or you want to handle a large portfolio of different products with frequent job changes, this is the machine

for you," says Frank Jansen, product manager for folding carton gluers at Heidelberg Postpress Deutschland GmbH.

Amazing flexibility in use. This high-output system offers peerless performance of up to 200,000 cartons per hour (or 2,000 feet per minute) and comes in four different configuration versions that can be expanded and modified in accordance with customer needs. There are four standard versions to choose from. Customized solutions can also be put together to meet client needs. All the

standard versions are equipped with a new 3,500 mm (138 inches) prebreaker that allows gentle processing, even at high speeds. Then there are the obligatory features such as folding, transfer and collection/delivery modules (the prebreaker is not necessary for corrugated board applications where prebreaking is not required). The folding station itself is unique, being 13 feet long, and facilitates both right-over-left and left-over-right folds. Like the compact version, the universal version features an integrated lock bottom module, but combines this with the multipurpose "Module 150". This combination facilitates the processing of lock bottom and collapsible cartons (as does the compact version), but considerably cuts changeover times when switching from one type of carton production to the next. For high-end production of complex cartons that need to be rotated during processing, the Diana X 135 features a unit that rotates the blanks and then aligns them correctly. This unit can rotate cartons by up to 180 degrees at a machine speed of nearly 1,000 feet per minute.

Reduced makeready times. With a maximum working width of 1,350 mm (53.15 inches) the Diana X 135 can process card from 200 to 900 gsm and N, F, E and B-flute corrugated board. The separate servo-drive technology

in each component allows the machine to be configured flexibly and without snags. This, along with the semi-automatic or fully automatic DiaSet positioning system, reduces makeready and changeover times while ensuring top processing quality. The customer monitors all these functions using the DiaLog process control system and Heidelberg's proprietary touchscreen display.

The innovative safety concept on the Diana X 135 meets Germany's high standards, which means that the machine bears the seal of approval of TÜV, the German technical inspection body, to confirm that it has passed rigorous safety tests. The Diana X 135 therefore meets all the requirements relating to health and safety of workers under German equipment and product safety legislation. Moreover, the warranty covering mechanical parts that come under severe strain ensures smooth production without downtime, a factor which boosts productivity even further. The user can also replace all the belts on the machine, which has an easy-access design, without having to remove the drive shaft – a particularly user-friendly feature. This saves a great deal of time, particularly when the intake belt on the feed mechanism has to be changed, this being a part which suffers considerable wear and tear and needs to be replaced frequently.

"The Diana X 135 features a separate servo-drive for each module, thereby facilitating flexible configuration. The long prebreakers and folding station, plus the short makeready and changeover times, deliver considerable advantages and boost productivity enormously," explains Jansen. "Added to this is a high level of operator convenience. Together, all these features make the Diana X 135 the most innovative and productive folder gluer on the market," he concludes. ■



Separate servo-drives for each module give the Diana X flexible configuration options. The unit, which rotates the blanks and then aligns them correctly, allows 180 degree rotation. All control units are clearly structured and easy to understand. (left to right)



HEIDELBERG SYSTEMSERVICE

An oasis in the service desert!

Heidelberg hopes its systemservice concept will act as an oasis in the worldwide service desert. So far, there is already some impressive proof that Heidelberg's efforts around the globe are bearing fruit, even in the most remote corners of the world. These oases hold the key to cost-effectiveness.

Service contracts have long been the norm in the software industry, but are often neglected in the world of mechanical engineering. It is not clear if this is because industry does not have the right service offerings, customers are not interested, or both. What is clear, however, is that the right service products help safeguard production, increase productivity and improve quality. "This is exactly what Heidelberg is hoping to achieve with systemservice and maintenance contracts are a key component of this," explains Bernhard Steinel, Global Service Manager at Heidelberger Druckmaschinen AG (read the interview on page 29). The various options offered by such maintenance contracts are as diverse as the print shops themselves. Of the 170 countries where Heidelberg offers its customers services of this type, HN is putting the spotlight on Brazil, Colombia, Germany, South Korea and Australia.

Brazil. In Brazil, where a total of around 196,000 employees work in approx. 15,000 print shops, Pancrom was one of the first companies to take out a maintenance contract for its Heidelberg prepress solutions. The company, headquartered in São Paulo with a workforce of about 400, produces high-quality print products including packaging, product brochures/catalogs, picture books, textbooks, magazines, calendars and even operating manuals. "For us, the main thing was safeguarding our platesetters against unwanted downtimes," says Lourenço Amato, Prepress Manager at Pancrom. "In our print shop, we work in three shifts and image around 60,000 plates each year. So if the platesetters were all of a sudden to fail, it would have a hugely detrimental effect on our production workflow," continues Amato. That's why, in February 2003, Pancrom took ▶



systemservice
Oasis ahead

HEIDELBERG



Globally "On-Site": With over 250 locations in 170 countries, Heidelberg has the densest sales and service network in the industry.



Lourenço Amato, prepress manager at Pancrom, and Daniel Vasconcelos, service technician at Heidelberg Brazil (left to right).

up Heidelberg's offer for the first time to have regular preventive maintenance work carried out on its platesetters. Since then, Heidelberg service technicians have been scheduling four visits a year to the customer, who has won awards for its exceptional print products. "We contact the customer in advance to organize a date and time for the visits so that he can arrange our maintenance work to fit in with ongoing production," says Mário Paris, service business manager at Heidelberg Brazil. Just like automotive servicing, the technicians run through a standardized checklist step by step on every platesetter to identify and resolve any potential glitches where possible before these become real problems. "This greatly reduces the risk of a platesetter failing," stresses Valter Melo, responsible for maintenance contracts in the prepress stage at Heidelberg Brazil.

But that's not all. Along with seven other Brazilian companies who have Heidelberg service contracts for prepress, Pancrom not only enjoys more stable production, but also reaps financial benefits. "The arrangements for replacement parts are also dealt with in the maintenance contract," says Klaus Murrins, who is greatly appreciative of this. "All things considered, it's much more cost-effective for us to have a customized maintenance contract than to pay for servicing and replacement parts not covered by a contract." That's why Murrins also had a few extra service technician hours for unfore-

seen repairs built into his contract with Heidelberg. A descendant of German immigrants, Murrins is quite obviously extremely satisfied with this model and has already extended his annual contract twice.

Colombia. Print shop Panamericana Formas e Impresos in neighboring Colombia, however, plumped for a completely different maintenance package. In a country where 26,000 people are employed in 950 industrial print media companies, 580-strong Panamericana treated itself to the (seeming) luxury of having a Heidelberg service technician more or less constantly on site. Every weekday between 7.30 a.m. and 5 p.m., an employee from Heidelberg Colombia keeps a watchful eye over the company's 40 Heidelberg printing units. "And should anything ever happen when our specialist is not on-site, the print shop can use our 'around-the-clock' support number that guarantees a response within just two hours," explains Thorsten Lau, service manager at Heidelberg Colombia. Minor problems are resolved after an appointment with the customer, and more extensive six-monthly "fitness checks" are performed on the equipment and acknowledged with a certificate. Only service parts are not included in the contract.

"Nonetheless, the contract works well for us," says Panamericana production manager Pedro Pablo Quiroga. "We experience much less downtime than before and maintenance costs are, of course, much easier to cost." As a result, the company was also able to significantly reduce expenditure for its in-house maintenance department. So the apparent luxury of having Heidelberg experts on-site is actually a real bargain for Panamericana. The print shop, which produces magazines, books and advertising material, has been leveraging this service to its advantage for five years – along with a further eight Heidelberg customers in Colombia who all have customized models.



Pedro Pablo Quiroga, production head Panamericana Formas e Impresos, Alejandro Salazar, Service Technician Heidelberg Colombia, Thorsten Lau, service manager Heidelberg Colombia, Eng. Jairo Rodriguez, head of Inhouse maintenance at Panamericana (left to right).



Axel Zimmer, proprietor of Zimmer Print und Medienservice GmbH in Büren-Wewelsburg, Germany, is convinced of Heidelberg's service.

Germany. The Heidelberg customers among the 12,000 or so print shops in Germany generally tend to take out service contracts when purchasing new equipment. Heidelberg offers its customers the systemservice36plus program, a service package that goes much further than what is legally required in terms of services. "The package covers all service technician call-outs for remedying faults, all service parts required for these faults and full software updates within the contract term for a period of three years after delivery," says Ulrich Köhler, service director at Heidelberger Druckmaschinen Vertrieb Deutschland GmbH. Fast response times (next business day), telephone support and Remote Service for quick remote diagnosis of problems occurring at short notice round out the service package.

Although a charge applies to the prescribed inspections after 10, 20 and 30 months, Axel Zimmer is delighted with the "accompanying service" for his new Speedmaster CD 74. "We were looking for planning certainty and calculable maintenance costs," says the proprietor of Zimmer Print und Medienservice GmbH, based in North Rhine-Westphalia, which recently upgraded from A3 to A2. The company prints packaging, magazines and catalogs, including cutouts and perforations, in two to two-and-a-half shifts with its Printready workflow for the Suprasetter and CD 74 including a Polar XT cutter and Speedmaster SM 52. "We succeeded in doubling our sales last year thanks to the new technology, excellent quality and first-class customer focus," says Zimmer. "It goes without saying that we don't want to put these achievements at risk. We can't afford to let production downtime happen and we won't let it." That's why systemservice36plus is such a safe bet, says Zimmer. "We can contact Heidelberg by telephone round the clock and already we've been able to work with them to repair equipment on Friday night for Saturday. You get help at every turn and in areas you might otherwise only



Jehyung Jung, chief electrician Heidelberg Korea, Jeonkuk Cho, president of Baeksan (left to right).



Michael Smithe, general manager of Penfold Buscombe in the state of Victoria, Australia, with his Melbourne print shop manager, Ian Thorne (left to right).

dream of!" Since the beginning of June, Heidelberg Deutschland has been offering its customers an additional service product in the form of the "Heidelberg Partnerbrief" package which kicks in after the three years and includes even more services.

South Korea. The 17,000 print shops of South Korea boast a workforce of around 71,000. 68 of these companies already benefit from reduced maintenance costs, one of them being Seoul-based Baeksan Printing. The company, with a workforce of 71, produces a number of titles including the "Neighbor" lifestyle magazine, the international hair fashion magazine "Estetica", a variety of textbooks and even the Korean bestseller "Greek and Roman Mythology". The company uses a total of six Heidelberg presses and its finishing installations include two Polar 115 cutters and five Stahlfolder KD 66 folders. "We run a two-shift operation here," says Baeksan CEO Jeonkuk Cho. "If just one of our four-color presses was out of operation, we reckon we would lose around 185 euros (approx. 230 U.S. dollars) per hour. We don't have our own technicians on-site so fast service is extremely important for us – particularly during the late shift."

For this reason, Baeksan opted for 24-hour support including rapid response times, with Heidelberg Korea. The contract, which offers benefits when procuring replacement parts in Korea, also includes six-monthly maintenance intervals. "As the contract also covers the company's postpress equipment, its customers can be almost 100 percent certain that their publications will leave the print shop on time," says Heungsoo Yum, service manager at Heidelberg Korea. "This safeguards the company's production, something which is without doubt highly valued by Baeksan's customers." Baeksan too has already extended the contract it first took out in December 2003.

