

## A highly-efficient, high-quality printing blanket aiding in the change to environmentally-friendly printing

### Vulcan Alto ND2

The quality of the printing blanket—the item that actually transfers ink from the printing press onto paper—not only affects print quality and accuracy, but can have a huge impact on the efficiency of the entire printing process. Hokuseisha is known as a pioneer in the field of waterless offset printing, but to further set itself apart from the competition in high-quality, environmentally-friendly printing, the company introduced Vulcan Alto ND2 offset printing blankets. Company leaders talk about the reasons for their decision to use Vulcan blankets, and the positive effect this has had for their business. To hear the whole story, we visit Hokuseisha's main plant in Toyooka, Hyogo Prefecture and the Yorii Plant in Saitama Prefecture.



Hokuseisha's main plant: integrated production from planning to printing and publishing

Client: Hokuseisha Corporation  
Products: Vulcan Alto ND2 offset printing blankets, installed on eight offset rotary presses (four horizontal; two for waterless printing, and four vertical)

## Main Plant—Toyooka, Hyogo Prefecture Data analysis proves increased efficiency

Hokuseisha was founded in 1953 in Toyooka City, northern Hyogo Prefecture. Hokusei means “northern star” in Japanese, because the founder of the company had the vision of creating a company that could be the brightest star in the business of northern Hyogo. The company early on set out its belief in the “art of printing,” and, through a flexible approach to providing the high-level printing that could meet the needs of a constantly-evolving market, Hokuseisha grew steadily. Today, in addition to its main plant, Hokuseisha has plants in Sanda City, Hyogo and Yorii, Saitama. The company serves the printing needs of both the Kansai and Kanto markets by utilizing the latest printing technologies, including waterless printing and FM screen printing.



Kaoru Hayakawa  
Hokuseisha CEO

to printing and binding. The main plant's offset printing department has six presses—two horizontal rotary presses and four vertical rotary presses. “We also have three vertical rotary presses in our Sanda plant, and two horizontal and two vertical rotary presses in our Yorii plant,” says Hokuseisha CEO Kaoru Hayakawa. “If we operate all of our rotary presses at full speed in all of our plants, we can produce up to 12 million sheets of printed material a day.”

### Reasons for Choosing Vulcan

The company first installed a horizontal rotary press in its main plant in 1997. A number of different blankets, both domestic and foreign, were tested in order to gain the maximum performance from the presses. “We experimented for about two or three years, but nothing quite satisfied us,” says Masahiko Otsuki, head of the Offset Printing Section. “The performance would always quickly deteriorate. Our Yorii plant, which was already using Vulcan products, recommended that we try the Vulcan Alto ND2. We immediately tried it, and noticed that it had great ink separation and reproduction qualities. There was little deterioration and the blanket lasted for a long time. Basically, we were extremely surprised at its high resilience. We knew that we definitely wanted to continue using it from then on.”

### Inexpensive Solution, Calculating Total Cost

The problem at that point was cost. “At first, when we heard how much it was going to cost, I honestly thought it was a bit expensive,” says Executive Director Taeko Nishiura. “I knew that it's a very good blanket. However, the better a blanket is, the more expensive it will be. I thought that it would be cheaper overall to use a large number of more inexpensive blankets that may lose quality over time, then simply replace them when they could no longer be used. I honestly couldn't give the OK to purchase the Vulcan blankets right away.”

At that point, Mr. Otsuki began collecting and analyzing data throughout the year on the replacement frequency of blankets, and the amount of time needed to handle replacements when using the Vulcan blanket. The results, including the incidents of replacements being required due to damaged blankets due to paper wrapping around the cylinder, showed that the number of replacements could be drastically decreased by using Vulcan blankets.



Taeko Nishiura  
Executive Director

“When you see the results right there on paper, it's much easier to make a decision,” Ms. Nishiura says. “The final print quality, one of the most important factors, was also well above our expectations. Once we factored in all these things, we saw that introducing the Vulcan Alto ND2 in our plants was not

going to be as expensive as we had first thought, so we decided to go ahead.”

