

Core Competence of Nippon Unipac Holding

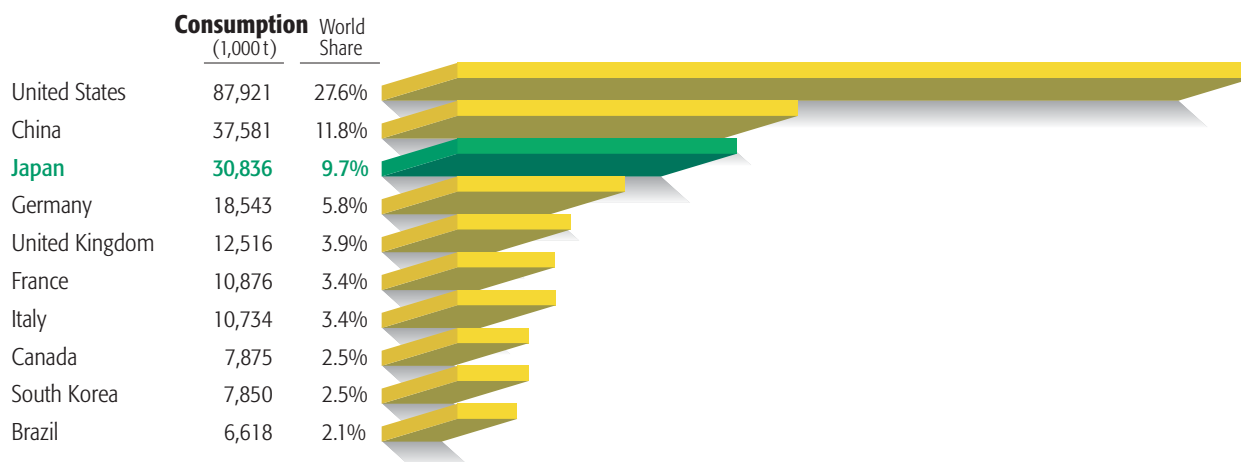
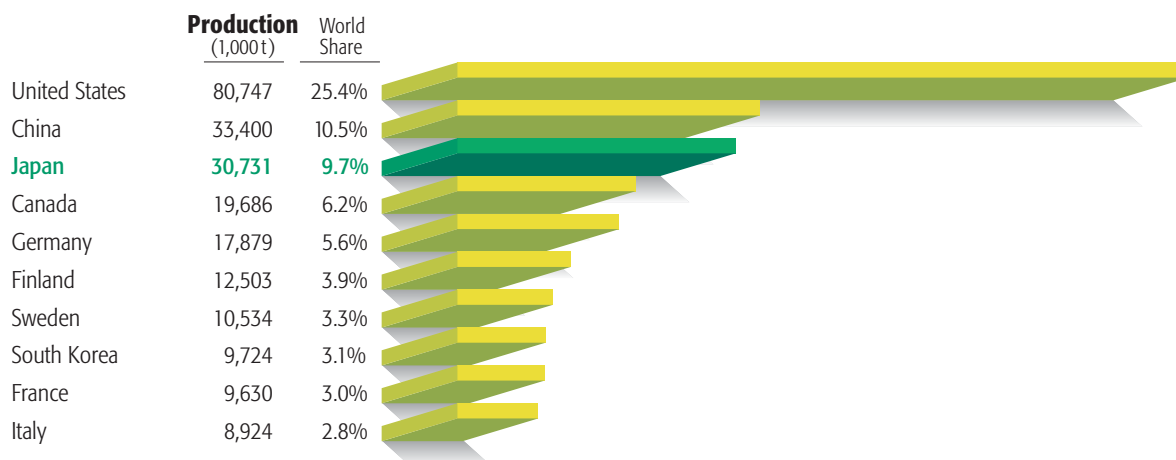
Enormous Domestic Market

The scale of world paper market amounts to approximately 320 million metric tons. Japan, home to the Nippon Unipac Holding Group, accounts for almost 10% of that total, making it the world's third largest market. Consumption is nearly equal to production here, indicating that the market is driven by domestic demand.

Moreover, domestic paper consumption has grown steadily in line with the expansion in the gross domestic product. This suggests that future demand is not likely to suffer a drastic fall.