Australia. Heidelberg's service support also extends all the way to Australia. Alongside more than 300 other customers, Australia's largest sheetfed offset printer Penfold Buscombe also relies on services from Heidelberg. What began with a preventative maintenance

contract for a single Speedmaster CD 102 has now become a complete service package for what is a huge machine park. "Over the last four or five years, we have grown by more than 300 percent," says Alistair Hill, managing director of Penfold Buscombe, which currently clocks up annual sales of around 110 million euros (approx. 138 million U.S. dollars). Through a series of acquisitions, the company now has a workforce of around 700 staff who produce print products including advertising brochures, magazines, packaging and direct mail products around the clock at six sites in three states in Australia. To safeguard 24/7 production, Hill concluded a full-service contract for two Topsetters, three Trendsetters, six Speedmaster SM 102 presses, four Speedmaster CD 102 presses, six Polar cutting systems, ten Stahlfolder folders and three ST 300 saddlestitchers including workflow. The contract covers regular maintenance intervals, any necessary replacement parts and all service technician labor time.

"We opted for this because our experiences with the initial maintenance contract were so good," explains Hill. In addition to safeguarding production, the Penfold Buscombe managing director particularly appreciates the ability to plan costs much better. "As the outlay for accounting is reduced, we ultimately also save on administrative costs."

"During the last few years of tremendous expansion, the customer's management team already had enough to do as it was," explains Tony van Broekhuizen, head of customer service at Heidelberg Australia, "so that's why we were on hand to offer advice and support during the growth phase." The Heidelberg "Aussies" were able to recommend exactly the right equipment for the company so as to accelerate its growth even more – further proof that Heidelberg's attempts to plug the supposed service gap are actually working. ■

"Maintenance pays off"

Heidelberg News spoke to Bernhard Steinel, global service manager at Heidelberger Druckmaschinen AG about systemservice, the term Heidelberg uses to cover its entire service offering.

HN: Mr. Steinel, almost every manufacturer claims to provide good service offerings. What makes systemservice from Heidelberg so special?

B. Steinel: First, Heidelberg has by far the largest service network in the industry, with 5,400 sales and service specialists spread across 250 sites in 170 countries. That means we are "on site" virtually everywhere. We also have the best global logistics service so that any parts required are generally delivered to the customer within 24 hours. What's more, our service offering doesn't just cover that of individual products, but rather the life cycle of the customer's entire sheetfed offset added-value chain – from investment and production right through to the resale of prepress, press and postpress equipment including our workflow solutions. In this respect, we really stand out from the competition. And this also puts us in a position to realize a diverse range of service models for our customers.

HN: Let's talk about maintenance contracts in particular. Why is it worthwhile to take out a service contract?

B. Steinel: According to our calculations, if a print shop simply waits until a problem occurs, it will have to pay out around three percent of its sales alone for direct maintenance and repair work and replacement parts. This figure increases even further if you look at the follow-up costs. The production downtime itself, the cost of resuming stopped print jobs and the employee overtime this involves all cost yet more money. The print shop may also run the risk of displeasing its customers

if print products are delivered late and, worse still, may even miss out on additional jobs during the downtime. Costs and outcomes like this can be avoided with the right maintenance contracts. Over the medium to long term, preventive service significantly reduces not only direct maintenance costs, but also any follow-up costs. That's why maintenance contracts offering preventive service are much more cost-effective than simply "waiting" for faults to occur. With maintenance contracts, print shops not only reduce the burden on their resources, but also save themselves a lot of hassle too.

HN: Can you put a figure on the potential savings?

B. Steinel: Yes, of course. Let me give you an example. This is by no means true in every case, but it is indicative of a clear trend. The maintenance costs for one of our major German customers with 50 printing units were continually on the increase and reached approx. 260,000 euros (326,000 U.S. dollars) in 2001. The customer therefore signed a contract with us for his presses that also included identifying and remedying potential risks. As a result, the customer's service costs rose to 400,000 euros (approx. 490,000 U.S. dollars) for 2002, but for that year only. Since then, they have shrunk to around 140,000 euros (170,000 U.S. dollars) annually, almost half that of previous levels. At the same time, the customer's print quality and productivity have visibly improved and the resale value of the presses has certainly also increased. So you can see that, in this case, a maintenance contract has given the customer real added-value in three respects.

HN: What concrete form do such maintenance contracts take?

B. Steinel: Every maintenance contract is essentially agreed with the customer on an

individual basis. Working with their customer service representative, customers draw up the right model that best fits their location and needs, regardless of the country they are in. The service packages available are extremely diverse and range from a purely prepress service, e.g. software updates, and regular and plannable maintenance work for presses right through to "complete service" including all required service parts and Remote Service or even the constant availability of Heidelberg specialists. Nowadays service is much more than just repairs and replacement parts and is increasingly taking the form of active customer support. And my recommendation to customers is that they arrange a no-obligation appointment and have a Heidelberg representative come speak to them on-site!

HN: Thank you for talking with us. ■



Bernhard Steinel, head of Service Worldwide at Heidelberg, sees advantages for all involved in maintenance contracts.

AIR-CONDITIONING

Labels – hot items!



Founded in 1920, Sebastian Wolf GmbH in Eltville is one of the few highly specialized label print shops in Germany. As it is important to have an ideal printroom climate for the sensitive label paper, the company has fitted water-cooled press peripherals and a modern climate control system with the latest air exhaust and supply systems.



The Eltville-based specialists ship their labels to widely known beverage manufacturers and bottlers, and not only locally. Companies such as Bacardi-Martini, Henkell & Söhnlein and Rotkäppchen-Mumm are among their satisfied customers. And labels are even shipped to Kazakhstan!

When it comes to label production, perfect air humidity and temperature levels in the pressroom are just as important as perfect production machinery. “By 1970 when we moved into our current premises, we were already one of the first fully climate controlled print shops in Germany. That was very important to us even then because specializing in high-finish wet-bonding labels means that we work with very thin papers,” explains Nicoletta Compagni, 32. Daughter of the company’s owners, Alessandro and Ursula, she joined her parents on the management team in 1994. Her grandfather was the company’s founder Sebastian Wolf. “In 2001 we bought a five-color Speedmaster CD 74 with coating unit. In 2003, this was then followed by a second CD 74 with six printing units, two coating units and a UV dryer, enabling us to deal exceptionally well with any print product we come up against,” says managing director Alessandro Compagni.

The company had just a few weeks to build a new extension for the second new machine and adapt the entire pressroom to create a fully climate-controlled environment to be maintained smoothly 365 days a year with a room temperature of 20 to 24 degrees and 50 to 55 percent humidity. Here it was also important to Nicoletta Compagni that the greatest amount of waste heat possible be removed directly from the presses, in order that this, in addition to the outside weather conditions,

The new pressroom in Eltville. The Speedmaster CD 74 with air supply column in the background and Temcoil ambient air coolers on the ceiling.

not cause even more warming up of the pressroom. Consequently, to limit the heating effect in the pressroom from the outset, when the new Speedmaster CD 74 was purchased they made sure that it came equipped with the Heidelberg AirStar, a decentralized air supply cabinet. In this an air-water heat exchanger channels off the waste heat from the integrated air suction and blast units, routing it out of the building via a water circulation system. The CombiStar, a combined system for dampening solution processing and inking unit temperature control, also removes a considerable amount of heat from the whole press system. Finally, the DryStar dryer works in a similar way, further removing heat from the press using sheet guide plate cooling. The existing water recoler unit on the first Speedmaster CD 74 did not have to be extended for the second press, also water-cooled, because when the first press was installed the company wisely had the foresight to allow for an additional press to be operated by the unit. All these measures on the press make it possible to reduce the heating effect in the pressroom by approximately 40 to 45 percent, but not completely to prevent the process. Further measures were required for this.

Waste heat & rise in temperature. Many print shops have the same difficulties as Wolf Print Shop as regards the significant heating effect in the pressroom. The problem is particularly bad in older buildings that are not designed for such large machines that give off so much heat. Normal air circulation is simply no longer sufficient for cooling purposes, and even a ventilating system quickly reaches its limits under such circumstances. The problem is that large presses, whatever their make, produce waste heat during production, for example due to frictional effects: comparable to someone practicing a high-performance sport who gets hot and sweats. The person attempts by sweating to regain an optimal body temperature. And modern presses use liquid cooling in the same way. If presses were not cooled and there were no adequate temperature control/cooling facilities in the pressroom, otherwise Sahara-like temperatures could rapidly develop. This would inevitably have an adverse effect on both workers and the equipment, resulting in possible production stoppages (electronics in particular are likely to malfunction if temperatures are too high) or an unstable ink-water balance. High temperatures in the room lead to higher costs as well because the evaporation of alcohol and dampening solution additives also increases. ▶



Joachim Koster and Nicoletta Compagni (left to right). The Speedmaster CD 74 with the Heidelberg units such as the AirStar – the decentralized air supply cabinet. (left to right)



Nicoletta Compagni on the roof of the new pressroom – the blower is part of the air exchange system.

Air humidifier in the Wolf pressroom.

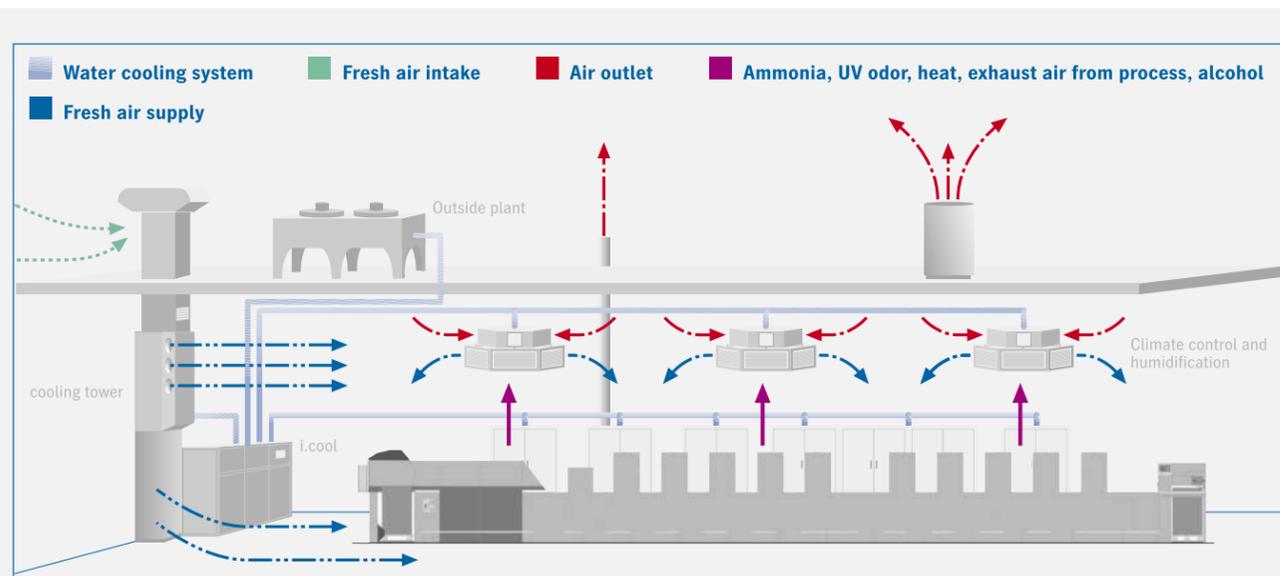
Refrigeration and ventilation plant. With summer temperatures in excess of 30 degrees Celsius, it makes no sense simply to blow fresh air into the pressroom. Optimal pressroom operation is only possible if the presses are cooled properly without temperature fluctuations, the entire pressroom is at the ideal temperature and furthermore humidity is maintained at the correct level in the pressroom. For a professional solution to the problem, Wolf installed an Axima i.cool cooling unit and an i.cool ventilation system. The cooling unit supplies all the water-cooled press peripherals with the appropriate amounts of cooling water at the pressure and temperatures required. Here a closed water circulation system is used to cool the press peripherals in a similar way to a water-cooled car engine. With the model used in Eltville, the refrigeration plant also supplies the air-cooling system's heat exchanger.