### Positive Free-Daily-Newspaper Printing Results

In recent years, Hokuseisha has seen growth in its orders for the printing of free daily newspapers. “I've observed that, compared to other blankets out there on the market, Vulcan's blanket really provides good performance when dealing with the rough pulp paper used when printing free daily newspapers and publications, as opposed to the coated paper used when printing other materials,” Mr. Otsuki says.

Finally, we asked Mr. Hayakawa what he would like to see from suppliers that provide Vulcan products. “Well, the price wars going on right now in the printing industry are going to continue to grow even fiercer in the coming years,” the CEO says. “I think we'll be faced with

demands for even tighter deadlines, higher quality, and more environmentally friendly solutions. With these conditions the only way we can continue to provide solutions that satisfy our customers is to continue to improve quality, but also to improve productivity as well. We hope that Vulcan can provide us with products that contribute to our efforts to improve printing quality and productivity. You know, something like a blanket that never needs washing,” he laughs. “OK, so that might be impossible, but in all seriousness, I would like to see a blanket that is about ten or twenty percent more durable than those on the market today.”



Masahiko Otsuki  
Section Leader



A Vulcan Alto ND2 blanket installed on a horizontal offset rotary press

## Yorii Plant—Yorii, Saitama Prefecture An essential ingredient for highly detailed waterless and FM printing

Hokuseisha's Yorii plant was built in Yorii, Saitama in 1990 to meet the offset printing needs of the Kanto region. The plant's waterless printing work has earned high praise from the Waterless Printing Associations of both Europe and America, and is host to many visitors from Japan and abroad wanting to learn more about the art of waterless printing.

The plant's manager, Yoshiyuki Sakurai, created the world's first waterless offset print using a rotary press in 1988. This work gained him much praise; at the First Annual World Waterless Printing Conference in 2004 he was honored with a special award from the European Waterless Printing Association (EWPA).



Yoshiyuki Sakurai  
Plant Manager

As described in the article on the main plant, the Yorii plant houses six rotary presses, two horizontal and four vertical. The two horizontal rotary presses were installed 1997; they are offset rotary presses manufactured by Komori Corporation exclusively for waterless printing. The plant utilizes the Vulcan Alto ND2 on all of these rotary presses.

### Replacements always needed when you need to print

"I've been in the printing industry for 50 years, and I'm not exaggerating when I say that offset printing performance is made or broken by the blanket you choose," Mr. Sakurai says. He first learned of Vulcan blankets nearly 25 years ago. At the time he was not satisfied by the domestic blankets he had been using, which quickly deteriorated and required replacement; Vulcan was recommended to him by an ink manufacturer. He has since continued to use Vulcan products.

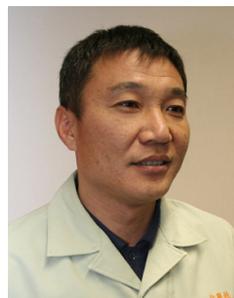
When Hokuseisha's main plant was having problems with blanket durability on the horizontal rotary press installed in 1997, Mr. Sakurai is the one who strongly recommended the Vulcan blanket as a possible solution.

"Since blankets are, after all, consumable products which will always need to be replaced, I think a lot of people tend not to place much emphasis on their quality," he says. "However think about how much the time and labor used in replacing blankets is lowering your overall printing efficiency. Of course, you'll rarely be in a situation where a blanket needs replacing while the machine is idle. Blankets always seem to need replacing when you have a lot of jobs coming in, and you need to get those machines rolling. Once you stop the machine, take off all its attachments, clean the cylinder, put everything back on again, and are finally ready to get things back up and running, you've spent hours without even realizing it. And, of course, during all this you're not accomplishing any printing. You can't print

during a time when you want, and need, every minute and every second you can get."