World Top 10 in Production and Consumption

(2001)



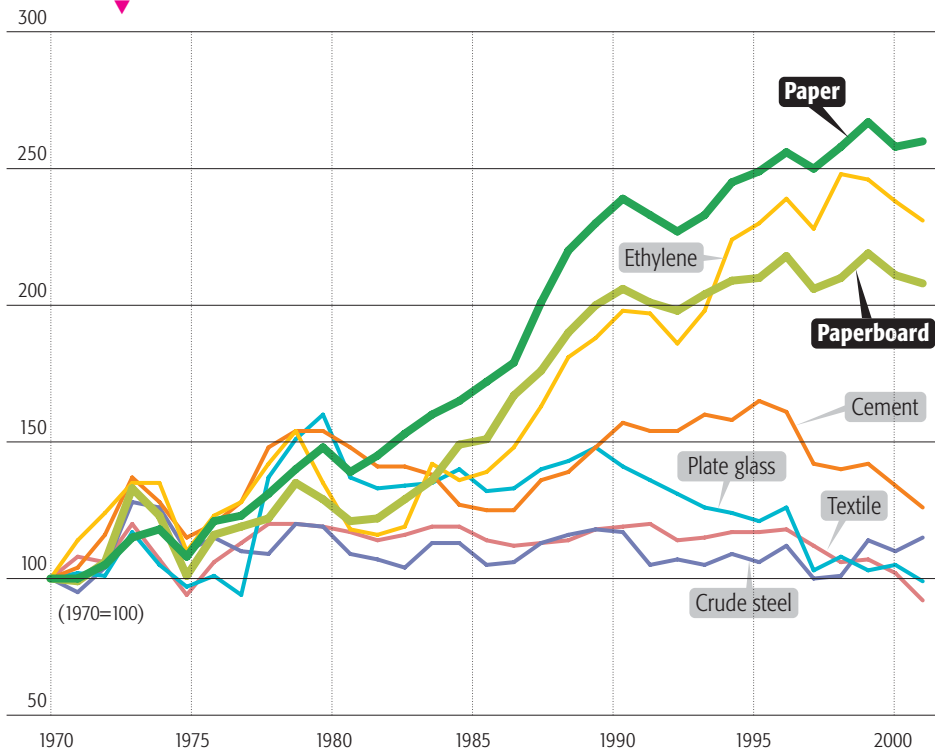
Source: Page 8 and 9 in the July 2002 issue of PPI (Pulp & Paper International).

Advantages of Paper and Paperboard Materials

The domestic paper and paperboard industry—the Nippon Unipac Holding Group’s core business area—has seen stabler growth in production volume, in comparison with ones in other material industries, for example, steel and metal.

Paper has many advantages over other types of media. With paper media, it is easy not only to glean a lot of information in a single glance but also on the eyes. Paper is inexpensive and lends itself to mass distribution. Japan’s paper companies can be highly competitive in the world marketplace, as many of our products are superior to counterparts made overseas, in quality, delivery service, price, cost, and other factors.

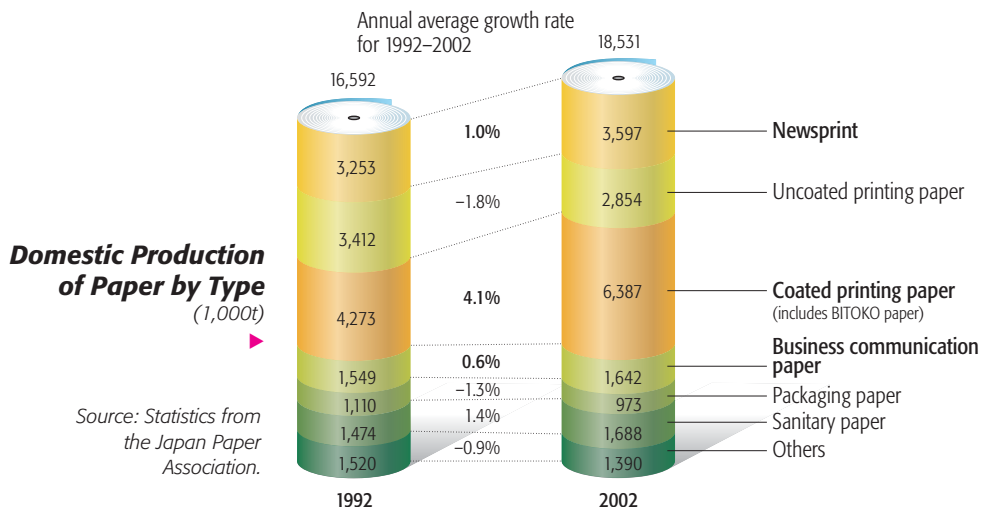
Change in the Production Volume of Each Material in Japan
(Growth rate with production in 1970 as 100)



Sources: Statistics from the Japan Paper Association and the Ministry of Economy, Trade and Industry.