Air exchange system. In the new extension, Axima has also set up an air exchange system: an "air supply column". This is to ensure that adequate air exchange takes place in the pressroom. With the new system, depending on the outside temperature, more or less fresh air is pulled in from outside through the source air column and mixed with air at the ideal temperature for the printroom before being distributed inside the pressroom. The stale air is in turn suctioned off at ceiling level and channeled outside. All incoming and also outgoing air is filtered. This prevents the pressroom dust particles from polluting the environment via the exhaust air and also keeps outside dust from getting into the press or onto the freshly printed sheets. "Filtering the circulating air improves the air quality in the room and minimizes the problem of dust and powder," says Arne Helm, 31, master offset printer at the company.

Decentralized cooling of ambient air. Three decentralized Temcoil ambient air coolers have been installed on the pressroom ceiling at Wolf, running parallel to the press. Thanks to decentralized cooling at the press and the removal of warm air from the pressroom, it is not necessary to install a conventional air-conditioning system with the associated construction costs. To provide the necessary level of refrigeration for ambient air cooling and the water-cooled press units, Wolf relies exclusively on the Axima system with its cooling tower. "The advantages of Temcoil units over a conventional air-conditioning system lie in the smaller amount of space required because no central air-conditioning plant is needed. This also eliminates the ductwork between the central plant and the press," explains Joachim Koster, offset supervisor in Eltville. The fact that extensions and retrofitting are possible at any time is a further advantage for him. He adds "It is also very easy to reposition the system if a press is moved. With this solution the air distribution within the pressroom is draft-free, ensuring a stable ink-water balance." In the summer months, incoming air is cooled down by the cooling system and heat exchangers. The system also provides the air required for the dryers. With this new system, the waste heat from the press is removed all year round and at a reasonable cost using a closed cooling tower. "Even in the summer the system has no problem with the high temperatures. We also have additional cooling units but these are seldom needed, even during heatwaves, as the climate in the pressroom is fine," says Arne Helm. In the winter months, the waste heat from the press is used to heat the fresh air taken from outside, thus saving heating energy.

percent, the sensor system reports this and also starts automatic humidification. With the new installations, Wolf can compensate for far higher pressroom temperatures than is possible with conventional dry-cooling plant. "To satisfy the special requirements for sheetfed printing, such as maintaining constant humidity, keeping the temperature stable – both in summer and in winter – and ensuring the supply of air with variable use of three dryers, Wolf has created an ideal working environment for man, machine and production process," states Friedemann Leithäuser, product manager for peripheral systems at Heidelberger Druckmaschinen AG.

Our system is specially adapted to the sheetfed printing process and helps us bring down energy costs," says Director Nicoletta Compagni, emphasizing "The air-conditioning, waste air removal and air humidification systems of course represented a significant investment but it is paying off because this intelligent climate control concept provides optimal stability in the printing process and we also save on energy and consumables elsewhere. As was the case with the first air-conditioning unit, the investment will soon have paid for itself." ■



Perfect air-conditioning: Warm-air extractor on the press, fresh air supply, optimal air humidification and filtering. The Temcoil units on the ceiling produce the ideal room temperature.

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SPEEDMASTER SM 52

The benefits of versatility

Since its launch in 1995, the Speedmaster SM 52 from Heidelberg has enjoyed unparalleled success, cementing Heidelberg's leading global position in the A3 sector. Healeys Printers Ltd. in Ipswich, U.K., is even utilizing a Speedmaster SM 52 with eight printing units. In fact, 21,000 printing units of this A3 press have so far been installed worldwide. This issue of Heidelberg News takes an exclusive look at the details of this A3 all-rounder.



The optimized feeder ensures accurate and reliable sheet transfer in the format range of 105×145 mm (4.13×5.71 inches) through 370×520 mm (14.56×20.47 inches) even at high production speeds.

The Speedmaster SM 52 from Heidelberg is a real all-rounder for A3 format. It not only enables print shops to produce high-quality print products with up to eight colors, it also maximizes throughput for both short and long runs and offers top levels of flexibility thanks to its diverse options for inline finishing. This flexibility also extends to printing stocks – the Speedmaster SM 52 can print materials of thicknesses ranging between 0.03 and 0.4 mm (0.0012 and 0.016 inches) and can also be upgraded to handle printing stocks up to 0.6 mm (0.024 inches) thick. This means the Speedmaster SM 52 is well-suited to both commercial and packaging printing. A wide variety of materials can be used, no matter whether printing brochures, envelopes, catalogs or labels. This makes the Speedmaster SM 52 the ideal press for the 105×145 mm (4.13×5.71 inches) to 370×520 mm (14.56×20.47 inches) format range.

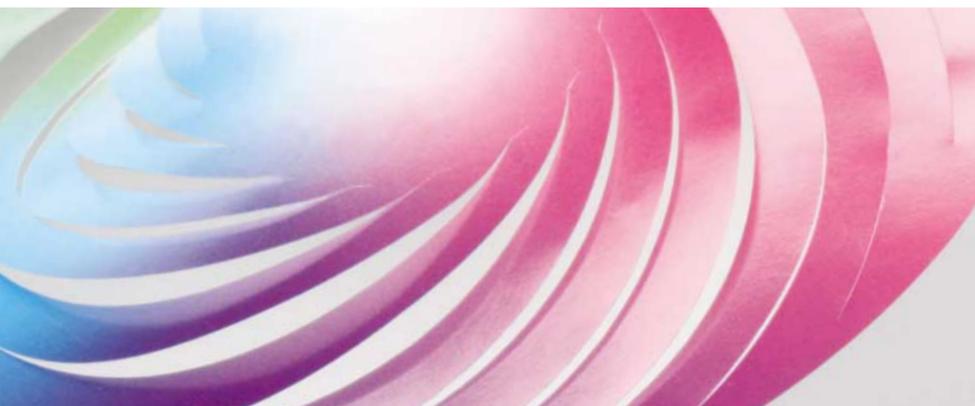
Quality and reliability from A to Z. The suction tape feeder on the Speedmaster SM 52 ensures changing formats and materials is easy and can be performed without tools. In addition to their usual sturdy design, the printing units also feature automatic washup devices for the blanket, impression cylinder and inking unit. The reversing drum and

transfer cylinder are fitted with the TransferJacket Plus exchangeable impression cylinder jackets. A reduced-diameter reversing drum is used with the jacket. TransferJacket Plus, with its special surface structure and ink-repellent qualities, prevents ink buildup and therefore significantly reduces the cleaning required. "It's also important to mention the short-path inking mode on each printing unit which comes into play for print jobs with low ink coverage," explains Bernd Blumberg, head of product management for the 35×50 cm (13.78×19.68 inches) and 50×70 cm (19.68×27.56 inches) formats at Heidelberg. Two rather than four form rollers apply the ink to the printing plate, making the process much faster and 100 percent accurate.

The Heidelberg Perfecting sheet-reversing device, which can be set fully automatically for each job, ensures in-register perfecting, i.e. printing sheets on both sides. The sheets are turned quickly and precisely at speeds of up to 15,000 sheets per hour in perfecting mode thanks to the sheet tensioning capability and automatic missing sheet sensor.

Delivery. The press can be fitted with a variety of deliveries: standard delivery that can be optionally equipped with a numbering, perforating and imprinting unit and a





Print sample: proof of just what the Speedmaster SM 52 with inline diecutting can do.

high-pile delivery for long runs on the four- to eight-color presses. The high-pile delivery cuts the frequency of pile changes by a third, which makes for faster and more cost-effective production. Print shops looking to rationalize production can use the high-pile delivery in nonstop operation in combination with the DryStar 2000 Ink drying unit. The sheets are dried immediately and are then ready for rapid finishing. The delivery can be switched to different formats and materials without the need for tools. And a sheet brake with suction tape featuring high retaining forces is available as an option to ensure accurate sheet delivery for thicker printing stocks.

When it comes to control of the Speedmaster SM 52, the press is designed for maximum productivity and reliability in every respect. The four- to eight-color models are controlled

via the Prinect CP2000 Center touchscreen control console. The one- and two-color presses, however, are controlled directly at the press delivery using the Onpress Center. In both cases, the printer has a clear user interface with an ergonomic touchscreen that provides ongoing information on jobs, print functions and the print status. "The Prinect CP2000 Center and Onpress Center ensure complete integration in the production and management workflow, major benefits that make the Speedmaster SM 52 an A3 press whose flexibility gives print shops a real competitive edge," stresses Bernd Blumberg.

Coating & inline finishing. The Speedmaster 52 SM four-, five- and six-color models offer new time-saving inline options for high-quality finishing in small-format commercial printing. The presses can be fitted with an inline coating unit for surface finishing or an inline die cutting unit for creasing, punching, perforating, kiss-cutting and suction removal of punching waste in a single pass directly in the press, e.g. for self-adhesive stamps or folding cartons. Finishing can be performed at speeds of up to 15,000 sheets per hour depending on the printing stock and complexity of the die cutting form. For companies looking to print products of an even higher quality, Heidelberg offers the inline coating unit in combination with

the inline diecutting unit. This model requires UV preparation to enable printing, coating and punching in a single pass.

Inline coating is ideal when customers want coated print products to catch the buyer's eye. Print products or packaging can be given a normal or protective coating in a single pass. The DryStar 2000 Combination dryer in the extended high-pile delivery ensures optimum drying. And, for jobs that do not require coating, the coating unit can simply be raised by 250 mm (9.84 inches).

A3 format with eight printing units! The eight-color Speedmaster SM 52-8-P (P = perfecter press) was designed specifically for the growing market for high-quality A3 print products. It prints up to four colors in perfecting mode and up to eight in straight mode in a single pass at speeds of up to 13,000 sheets per hour. This minimizes makeready times and waste, and enables print shops to achieve faster throughput times.

Healeys Printers, U.K. How print shops can leverage the benefits and flexibility of the Speedmaster SM 52-8-P, impressively shows the print shop Healeys Printers Ltd., based in Ipswich, England. Heidelberg installed a Speedmaster SM 52-8-P, the world's first eight-color press in A3 format, for the company. Healeys Printers specializes in A3 format and, over the past seven years, has grown from a small print company dealing mainly with forms to a print shop with sales totaling almost 5 million euros (about 6,1 million U.S. dollars). The Speedmaster SM 52-8-P fits the job structure at Healeys Printers exactly. The company supplies a variety of print products, including high-quality art catalogs for galleries in London, brochures and magazines. Healeys Printers also utilizes the press to produce local magazines as 4/4 jobs. This not only saves a second makeready time, but also removes the need for interim storage

for drying and ensures faster delivery times. So it comes as no surprise that Healeys Printers Managing Director Philip Dodd is delighted with the SM 52-8-P: "The press has enabled us to boost our sales by up to 30 percent, improve quality and increase profitability." In addition to the much smoother sheet travel and the stability of the press, Dodd praises in particular the sheet brake with suction tape and air panels, which allows solid printing on the front side in perfecting mode. "It's details like this," says Dodd, "that make the press so versatile. And all these details combined give us the flexibility we need to compete with the half-format print shops."