### Peace of mind is included in the cost

The chief in charge of the plant's offset rotary presses, Toru Nohara, talked about how replacing blankets can also lower worker motivation. "The actual replacement process really isn't that much hard work," he says. "However, I've found that having to work on replacing a blanket can make a person feel that their time is being wasted on something that isn't directly related to the tasks at hand, and that can cause a lot of frustration." By using highly durable Vulcan blankets—which result in fewer printing mistakes—workers can focus solely on producing high quality printing, increasing the overall efficiency of the plant.



Toru Nohara  
Section Chief

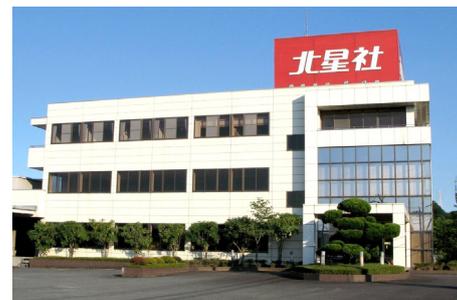
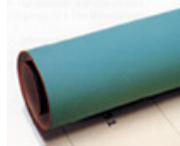
"That's something you can't necessarily see with your eyes, but it's a very big factor," Mr. Sakurai says. "For example, if something goes wrong during printing you automatically assume that the blanket may have something to do with the problem. In some cases, you may even resort to replacing the blanket, which is a very big waste of time. If you're using Vulcan blankets, however, you know that there isn't anything wrong there, so you can go ahead and move on to the next step. It really gives you peace of mind. I think that the cost of that peace of mind is included in the price of Vulcan blankets."

### Vulcan blankets: contributing to 600-line waterless FM printing

Last year, the Yorii plant produced 600-line FM (frequency modulated) screen printing using a waterless offset rotary press. This achievement gathered a lot of attention from the printing industry. When others in the industry saw the printing produced this way, they reacted with such praise as, "Is this really offset printing?" "The color is amazing," "It looks like a roto-gravure print," and, "It's like the print version of high definition." Of course, Hokuseisha's customers were also very happy with the results.

#### Vulcan Alto ND2

Vulcan of Italy is the world's top brand of offset printing blankets. The Alto ND2 utilizes a three-layer design—a rubber outer layer and closed-cell cushion layers—to achieve high quality printing and extremely high durability. The Vulcan Alto ND2 offers high precision through excellent ink transfer, reduced cleaning times and solution permeation, and provides high-quality printing with all paper thicknesses and qualities.



The Hokuseisha Yorii plant: an offset printing plant providing environmentally friendly printing

"Standard printing is usually at 175 lines per inch, so 600 is over three times higher," says Mr. Sakurai. "In FM screen printing, that means that the dot size is extremely small. We had already achieved printing at around 400 lines per inch, so our customers were wondering why, if we could do 400, we couldn't do 600. Hearing that, we thought the same thing; when we tried it, the printing was successful. I just never thought it would get this much attention!"

The Vulcan Alto ND2 also played a role in the achievement of this high resolution printing. If the blanket cannot maintain a constant thickness, the result is a poor impression and a reduced ability to reproduce the halftone dots that make up an image. "Without the high quality of Vulcan blankets, we wouldn't be able to handle such small halftone dots," Mr. Sakurai says. "The equation I've come up with is this: waterless printing that doesn't require dampening water + the Vulcan



A state-of-the-art waterless offset rotary press. High resolution printing achieved with the help of Vulcan blankets

Alto ND2 = high-quality FM screen printing." Mr. Sakurai adds that they are now receiving continued requests for 600-line waterless FM offset printing.

Hokuseisha continues to be a driving force in the printing industry through its waterless printing, which not only eliminates harmful waste but also supports water conservation efforts. They also continue to push forward as an environmentally friendly corporation by combining the elements of waterless printing, digital workflow, and printing materials into an environmentally friendly printing system they call eco-printing. Behind the scenes, the Vulcan ND2 also is doing its part to help Hokuseisha in all of its endeavors.

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