A Growing Market

Domestic sales of coated printing paper are growing. Because printed materials are becoming more and more visually oriented, demand is growing for coated printing paper more suitable for color printing. In addition, in the business communication paper market, sales of ink-jet paper[*8] are surging exponentially with the growing popularity of digital cameras and high-end printers.



Source: Statistics from the Japan Paper Association.

* Please refer to the Glossary on pages 60 and 61 for details.

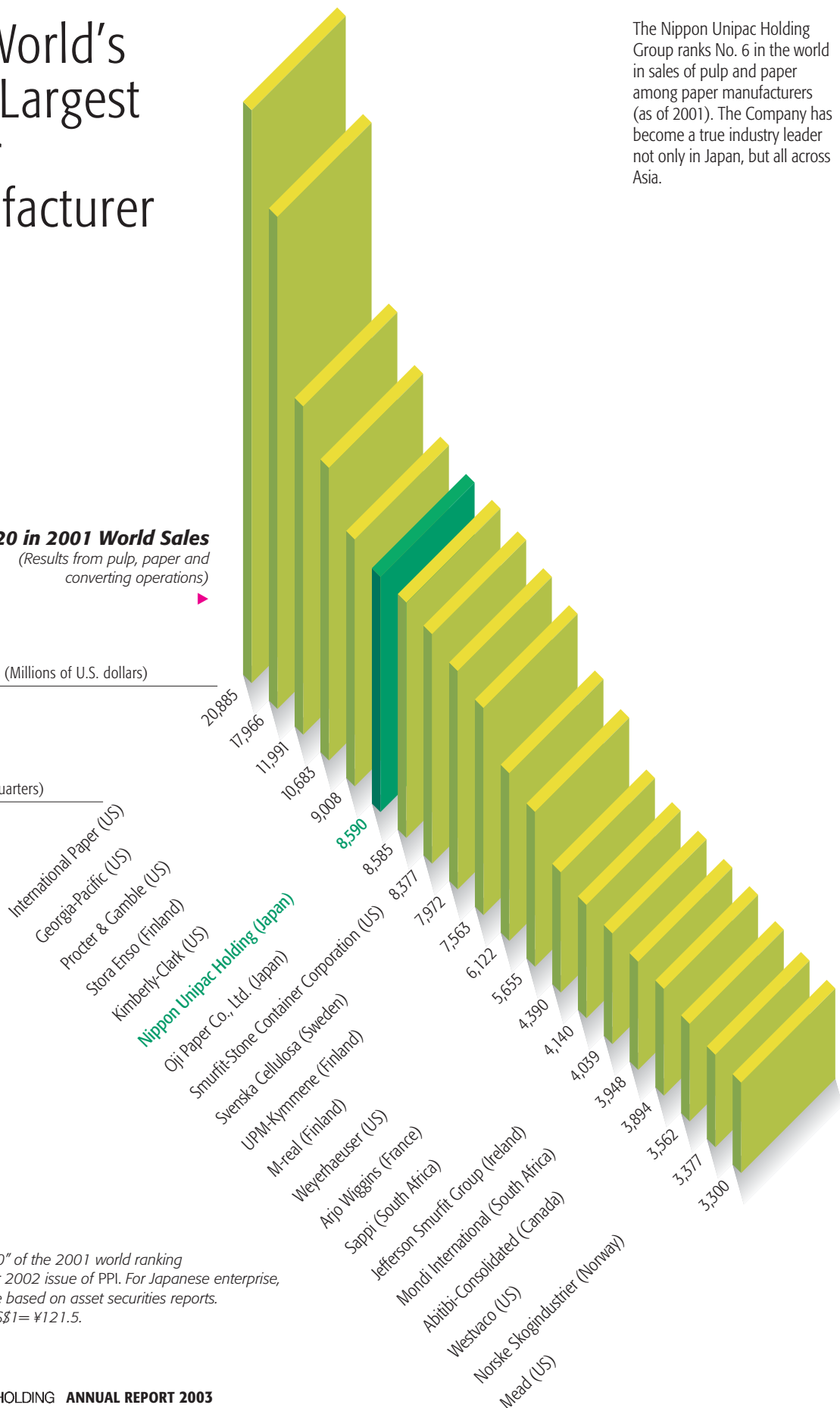
The World's Sixth Largest Paper Manufacturer

The Nippon Unipac Holding Group ranks No. 6 in the world in sales of pulp and paper among paper manufacturers (as of 2001). The Company has become a true industry leader not only in Japan, but all across Asia.