Finally, Blumberg highlights one aspect of the press in particular, commenting: "The coating unit on the Speedmaster SM 52 enables customers to explore new format ranges with confidence." This was one of the criteria involved when developing the eight-color Speedmaster, says Blumberg. "One of the biggest advantages of this press is without doubt the fact that it works so efficiently, enabling print shops to move to a larger format and still make full use of the existing process chain. The Speedmaster SM 52 offers maximum levels of flexibility and holds the answer to the question of how print shops can react quickly and successfully to changing market conditions." ■

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■ www.heidelberg.com/hd/SM52

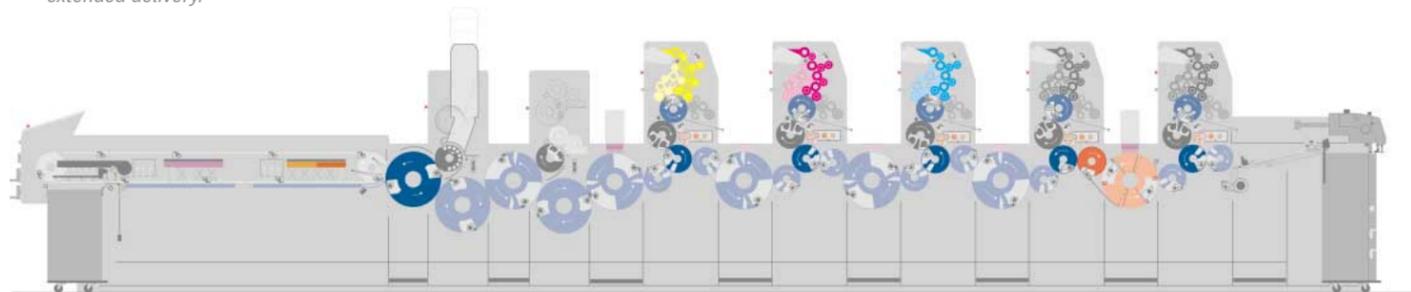


The eight-color Speedmaster SM 52 with sheet reversal, ideal for 4/4 jobs or laying down up to eight colors on one side of the sheet.



The numbering shaft for standard delivery on the Speedmaster SM 52.

Sample configuration of a Speedmaster SM 52: feeder, five printing units, inline coating unit, inline diecutting unit and extended delivery.



Unit for inline diecutting in a Speedmaster SM 52.



“Pooling resources”

On April 1, Bernd Blumberg – up till then in charge of Product Management 35×50 cm (13.78×19.68 inches) – took over the newly created post of Head of Product Management for the 35×50 cm (13.78×19.68 inches) and 50×70 cm (19.68×27.56 inches) format ranges. Heidelberg News interviewed the 46 year-old printing technology engineer about the organizational merger of the two format ranges, which have so far been separate.

HN: Mr. Blumberg, why is Heidelberg combining the two format ranges?

B. Blumberg: Primarily, we are responding to changing market conditions. From our customers we're noticing significantly more movement between the formats than in the past. Many businesses are experimenting with the other format range to open up new markets, gain opportunities to make themselves stand out in the market or, more generally, to increase their productivity.

HN: How are such processes arranged in practice?

B. Blumberg: A classic example is a 50×70 cm (19.68×27.56 inches) user who, planning to move into UV printing, begins with a suitably equipped A3 press such as the Speedmaster SM 52 – perhaps with the aim of upgrading to a Speedmaster CD 74 UV as soon

as they have built up a sizeable market in this sector. Prinect makes switching formats considerably easier for the customer.

HN: How do you intend to further support customers who are looking to change formats?

B. Blumberg: Our aim is to use proven Heidelberg technology for several products. For instance, we will now be offering the Speedmaster CD 74 chamber blade system for the Speedmaster SM 52 coating unit too.

HN: And what about customers who want to remain loyal to “their” format? Won't the focus on a particular format class be lost through the planned use of synergies?

B. Blumberg: Not at all. The majority of our customers are at home with A3. This places a certain obligation on us – one that we will also fulfill in the future – namely to accelerate the technology transfer between both lines.

HN: Market shares of 60 percent in A3 and over 40 percent in A2 mean you're responsible for a truly mass business. Does this mean that customers of these formats only get mass products?

B. Blumberg: This assumption is hardly surprising but doesn't really have any basis in reality. Although we produce high numbers of units in these classes, our production methods and the technology used in the presses themselves are so flexible that we can produce customized configurations such as presses with inline diecutting, UV or multi-coating features, to name just a few options.



Bernd Blumberg, Head of Product Management for the 35×50 cm (13.78×19.68 inches) and 50×70 cm (19.68×27.56 inches) format ranges.

HN: Are fundamental changes planned in the small and midsize format product range?

B. Blumberg: Our present portfolio, ranging from the Quickmaster 46 to the Speedmaster CD 74, enables our customers to really meet every demand of the market systematically. So we'll be keeping this portfolio, although we plan to standardize controls and functions, for instance, so different presses can be handled more easily.

HN: And how do you personally rate future opportunities in small and midsize format offset printing?

B. Blumberg: I think small and half-format offset printing will continue to be a lucrative area of activity for our customers. I know plenty of companies that do a profitable business with innovative concepts and solutions from Heidelberg. These companies are constantly working to improve themselves and develop new ideas to guarantee themselves a competitive edge. We at Heidelberg are pleased to help realize these ideas and add to our customers' success. Tell us your problem and we'll give you a solution.

HN: Thank you for talking with us. ■



Bernd Blumberg talking to the HN team.

PORTABLE DOCUMENT FORMAT (PDF)

A “masterpiece” for mediamakers



The new version of Acrobat 7.0 Professional from Adobe Systems, the inventor of PDF, is ideal for use in the print media industry. Its many new functions give office users and mediamakers a whole range of new capabilities for communication and production.

The California software manufacturer has obviously given some thought to how Acrobat, the standard application for PDF users in offices and production rooms, can be designed even more attractive and effective. Acrobat 7.0 Professional is an application with the potential of becoming the central tool for all PDF publishers. It used to be necessary for users, particularly those in prepress production, to run numerous additional programs to cover the most important prepress functions, but Adobe has now filled in the gaps. For the first time, Acrobat offers a dedicated toolbar comprising all the old and new prepress functions.

The list of new features is long. Whether you want to modify colors to adapt them for the printing process or display a highly flexible preview of the subsequent separations on the screen, Acrobat has the solution you need. Another new feature in the “Print production” toolbar is the revised preflighting menu. Adobe has also given some thought to the process of generating printing marks, handling and expanding paper format and trim, and thickening hairlines. This menu also features a link to the Adobe in-RIP trapping function, although this is only accessible to Adobe PostScript 3 users. However, the real winner is the tool for reducing transparencies. This allows the user to immediately see the result on his monitor and – another new feature – store it. The PDF Optimizer, the tool of choice for optimizing PDF files, can also be accessed from this menu. Although it can be a little cumbersome to use, the new trimming function will impress users with its efficient handling of page formats and subsequent format expansion. Unfortunately, the new color space transformation function does not include storable user settings, something that would make day-to-day operations much simpler. However, the Prinect PDF Toolbox from Heidelberg can

help out here. Its Trap Editor feature even facilitates the kind of object-specific trapping functions which packaging professionals need. And the Color Editor ensures even better color space transformations with the ability to store and retrieve all settings.

Acrobat 7.0 provides the office user with numerous new functions. The entire PDF generation process at operating system level and in all Microsoft Office applications has been redeveloped and is now stable. This also applies to the exchange of PDF comments via the Internet and by e-mail. The new PDF Organizer in Acrobat 7.0 is another exciting feature because it will save time. A user can employ this tool to search for, open, organize, summarize and view PDF files. Files can be viewed without even opening them, which is a real blessing in media production. With this new version, Adobe provides a new means of generating PDF/X, thereby making it easier for users of the Professional version to comply with the prepress standard. Unfortunately, this and the other prepress functions mentioned in this article are only available to Professional users. Anyone who purchases the Standard version of Acrobat 7.0 will not be able to access these functions.

All in all, the new version of Acrobat makes a good impression, even though it still presents a few small glitches that need to be ironed out. In any case, it is well worth an upgrade. ■

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A piece of good news to begin with – the American printing market is on the road to recovery. But any company wanting to profit from growth needs to do more than just wait for an upswing in the U.S. economy to generate new orders. This issue of Heidelberg News analyzes the situation in the world’s largest printing market.

Following a four-year downward spiral, the American printing market has finally bottomed out. The National Association for Printing Leadership (NAPL) is anticipating growth of 5.5 percent in 2005. This corresponds to an order volume of around 66.1 billion euros (approx. 85 billion U.S. dollars). By way of comparison, the USA’s gross domestic product in January 2005 was around 9.7 billion euros (approx. 12.025 billion U.S. dollars). This upward trend is reflected in the industry barometer, the NAPL Printing Business Index (PBI). Climbing to 61 points in March 2005, it is now well above the critical 50-point mark that represents the midpoint between downturn and upswing. The index measures indicators such as existing and anticipated business conditions, profitability and incoming orders. The figures are gathered monthly from a representative group of over 300 businesses in the printing industry.

Market in a state of flux. The considerable improvement in the USA is being accompanied by a phase of consolidation. The NAPL estimates that around 5,000 of the some 32,000 print shops currently on the market will disappear by the year 2010. It suggests that companies that see the structural challenges such as increased digitization, decentralized production and changing patterns of customer behavior as an opportunity to reposition themselves on the market will benefit most from the current upswing. As in Europe, portfolio expansion and specialization are key strategies to gaining market share and escaping the price pressures that dominate the mass market. But what trends are likely to bring success and which sectors of industry are going to see changes?

Diversification and digital workflows. Print shops are increasing sales first and foremost by offering additional services and coated print products. They are also looking at new printing technologies such as variable data printing, personalization, 1:1 mailings and various coating processes. New options on the agenda include security printing to protect against forgeries, RFID applications (Radio Frequency Identification), lenticular printing and new methods for product protection.

Newspapers, magazines and catalogs. Magazines and catalogs are forecast to grow by 2 percent in 2005. The Magazine Publishers Association (MPA) reports that the number of titles has increased to 18,831 over the past 10 years (1994: 15,069). According to MPA, aspects such as versioning and individualization will give print shops and publishing houses new impetus for growth. More and more publishing houses are providing their advertising customers with issues that are addressed to specific target groups, for example special children’s versions that are devoid of any alcohol or cigarette advertising. Magazine and newspaper publishers are also experimenting with different page counts and more user-friendly formats in a bid to win new readers. According to MPA, the demand for inserts, cutouts and foldouts is growing, for example, with inserts by 10 percent a year.

What catalog manufacturers need to do now is identify market trends as early as possible and respond quickly with suitable online and print offers. The latest technologies in the industry include variable data software for immediate pricing, digital asset management, inline inkjet, fast plate changes and soft proofing.

Direct mailings. In the USA, around 27.7 billion euros (35.5 billion U.S. dollars) was spent on direct mailings in 2004. This accounted for approximately 10 percent of all media and marketing budgets. Annual growth of 5.6 percent is predicted for this segment up to 2007. Low print runs (even single copies), digital color presses, variable data printing, database tools and finishing/mailroom machines will all be making headlines in 2005.

Logistics and material procurement will also play a key role in 2005. Internal processes, inventory updates, orders and deliveries need to be constantly coordinated and reconciled with manufacturers and their suppliers. Management Information Systems (MISs) and other industry-specific programs are therefore essential for U.S. printers. Not least because MISs are crucial in workflows and JDF networking.

Prepress. Although film imaging still has a very significant role to play, the future belongs to CtP. Proofing is growing in stature due to the greater use of CtP, which is currently employed by around 5,000 companies in the USA. Accordingly, the demand for digital and form proofs is growing, just as it is for large-format units. More and more companies are also switching to on-screen soft proofing.