Top 20 in 2001 World Sales (Results from pulp, paper and converting operations)

Consolidated Sales (Millions of U.S. dollars)

Company name
(Country of headquarters)



Sources: "Top 150" of the 2001 world ranking in the September 2002 issue of PPI. For Japanese enterprise, however, data are based on asset securities reports. Exchange rate: US\$1= ¥121.5.

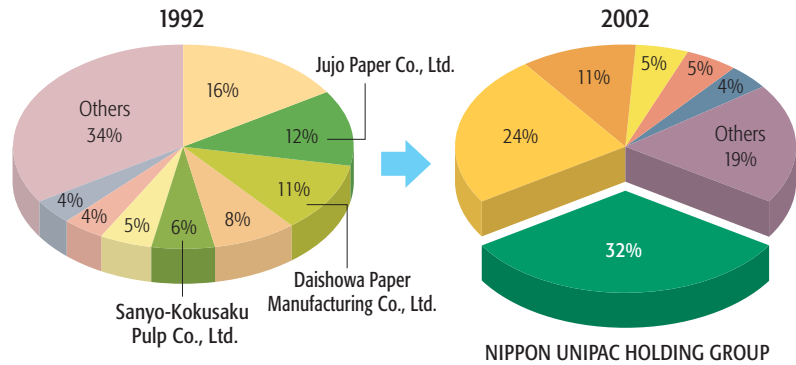
High Domestic Share

The Nippon Unipac Holding Group is No. 1 in paper business and No. 3 in paperboard business on respective domestic production share.

The paper market in Japan has grown steadily, while relentless competition, driven by building more facilities, has continued. Since the first half of the 1990s, companies have been forced to merge or restructure. With the March 2001 establishment of the Nippon Unipac Holding Group, a new form was realized with two major paper manufacturers and three major paperboard manufacturers.

This new structure makes it possible for companies to see a direct link between reducing costs and higher profits by avoiding drastic price fluctuations.

Paper Production Share in the Japanese Industry



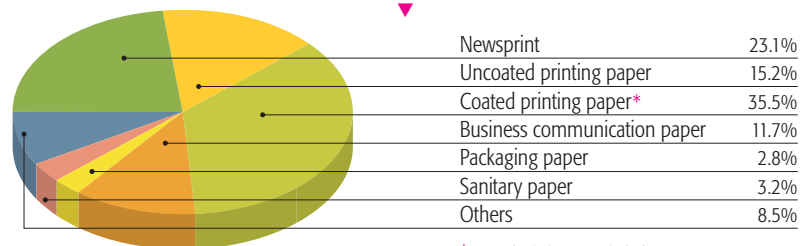
Promoting Products in Growth Categories

In R&D and sales, the Nippon Unipac Holding Group focuses on products that can grow even in a mature market.

We have continuously developed new products to meet emerging customer needs. For example, we introduced a series of low-density coated printing paper[*9]—a product line in growth categories—that offer a supple yet voluminous feel. And in the business communication paper area, we launched high gloss ink-jet paper[*8] that allows photo-like printing quality. These and other new products have won strong acceptance.

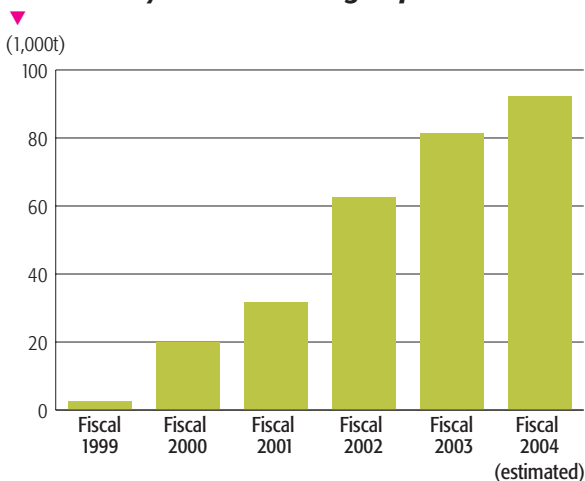
Percentage of Major Paper Products Manufactured by the Nippon Unipac Holding Group