Diversity in sheet offset. While four-color printing is stagnating, the multi-color sector – e.g. the eight- or ten-color market – is enjoying a sustained period of growth. The options for using special colors and coatings are also growing all the time. Midsize and large companies are increasingly investing in presses that are flexible and versatile. The trend towards smaller page counts and ever greater numbers of product variations is feeding the demand for large-format presses that promise short makeready times.

The packaging and label sector is expected to grow by 2 percent in 2005. The challenge facing packaging printers is to produce large numbers of different brands in ever smaller runs. This is a necessary response to increasing product fragmentation by customers. We are also seeing a strengthening of market demand for both high-security and catchy packages. For example, packages with handles or blister packages with card inserts. This sector has grown by 28 percent in the last five years to reach a current level of around 4.4 billion euros (5.5 billion U.S. dollars). ▶

The Outlook for the Economy and Print			
Year	GDP	Print Sales	Print Volume
2000	3.8%	5.2%	\$86.6
2001	0.3%	-4.1%	\$83.0
2002	2.4%	-3.1%	\$80.5
2003	2.6%	-2.0%	\$78.9
2004	4.4%	4.1%	\$82.1
2005	3.5%	4.5% to 5.5%	\$85.8 to 86.7

Source of GDP projections: “Blue Chip Economic Indicators”, Aspen Publishers, Inc., November 10, 2004. Figures are adjusted for inflation. Print Sales are NAPL estimates, not adjusted for inflation. Volume is in billions.

Getting investments flowing again. The various examples and figures show that the American printing market is on the upturn. This is a development that will also benefit printing press manufacturers. The Cologne, Germany-based German Office for Foreign Trade (bfai) reports a significant increase in orders from U.S. industry. This could well herald a return to growth in printing press sales following six difficult years.

Print 05 – spotlight on the future. Many of the trends outlined here will be visible at Print 05 in Chicago. This key event in the print industry at McCormick Place will be presenting an extensive range of solutions that companies can use to expand their portfolios, streamline workflows and cut costs. Businesses focusing on high-grade com-

mercial and packaging printing that are looking to invest in coating, inline imprints and security technology will find this the perfect opportunity to check out suitable postpress equipment and procedures. Heidelberger Druckmaschinen AG will be presenting its new Speedmaster XL 105, which provides an ideal solution for commercial, packaging and label printing. Print 05 covers every possible application – from digital and variable data printing to workflow and asset management solutions. It also provides visitors with the opportunity to see both case and technology studies. ■

Facts & Figures

■ Print 05 Chicago: September 9 – 15, 2005

There are clear investment trends in the printing industry for the coming five years – expanding the service portfolio and increasing the skills of employees.

Top 15 Investments

Investment priorities	Last 5 Years	Next 5 Years
Digital printing presses/systems	21.6%	57.6%
Bindery/finishing equipment and systems	44.4%	53.7%
Employee training/education	31.2%	50.3%
Fulfillment capabilities	26.4%	49.2%
Mailing capabilities	25.6%	44.7%
Plant/facility expansion and improvement	30.3%	43.5%
Database management capabilities	16.6%	42.7%
Employee recruitment, loyalty and pay	28.1%	41.3%
4-or-more-color lithographic presses	53.4%	40.7%
Workflow solutions (JDF, CIM, etc.)	18.3%	37.9%
E-commerce capabilities	18.8%	37.1%
Computer-to-plate	59.0%	35.7%
Management information systems	25.8%	34.8%
Electronic prep systems/workstations	57.6%	34.3%
Digital asset (content) management	12.9%	32.6%

Source: The NAPL 2004-2005 State of the Industry Report, December 2004

“Companies can’t just ignore investment decisions”

The National Association for Printing Leadership (NAPL) in the U.S. has the task of identifying and analyzing trends and providing its members with appropriate assistance. Heidelberg News spoke to Joseph P. Truncale, President and CEO of NAPL, about the urgent issues facing print shops.

HN: The American printing industry seems to be on the road to recovery. What are the biggest problems that should be solved now?

Joseph P. Truncale: The biggest problem is to fight against the urge to maintain the status quo. Printers cannot make progress by simply treading water. It is now more important than ever that companies which see printing as their core business in the future expand their portfolio to include value-adding services.

HN: Do you regard the Internet and digital solutions as an opportunity or a challenge?

Joseph P. Truncale: The Internet will continue to be both a threat and an opportunity. A threat because it provides a means to convey words and images faster and cheaper. And, because digital data can be sent anywhere in the world, the Internet multiplies the number of competitors in a way that previously didn't exist. At the same time, it offers an opportunity, since printers can reinforce use of the Internet by publicizing commercial websites through direct mailings and printed advertising materials.

HN: What strategy do you believe offers the greatest success – diversification or specialization?

Joseph P. Truncale: Both strategies are valid. The best idea is to do both. Our most successful members have diversified their product and service lines. At the same time, they have specialized within their portfolio, focusing on, for example, packaging printing or specific vertical markets. If a company understands the unique requirements of a specific industry, it can position itself as an expert in this sector and thereby increase its market shares.

HN: Many companies hold back on their investments when the economy is doing badly. Is this the right thing to do?

Joseph P. Truncale: We all know that companies can only be successful if they use the most cutting-edge technology. Companies can't just ignore investment decisions if they want to keep up with technological progress. Even if they postpone their investments for a time, they will have to invest at some point if they want to maintain their position in the market.

HN: Thank you for talking with us. ■

DEBT MANAGEMENT

Treading a fine line



Until a customer has paid for goods delivered, a print shop should act in the same way as a money lender – by hedging against the risk of non-payment, maintaining an efficient system of managing outstanding debts and, if necessary, calling in help from outside. This can significantly reduce financial risks.

Just because something has been delivered doesn't mean it's been paid for – with late payments and bad debt losses many a printing company has become sorely aware of this merchant's truth. There is hardly a print shop that hasn't had trouble with the payment practices of some of its customers, and not a few companies' very existence is quickly threatened by failure to receive one payment due on top of a slim profit margin.

These problems occur all over the world, of course, though they take different forms in different places. Even within Western Europe, there is a distinct variation between countries, as shown in a study conducted by the Stockholm, Sweden-based international collection agency Intrum Justitia. The study found that in Italy, for example, the already generous average payment terms of 74 days are exceeded

by an average of an additional 19 days, but, at 0.8 percent, the default rate there is comparatively low. The behavior is quite the contrary in Belgium, where customers already pay up within 52 days on average. However, when payment is delayed there, things soon get risky. Belgium has a non-payment rate of 3.1 percent – almost four times as high as in Italy. In general terms, the risk of financial default on unpaid accounts grows as time goes on. However, print shops need not be totally at the mercy of poor payers. For example, a credit rating check can be run on new customers. Credit-rating services are offered by commercial agencies including Dun & Bradstreet, TransUnion and Equifax in the USA. In Europe, companies can turn to agencies such as the Creditreform Group or the Credit-Alliance network run by the French credit insurer Coface. The fee charged for this service is reasonable, particularly for larger orders.

For example, Dun & Bradstreet charges 110 euros (139 U.S. dollars) for detailed credit-rating information on a U.S. corporate account in the small business sector.

However, a credit check is only the first step toward a professional debt management system. Other measures include issuing the invoice immediately after the goods have been shipped so as to keep as short as possible the time lag between rendering the service and the date when a legal claim for payment begins. Companies may also find it worthwhile to consider altering the time they give their clients to pay or offering incentives such as discounts for quick payment. For example, a customer who has paid his invoice punctually 15 times in succession might be awarded the status and privileges of a "VIP customer". He could be given a "certificate" and, if the print shop can afford it, offered certain benefits. This might involve offering him a bigger cash discount, lower prices or better paper for the same price as before – steps which very quickly encourage more sales, since the customer feels flattered and will want to make use of his "price advantage". A well thought-out price list should take such cases into consideration .

Factoring instead of empty tills. Factoring and credit insurance offer two alternatives to businesses seeking additional security over their accounts receivable. Factoring involves "selling" the outstanding debt to a factoring company as soon as the invoice has been issued. The factoring company pays off the amount due immediately, thereby bearing not just the risk of non-payment but also handling interim financing for the period until the client's deadline for payment is reached. This improves the print shop's cash flow.

Credit insurance – the second alternative. Instead of using a factoring service, businesses can also hedge their outstanding debt by taking out credit insurance. The insurance will kick in if the client defaults on payment. "One particularly interesting option for print shops here is the ability to insure the costs incurred in production of the goods in addition to the debt itself," explains Werner Münch, Head of Policy Management for Germany at Atradius, an international credit insurance company based in Cologne, Germany. After all, without such protection, if a customer goes bankrupt before the goods are delivered, the finished printed matter is worthless. A credit insurance policy covering total production costs can help out in such situations.

Harsh but fair. The use of factoring services, collection agencies and credit insurance varies in different parts of the world. For example, suppliers in continental Europe often prefer the option of credit insurance, while their Anglo-Saxon counterparts tend to opt for factoring services and collection agencies. Since working with

Risk Rating	
Country	Risk index*
North America	60
Japan	65
European Union	90
World average	100
Emerging Asia	165
Central and Eastern Europe	180
Middle East	250
Latin America	280

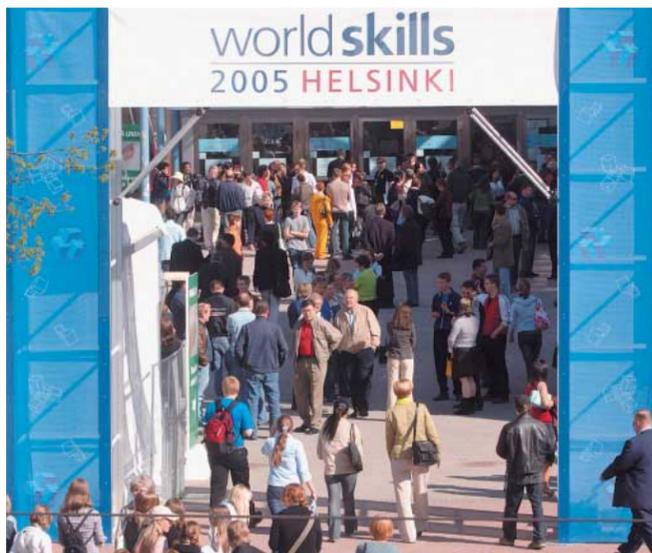
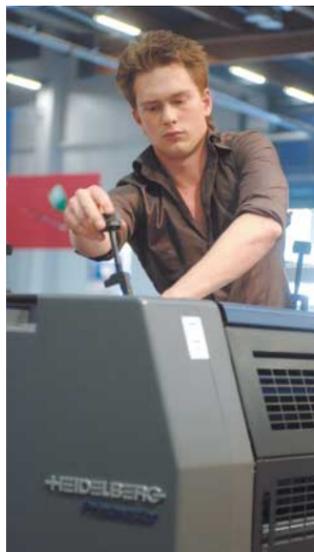
Debtors from North America and Japan represent the lowest risk.

* Coface index for risk of nonpayment for goods supplied in different regions.

factoring and collection agencies means that customers who default on payment receive a warning from the service provider, print shops "should be very careful when selecting a provider," says Rose Romesberg, who audits collection agencies for Labrynth Consulting in Chicago, USA. The service provider not only needs to be able to demonstrate experience with the target group that forms the print shop's customer base. The relationship between the print shop and the collection agency also needs to be based on clear agreements about the different approaches taken at varying degrees of late payment and customer behavior. After all, the annoyance caused to a customer by overly-harsh treatment when he is only slightly late in paying can be just as damaging to business as lax treatment of less important customers. As is so often the case in business, diplomacy is the order of the day here. ■

Country reports provide basic information

The credit insurance group Atradius currently provides reports on 14 European countries plus the USA on its website at www.atradius.com. The reports (all in English) provide information about payment patterns and credit-ratings as well as details of the legal situation surrounding late payment and nonpayment.



WORLDSKILLS 2005

Talented young printers compete for medals

With over 130,000 visitors at the Helsinki exhibition grounds, the Finnish capital experienced the largest event in the country's history when it hosted the 38th WorldSkills Competition. This was the first WorldSkills where the profession of 'printer' was represented and was actively supported by Heidelberg Druckmaschinen AG.

A vast sea of people, most of them young persons, thronged the exhibition grounds in Helsinki. Even at the entrance to the grounds, it was evident that this was a very special occasion with a unique atmosphere and had very little in common with a 'regular' world championship. When 700 participants assessed by 600 judges show their various skills in a total of 39 disciplines, absolute concentration is essential, just as it is in sport. The competitors have many weeks of preparation and preliminary national championships behind them and the moment of truth has now come. Everyone taking part is of a very high standard, so even the tiniest of errors on the day can ruin a competitor's prospects of a medal. The atmosphere in the breaks between the contests is relaxed, however, and many of the competitors strike up friendships and praise the sporting mood and spirit of fair play that runs through every discipline. Virtually all countries sent teams to Finland. The largest teams this year came from Finland, Korea, France, Switzerland, Japan and the Netherlands, each sending over 35 participants. The most popular discipline this year, represented by 26 two-man teams, was mechatronics. This is a relatively new profession which combines electronics and mechanical engineering. The next most popular disciplines were welding, electrical installation, brick laying, car mechanics and cooking. However, professions such as beauty care and landscape gardening were also represented. The teams varied in size depending on the particular trade, with the printing profession sending only a single competitor per team.

For many competitors, the atmosphere takes some getting used to, since the events are held under real contest conditions. While the 'professional athletes' are cordoned off from the members of the public, the latter are still quite close and crowd around in large numbers while the competitions are underway. The backdrop and noise levels in the large halls, each of which hosts several contests simultaneously, are not unlike a massive street party. Concentration is thus a major problem for the competitors.

Publicity for professions and training. The primary objective behind WorldSkills is to provide a vehicle that allows competitors to measure themselves against the best in the world in their particular profession. However, there are also a number of higher goals, including building an awareness of the need for training in the vari-

ous countries, matching standards of training in different countries and raising these where necessary, and making politicians and society aware of the importance of training in the fight against poverty and unemployment. Of course, WorldSkills in its current form also provides the various industries with a forum for putting their professions into the spotlight. It provides young people with an opportunity to see at first hand what professions are available. The contests then enable them to see what skills and requirements they will need for a particular profession.

A change of scene. Henna-Riikka Ahlgren bends over the freshly printed sheet to verify the results of the final corrections. The 19-year-old is the best printer in Finland, having won the Finnish Championships just a few weeks earlier. Of the seven participants in the national preliminaries, she had been considered the best. Now, in the middle of this vast hall and surrounded by spectators, she has to prove that the judges were right in sending her to Helsinki. "I was satisfied with the print quality on the first day of the competition, but I took too long getting to the OK sheet," she explains.

Peter van Kaam from Amsterdam in the Netherlands is also 19 years old and completed his apprenticeship as a printer just one month ago. He received one week's training for the WorldSkills at an open house event held at Tetterode, Heidelberg's sales partner in the Netherlands. Since the open house event also drew a large audience, this had been good preparation for handling the 'hustle and bustle' in Helsinki. "Here you are in a vast hall, surrounded by thousands of people. It's loud and you can hear all the noises and smell all the smells from the other stands, such as from the welding competition going on opposite. This can certainly distract some people, but that's just the way it is at a world championship," he explains. He is employed by the Leiden printshop in Amsterdam, one of a staff of eleven. Van Kaam learned about the WorldSkills at his vocational school and qualified for Helsinki by winning the title of 'Dutch Champion' at the Dutch preliminaries. Each of the four Dutch vocational schools training printers sent their best student to the preliminaries. As first prize for winning the national contest, he was given the opportunity to take part in a seminar of his choice at the Print Media Academy (PMA) in Heidelberg, paid for by Tetterode. He found this a very motivating experience: "My boss is very proud of me." ▶



The three members of the jury – Pentti Viluksela of Finland, Christian Duplat from Belgium and Finn Jensen from Sweden – evaluating the performance of Jakob Hjelme from Norway. (left to right)



Peter van Kaam from the Netherlands at the feeder of his Printmaster PM 52-4.



Benjamin Balasunderam of Germany mounting a fresh printing plate. Jordan Poulain from Belgium replenishing the ink. (Left to right)



Participants & Winners

The participants in the printing contest were as follows:

- Henna-Riikka Ahlgren, Finland
- Benjamin Balasunderam, Germany
- Stefan Durrer, Switzerland
- Jakob Hjelme, Norway
- Peter van Kaam, Netherlands
- Jordan Poulain, Belgium
- Patrik Sahlander, Sweden

The medal winners for printing:

- Gold: Jordan Poulain, Belgium
- Silver: Benjamin Balasunderam, Germany
- Bronze: Stefan Durrer, Switzerland

The WorldSkills breakdown by country:

- Most medals were won by
- 1. Switzerland
- 2. Korea
- 3. Germany
- 4. Finland



Stefan Durrer of Switzerland cutting the first print job, a poster.

Jury member Karl Kowalczyk, who has played a major role in holding WorldSkills 2005, evaluating Finnish “vocational athlete” Henna-Riikka Ahlgren.



Stefan Durrer from Switzerland is 21 years old and completed his apprenticeship as a printer one year ago. “I was not very satisfied with how the first day went. The rules are very strict and the standard is high,” he explains. Durrer is employed at the Odermatt printshop in Dallenwil near Lucerne. The printshop specializes in art prints with FM screens printed on Heidelberg Speedmaster SM 74-5, SM 74-2 and 52-5 presses and has a workforce of 40. Stefan Durrer spent a few days in Bern at Heidelberg’s Swiss branch in order to familiarize himself with the press used in the competition and has invested his vacations in coming to the WorldSkills championship. His assessment of how he fared at the competition? “Maintaining the quality above a certain print run is not easy if you have to operate all aspects of the press yourself. The interplay of the colors in the first print job was difficult to print, particularly the text in the green. Also, we didn’t have any preset data or any other measuring instrument. This made things difficult, but having said that it was the same for all the competitors.”

Benjamin Balasunderam from VollherbstDruck in Endingen, Germany, is in his second year as an apprentice and also sacrificed some of his vacation this year to take part in WorldSkills. He is enthusiastic about the excellent atmosphere and the opportunity to meet the other participants: “The atmosphere is superb and there is a real sense of sportsmanship. Every print job they give you raises the stakes. The coloring is very tricky and each and every one of the jobs is really demanding.” At VollherbstDruck Balasunderam works on a Heidelberg Speedmaster SM 74-5. VollherbstDruck has around 120 employees and specializes in wine labels.

Every contest needs rules and judges. Pentti Viluksela is actually a lecturer in printing technology and training printers at EVTEK Polytechnic, Institute of Technology in Espoo, Finland. He is “Head of the team of experts” and as such is responsible for the judges who pick the winners. Every country sending a contestant can also have a representative on the panel of judges. The participants spend a total of around five days in Helsinki. This gives them a little extra time to find their feet. The contest itself lasts four days. The competition is held on four Heidelberg Printmaster PM 52-4 presses which are

not equipped with too many automatic setting features. After all, the contest is designed to test the participants’ skills, not the capabilities of the presses. Heidelberg took charge of transporting the presses and maintaining them during the WorldSkills event. The criteria for the competition followed on from the national preliminaries. While it was important to ensure that the standard was high, it should not be unobtainable. The maximum age limit for entrants is set at 22. The participants each had to print three different jobs – a poster in a print run of 1000 sheets (4/0 in a maximum of three hours), a postcard in a run of 1500 sheets (4/1 in a maximum of five hours) and a brochure with a large proportion of negative text on uncoated paper in a run of 5000 sheets (4/4 in a maximum of six hours). Postpress operations on the fourth day also formed part of the competition but are not yet included in the final evaluation. The points earned from this fourth day are expected to be included in the final rating at the next WorldSkills. Specific criteria were defined for all three print jobs. These included register accuracy and ink density. However, points were also awarded based on how the students operated and set the press and how clean they left it within the specified time limit. The evaluation also examined how logical the participants were in their work, what they did with waste, and how much waste paper they generated. The maximum number of points that can be achieved is 100. Of these, 40 are awarded for the printing process, 25 for the makeready, a further 25 for the way the students operate and set the press (the student must not halt the press, for example) and the final 10 for environmental protection issues.

Promoting a global image “One of the oldest trades in the world, printing has taken a very long time to be represented at the WorldSkills championships. After all, the first event took place in Spain in 1950. Finland, as this year’s host, responded to a proposal from the Dutch to include printing and discussed this with Heidelberg and a number of other sponsors. These companies agreed to provide the necessary expertise and financial support to make this possible,” states Viluksela, and adds, “Heidelberg is the ideal partner for the WorldSkills. After all, we hope that many more entries from all parts of the world will be submitted in the printing section for the next World Skills 2007 in Japan. If this is the case, only Heidelberg

has the infrastructure in place, through its branches in the various regions, to ensure ideal preparation under identical conditions. This will enable every participant to train on a contest press. The participants naturally also require the specialist knowledge of, for example, a Karl Kowalczyk, the head of the Print Media Center in Heidelberg, whose expertise has been invaluable here, and not just as a member of the panel of judges.”

“Many young people are not interested in printing as a profession, since they still see it as a messy and dirty career. Today, however, the printing profession involves a high degree of automation, computer technology and workflow management. Since very many young people visit the stand, the WorldSkills is an important medium for enhancing the image of the entire industry,” states Viluksela.

Which printshop employs the best printer in the world? “We are all very excited and are already looking forward to Japan,” says Pentti Viluksela. However, he is not the only one to be totally captivated by the event. The other competitors and judges are equally enthusiastic. “We need at least eight participants for the WorldSkills in Japan if the printing industry is still to be represented. We have already received significant interest from Asian countries and are confident that we will have many more teams at the starting line in two years’ time in Japan. We would be delighted to have additional participants from, in particular, North and South America,” says Viluksela, adding, “so that we could then tell exactly which printshop is employing the world’s best junior printer.” ■

GUTENBERG MUSEUM, GERMANY

The Gutenberg-Project



Original “B42” Gutenberg Bible. The abbreviation indicates that the Bible has 42 lines.

Johannes Gutenberg’s printed Bible is considered the key symbol of a major turning point in human history. His invention of the printing press started a revolution – the process of making knowledge accessible to all. Gutenberg came from Mainz in Germany, and his hometown runs the Gutenberg Museum in memory of its most famous son. Heidelberg News gives you a tour of the museum and Gutenberg’s famous work.

A room darkened to protect sensitive materials from damaging daylight and surrounded by thick fire protection walls and heavy iron doors. An almost sacred quietness surrounds the centerpiece of the Gutenberg Museum in Mainz: the treasure in the treasure room. This is a collection of original Gutenberg Bibles, the first printed books in the world. Subdued spotlighting allows visitors to admire two copies of the Gutenberg Bible lying behind thick armored glass and protected by a security system. “90 lux brightness and 50-55 percent relative humidity are the optimum conditions for these irreplaceable incunabula,” explains the director of the museum, Dr. Eva Hanebutt-Benz. The term incunabula comes from the Latin meaning “cradle” and is used to describe the beginnings of printing, denoting any item printed before the year 1500.

Gutenberg’s Bible project was his life’s work. The book was of considerable importance – and size. The two-part work consisting of the Old and the New Testaments comprises 1,282 pages, each with 42 lines (which explains why the code B42 was used for the Gutenberg Bibles), and comprises around three million

characters. Gutenberg and around 20 assistants worked on the Bible for a good three years between 1452 and 1455. In commercial terms, it was a considerable task, but one which paid off nevertheless. After all, in the late Middle Ages, the word of God was not to be had cheaply. It took a scribe several years to produce a copy of the Bible, while the Gutenberg press took “only” a few months to do the same thing. However, the professional scribe would have had to pay four times his annual salary to purchase one of the first printed Bibles. Not exactly a bargain, then!

As attractive as handwriting. Gutenberg’s aim was to produce printed material that would look as attractive as if handwritten. He therefore went to the Mainz monastery library and selected a handwriting sample written in a very angular style known as *textura*. However, translating the dynamic character of the handwriting into inanimate letters and achieving a compact type with evenly spaced lines in two columns required more than just the 26 letters of the alphabet. Gutenberg’s assistants cast 290 characters, many of them ligatures and abbreviations. The letters in this new “Textura” typeface al-



Facsimile volume of the Codex Aureus. The original dates from circa 981 – 985 AD. (top) The strongroom where the Gutenberg Museum’s greatest treasures are kept. (bottom)





Hot-metal composition of a letter of indulgence. In the Middle Ages, the rich could use such letters to buy their way out of punishment for their sins. Thanks to Gutenberg's invention, the church was able to go into "mass production", making a tidy sum. The worse the sin, the more expensive the letter.

so needed to be big so that they would be legible in the rather dark, candlelit churches of the day. Of the 180 copies of the B42 that Gutenberg produced – 150 of them on hand-made paper from Italy and 30 on higher-quality parchment, 49 are still in existence around the world. The Mainz museum offers visitors the unique opportunity to compare two copies displayed side by side. It is almost impossible to assess the value of a B42, which would be determined purely by the laws of supply and demand. "It's unlikely that any additional copies of the Gutenberg Bible will be offered for sale, since there are now very few of them still in private ownership. The Queen of England has one, but I'm sure she won't be selling it!", jokes Dr. Eva Hanebutt-Benz. Most of the Bibles are already in museums. In the year 2000, almost 41,000 euros (nearly 53,000 U.S. dollars) were paid for a single page from a B42 at an auction at Christies in London.

A famous unknown. Little is known about Gutenberg's life and work. Even his date of birth can only be estimated. He was born in Mainz sometime between 1393 and 1405, the son of Friele Gensfleisch, a tradesman. Later, he lived in a part of Mainz called "Zum Gutenberg". The reason why he chose this name as his family name is unknown. Gutenberg's technical and commercial skills lead us to believe that he received an education befitting his social status, studying in a monastery school and then at university. In the year 1434, he moved to Strasbourg in Alsace, which was still part of the German Empire at the time and lies in the region neighboring Mainz. It is thought that Gutenberg worked as a clerk and goldsmith here. At the age of almost 40, he and some partners founded a company there manufacturing mirrors for pilgrims going to Aachen. The manufacturing process they used is already reminiscent of Gutenberg's subsequent method for casting type. However, Gutenberg had bad luck with this enterprise because the pilgrimage was postponed by a year. His business partners, who

had partially funded the company, go to court to sue for their money. The first description of Gutenberg as a master craftsman and prolific inventor is contained in the records of the court proceedings. Indeed, at that time, Gutenberg was pursuing a secret project called "Aventure und Kunst" ("Adventure and Art") using a form and a press, something about which his business partners were sworn to secrecy. Unfortunately, the Strasbourg records do not reveal anything else, but some researchers today suspect that the project involved experiments in letterpress. Indeed, the next official reference to Gutenberg – in 1448 in Mainz – reports that he is able to print.

The Gutenberg workshop. Down in the basement of the Gutenberg Museum, many a visitor might muse: combining stamps, paper and a press must have been a simple operation! However, during the demonstration in the reconstructed Gutenberg workshop, it soon becomes clear that the desired result could only be arrived at by first linking many separate inventions.

Using Gutenberg's method, all the characters firstly have to be engraved as mirror images on a hard metal such as iron or steel. These stamps, also known as dies, are then hammered into a softer metal such as copper, thus creating a deep impression of the characters: the matrix. The matrix is then clamped into a hand casting machine or 'hand mold', likewise an invention of Gutenberg's. A ladle is used to pour alloy at 300 degrees Celsius into the impression in the matrix. It is likely that a great deal of time was spent getting this alloy right. In order for the production process to move quickly, the metal alloy needed to cool down fast and be very hard in its solid form to ensure that the letters would be durable. The full set of characters is kept in a lettercase. They are then selected and placed upside-down to form words and lines. Even the ink used to print paper and parchment still had to be invented. It needed to be viscous – but without penetrating right through the paper so that the other side could also be printed – and needed to dry quickly. A mixture of soot, resin and linseed oil finally formed the first black printing ink. The ink is

applied with two mushroom-shaped 'printing balls'. These are made of dog skin and stuffed with horsehair and were surely the result of many of Gutenberg's experiments. Only dog skin has no pores – for dogs perspire through their mouths and tongues – and this ensures that the ink remains on the surface of the ball rather than soaking into it. The inked typeset sequence – the form – is laid on the carriage of the press. The paper or parchment is laid inside the cover. It is then clamped down onto the inked characters and the whole carriage is slid under the platen of the press.

Hard physical work rewarded by a kiss.

The platen with the paper is pressed onto the letters with the aid of the press jack. "Two men always have to pull together with an even rhythm, using their entire body weight," explains Dr. Eva Hanebutt-Benz. If there is a loud smacking sound when the paper is pulled off the form – the "kiss of the press" – the print is strong enough and took. The printed image is more balanced than even the best scribes could manage by hand in Gutenberg's day. ▶

“90 lux brightness and 50-55 percent relative humidity are the optimum conditions for these irreplaceable incunabula.” Dr. Eva Hanebutt-Benz



Reconstruction of a Gutenberg printing press in the museum.



One of the exhibition rooms in the Gutenberg Museum.



Horst Gassen and Rainhard Matfeld in the print shop inside the museum. Manual dexterity is paramount (left to right).

The print shop has old-world charm and the old machinery with antique value is still used for printing.



The printing press is Gutenberg's most important invention. How did he come up with it? Gutenberg lived in a region where grapes had been cultivated since Roman times – a region now occupied by the areas of Rhine-hessen and Palatinate. The vineyards follow the course of the Rhine, and run for several hundred miles, right through Strasbourg and Karlsruhe to Mainz and further north. Even today, the region is the biggest contiguous wine-growing area in Europe. In Gutenberg's time, wine presses were already in use to "press" the juice from the grapes. However, the process of taking a wine press as a model and developing a printing press involved a great deal of work. After many months of hard work and failed experiments with modified presses, Gutenberg and his assistants finally managed to achieve the desired result. The similarity between the printing press and the wine presses at this moment was unmistakable. Gutenberg spent enormous sums of money on Bible printing in his workshop, something which eventually got him into severe difficulties, since it was not just his own money he was investing.

Partners become competitors. In a legal battle in 1455 with his financier Johannes Fust, who had invested a total of 1,600 guilders (a seven-figure sum in today's money) in the printing project, Gutenberg lost

his print shop. Gutenberg himself continued printing in his family home, but in 1462, fate dealt him another blow. Following the battle for the archdiocese of Mainz, many citizens of the city, including Gutenberg and his assistants, were forced into exile. Although Gutenberg himself was able to return some time later, many of his assistants migrated to other cities. This was actually a stroke of luck, as it meant that the art of letterpress spread throughout Europe. Gutenberg died in 1468, a respected citizen of Mainz. He did not live to see the incredible success of his invention. Some 50 years after his death, there were already print shops in 270 European cities. By then, these print shops had produced more than 10 million copies of 40,000 titles. In 1539, Gutenberg's invention finally reached the new world when a German named Johann Cromberger imported the first printing press into Mexico.

Unintentional bringer of enlightenment or revolutionary? The Catholic Church initially welcomed the invention of printing with movable type, since it allowed such things as letters of indulgence to be printed in bulk. This meant that anyone with money could buy his way out of punishment for his sins and escape purgatory. One advantage of printing was that long texts previously littered with transcription errors could now

be printed without any mistakes. Actually, however, now more and more people were able to read the Bible themselves because printing made Bibles reasonable in cost. The Catholic Church was also forced to lift its ban on the translation of the Bible from Latin into popular languages, something which until then had prevented the man in

and written languages would have been inconceivable. The invention of letterpress laid the foundation for the development of language, culture and science in Europe, and in their wake economic prosperity over the subsequent centuries. Gutenberg's invention marked the beginning of the end for the monopoly on knowledge and power held by the Church and the nobility, and humanism began gaining ground fast. Revolutionaries in France in the 18th century saw Gutenberg as the "first revolutionary and benefactor of mankind" and called for letterpress to be renamed "Gutenbergism" and for a constellation of stars to be named after him. Gutenberg's hometown has good reason to be proud of him and, as well as the Gutenberg Bibles, the Gutenberg Museum features numerous documents, machines and information about the famous book and the invention of letterpress. The museum is well worth a visit. ■



Museum Director Dr. Hanebutt-Benz, pictured in the museum café.

the street from understanding the words of the Bible for himself. By 1521, the Bible had been translated into English and printed in Antwerp, Belgium, which at that time was still part of the German empire. Its translator, a priest named William Tyndale who came from Dursley in southern England, was burned at the stake for his work. Not discouraged by this, Martin Luther followed Tyndale's example and translated the Bible using a language that then gradually became established as modern High German. His Bible was printed in 1534. Without letterpress, the spread of the Bible – which remains the most-printed book in the world –



Reprint of the Luther Bible, available at the museum shop for about 100 euros (120 U.S. dollars).

The Gutenberg Museum

Demonstrations of the Gutenberg Press

Every hour on the hour while the museum is open.

Special exhibition

"Black on white. 400 years of newspapers – A medium makes history." July 10 to December 30, 2005

Special event weeks

Four times a year, bookbinders, miniaturists, papermakers and many other experts from different fields of publishing, printing and writing demonstrate their crafts. Please contact us for details.

The print shop (Druckladen)

Roll up your sleeves and try your skills on a traditional hand press! Seilergasse 1, 55116 Mainz Phone: +49-(0)-61 31-12 26 86 The print shop, situated within the museum building but with a separate entrance, is a lively workshop where experienced typesetters and printers keep alive the tradition of letterpress. With some expert guidance, anyone can follow in the footsteps of Gutenberg and have a go at typesetting and printing.

Facts & Figures

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E-mail: gutenberg-museum@stadt.mainz.de
www.gutenberg-museum.de
- Opening hours:
Tuesday to Saturday 9 a.m. to 5 p.m.
Sunday 11 a.m. to 3 p.m.
Closed on all statutory public holidays

Tips & Tricks

Attaching tokens to bottles of mineral water

Outline and impact of problem

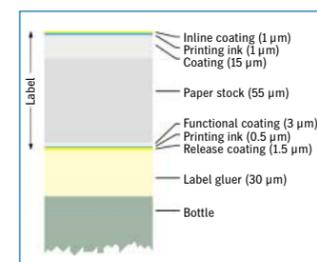
Products generally feature details of their contents and other information on their containers or packaging. It is important that the customer finds the packaged goods in flawless condition because investigations carried out by consumer behavior psychologists show there is a close link between a product's external appearance and consumer buying patterns. Nonetheless, there have been cases where the product looks right, yet complaints surface at a later date regardless of the quality of the contents. For instance, labels are applied to bottles using a special adhesive and have to survive the various phases until final delivery undamaged. The labels are generally firmly attached to the bottle, i.e. fully bonded, and cannot be removed easily. However, there are cases where the label has to be easy to remove. For example, the reverse side of the label could contain information that is important for the buyer or even tokens to collect.

Challenge and solution

As already mentioned, there are applications where the label has to be easily removable by hand and a special release coating has to be applied to ensure this is the case. Correctly coordinating the type of adhesive with the overall system and the minimum application thickness for the type of adhesive also play a major role. If this is completely new territory for print shops, it is recommended that they carry out the appropriate trials in advance.

Case study

The front side of labels for bottles of mineral water was printed in four colors and inline coated, while tokens were printed in one color on the reverse side. The idea behind the promotion was that buyers collecting a hundred of these labels could redeem the value printed on them. To ensure that this system worked, a release coating was applied wet-in-wet to the reverse side of the labels in two printing units. After the labels were dispensed, the coating was in contact



Schematic label structure.

with the label adhesive and/or bottle but prevented the label being completely bonded. The complex structure of these labels is shown on the left. However, soon after delivering the bottles to retailers, a complaint was received to the effect that the neck labels on a number of the bottles could not be removed, even though the token collecting offer was clearly

visible on the reverse side. Attempts to remove the labels from the bottles led to them being completely destroyed. The complaints became more frequent and the threat of legal ramifications loomed.

Investigation

Visual assessment. The neck labels on the bottles deemed "good" could be removed from the glass surface in tact and without leaving paper behind, whereas the faulty labels were either partially or completely bonded to the surface. Later on, it was no longer possible to determine from the print shop at what point different paper deliveries had been used in the label production process. However, it was established that a particular release coating (D) had been used on the faulty labels.

Comparative tests of the papers used for the job gave no clue as to the reason for the problem. Moreover, various chemical analyses of the two release coatings used identified that they essentially contained identical substances. As these investigations could not unearth the root of the problem, suspicion turned to the influence exerted by the quantity of release coating applied. Sample coatings and adhesion tests were then performed. Batches of weighed print proofs using the materials from the original job (two papers and two release coatings C and D) were produced on a test printing press. The coatings were applied wet-in-wet in quantities of 1.0 gsm - 2.5 gsm - 3.5 gsm.

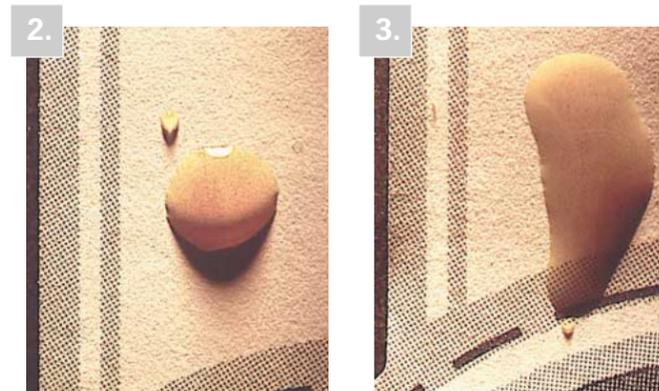
Adhesion tests. Paper samples with differing applications of release coating and original labels – deemed both "good" and "faulty" – underwent comparative, defined adhesion tests using the label adhesive from the original job. The adhesive was applied to the reverse side of the sample with a blade in thicknesses of 10 µm and 50 µm. The sample was then applied directly after.

Summary assessment of adhesion tests:

1. The quantity of the adhesive applied had no influence on the test result.
2. The original labels deemed "good" showed slight adhesion when attempts were made to remove them, however it was still possible to completely peel off the label without leaving paper behind.
3. The faulty labels were completely bonded to the bottles.
4. When applied in quantities of 2.5 gsm and 3.5 gsm, both release coatings enabled the labels to be removed in tact. The minimum coating application quantity recommended by the manufacturer was 2.5 gsm.

5. When applied in a quantity of 1.0 gsm, coating C enabled the samples to be removed in tact, whereas coating D led to complete bonding under otherwise identical test conditions.
6. The two papers behaved absolutely identically in the tests.

Consequently, the tests showed that the problem was not caused by the quantity of adhesive applied nor the paper quality. Instead, it became clear that coating D only enabled labels to be removed easily when applied in relatively large quantities. Applied in smaller quantities, coating D did not allow the labels to be removed at all.



Good label with low wetting.

Faulty label with high wetting.

Surface tension testing: The next step involved performing surface tension tests on the reverse side of coated samples and original labels. These tests were performed with readily available test inks with different surface tensions. A test ink with a surface tension of 41 mN/m was used.

Results

- The faulty labels and sample coatings with coating D showed spreading of the droplets when small quantities were applied, signifying good wetting (small quantity of coating applied).
- The labels deemed "good" and sample coatings with coatings C and D showed heavy pearly of the droplets when large quantities were applied (large quantities of coating applied), signifying low wetting.
- These tests therefore showed a close correlation between the quantity of release coating applied and surface tension.
- In practice, this test is an effective on-site procedure for quickly identifying possible difficulties arising from too small quantities being applied.
- The illustrations show the surface tension tests on the faulty and good labels.

Conclusion

Labels should generally not peel away from bottles. In this case study, however, the neck labels had to be removed from the bottle in tact as they featured tokens to be collected by customers. Some of the labels produced were completely bonded to the bottles and could not be used as tokens.

Investigations showed that the problem was not attributable to either the paper used or the quantity of adhesive applied. Only by producing sample coatings with the two release coatings used in production and performing adhesion tests could the root of the problem be uncovered: The two release coating preparations from the same manufacturer behaved very differently in terms of their release characteristics. While coating C "worked" even when smaller quantities were applied, use of coating D led to complete bonding under the same printing conditions, meaning the tokens could not be used. The investigations came to two conclusions regarding the cause of the problem:

1. Coating D had much poorer release characteristics than coating C from the same manufacturer.
2. In addition, the tests showed that falling short of the minimum application quantity of 2.5 gsm specified by the manufacturer could cause problems in terms of release characteristics. ■

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Dates & Tradeshows

■ Asian dates

Japan: Japan Graphic Arts Show (JGAS)

The theme of this year's Japan Graphic Arts Show is "Added Value through Innovation." The five-day event will focus on presses and products from the graphic arts industry. The target markets are Japan and its nearest neighbors.

Venue: Tokyo, Japan

Dates: October 4-8, 2005

Contact: Japan Graphic Arts Suppliers Committee/JGAS 2005 Office

Phone: +81-3-34 34-26 56

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E-mail: JGASmail@aol.com

Internet: www.jgas.jp

■ European dates

Finland: FINNGRAF 2005

The top event for the graphic arts industry in Finland.

Venue: Jyväskylä, Finland

Dates: October 6-8, 2005

Contact: Ilari Tervakangas, Project Manager

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Internet: www.jklmessut.fi/finngraf2005

Germany: PMA Summer University

At the Summer University, Heidelberg is set to attract print and media managers from all over the world. The highlights of the event are workshops, discussions with specialists and, most importantly, strategic issues relating to company management.

Venue: Heidelberg, Germany

Dates: July 17-22, 2005

Contact: Martina Brand,

Print Media Academy

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Germany: Annual General Meeting

At the Annual General Meeting of Heidelberg Druckmaschinen AG, Bernhard Schreier, the company's Chief Executive Officer, will provide preliminary information of incoming orders and sales for Heidelberg's first quarter (April 1 to June 30, 2005).

Venue: Heidelberg, Germany

Date: July 20, 2005

Contact: Thomas Fichtl, Heidelberg Druckmaschinen AG

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Fax: +49-(0)-62 21-92 50 69

E-mail: thomas.fichtl@heidelberg.com

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Hungary: PrintExpo

International printing industry trade show.

Venue: Budapest, Hungary

Dates: October 11-14, 2005

Contact: Andrea Kovács, Marketing Manager

Phone: +36-1-2 63 65 23

Fax: +36-1-2 63 63 42

E-mail: kovacs.andrea@hungexpo.hu

Internet: www.printexpo.hu

Romania: Print Show

The top trade show in the Romanian printing industry with participants from around the world.

Venue: Bucharest, Romania

Dates: September 21-24, 2005

Contact: Dana Toma, Project Manager

Phone: +40-21-2 02 57 54

Fax: +40-21-2 02 57 54

E-mail: danatoma@euroexpo.ro

Russia: PolygraphInter

International exhibition of presses, technology, accessories, and services from the printing industry.

Venue: Moscow, Russia

Dates: October 10-17, 2005

Contact: Marina N. Ivanova,

Trade Show Director

Phone: +7-(095)-1 05-34 17

Fax: +7-(095)-2 68-07 09

E-mail: imn@mvk.ru

Internet: http://www.polygraphinter.ru

Serbia-Montenegro: Grafima

International trade show for the entire graphic arts industry.

Venue: Belgrade, Serbia-Montenegro

Dates: October 25-31, 2005

Contact: Jasminka Savic, Project Manager

Phone: +381-11 65 58 99

Fax: +381-11 65 52 19

E-mail: gb@sajam.co.yu

Sweden: GRAFEX

Trade show for the whole of Sweden's graphic arts industry.

Venue: Stockholm, Sweden

Dates: September 21-24

Contact: Patrik Löwstedt, Project Manager

Phone: +46-(0)-8-749 43 61

Fax: +46-(0)-8-749 98 30

E-mail: patrik.lowstedt@stofair.se

Internet: http://grafex.stofair.se

Ukraine: Poligraphy

International exhibition of presses and equipment for the printing, paper and packaging industries.

Venue: Kiev, Ukraine

Dates: September 19-23, 2005

Contact: Valery N. Ponomarenko, Trade Show Director

Phone: +38-(0)-44-2 51 91 01/02

Fax: +38-(0)-44-2 51 91 11/12

E-mail: expo@nvc.ukrsat.com

■ North American dates

USA: PRINT 05

The world's largest trade show this year on all aspects of commercial and packaging printing, postpress and publishing.

There will be approx. 800 exhibitors from over 75 countries on the almost 70,000 m² (750,000 square feet) of floor space.

Venue: Chicago, USA

Dates: September 9-15, 2005

Contact: Graphic Arts Show Company, Inc.

Phone: +1-703-2 64 72 00

Fax: +1-703-6 20 91 87

E-mail: info@gasc.org

Internet: www.print05.com



All trade shows listed are with participation of Heidelberg.

Issue 252 reader questionnaire – winner details

1st prize: Trip to Heidelberg

Michael Schwayda, Druckerei Berger, Horn, Austria

2nd - 5th prizes: iPod

Pavraj Dhanjal, Centenary Printers Ltd., Nairobi, Kenya;
Silva Henrique, SerSilito – Empresa Gráfica Lda, Maia, Portugal;
Ronald Kuchanek, SiGG-SET AG Druck, Laufenburg, Germany;
Aldo Daniel Leguizamon Morel, Mercurio S.A., Paraguay

6th to 10th prizes: XL 105 model

Dirk Betermann, Holterdorf Offsetdruckerei, Oelde, Germany;
William Ferguson, Ferguson Printing Inc., Salamanca, USA;
Urs Gämperle, Bürgerspital Grafisches Zentrum, Basle, Switzerland;
Andreas Gogele, Druckerei Medus, Meran, Italy; Alexander Schorsch, Konrad A. Holtz AG, Neudrossenfeld, Germany

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