(2002)



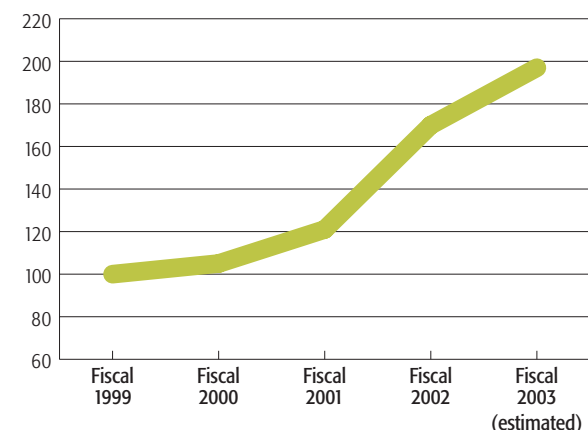
* Coated printing paper includes BITOKO paper

Change in the Sales Volume of Low-Density Coated Printing Paper



Change in the Sales Volume of Ink-Jet Paper

▼ (Growth rate with the sales volume in 1999 = 100)



* Please refer to the Glossary on pages 60 and 61 for details.

World-Class Technology Development

The Nippon Unipac Holding Group is seeking to develop technology in a range of areas with the next generation in mind, centered on meeting customer needs, strengthening global competitiveness, and attending to environmental concerns. As the research center for the entire Group, the Research & Development Division at Nippon Paper Industries Co., Ltd. serves to gather and develop technology.

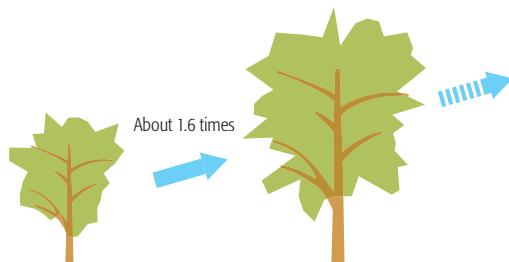
Production Technology

The Nippon Unipac Holding Group boasts some of the world's most advanced paper production and coating technologies. For example, we lead the industry in low-density technology, whose application has already helped us develop a number of innovative products, including paper for magazines, publication and book paper. In February 2003, "Kingdom Glory," high brightness coated rotogravure paper with the lowest density in the world, was launched in the market, and has been well received as a differentiated product.

These new products are maintaining a high growth rate, helping us keep our advantage over competitors in product variety, quality, and production volume.

Raw Materials

Wood: We are now looking into potential future resources for securing superior materials. Nippon Paper Industries Co., Ltd. succeeded in developing a superior type of eucalyptus, particularly in growth characteristics. Eucalyptus trees are known to grow quickly and are used as a raw material in paper manufacturing, and one we have developed showed 60% faster growth one year and eight months after plantation than conventional types.

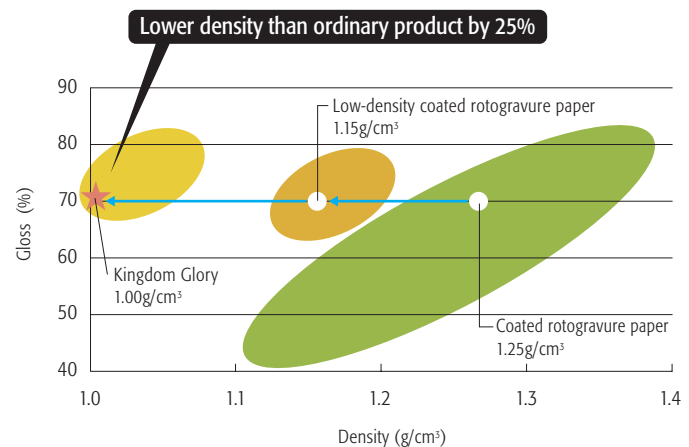


Wastepaper: As one of the industry's largest companies based on recyclable resources, we have continuously improved technology for manufacturing wastepaper pulp[*10]. Aiming at cost reductions and increasing the rate of wastepaper used, we have developed technology that makes it possible to recycle various wastepaper, for example, that from magazines containing adhesives in their spines, which could not have been used as material for paper before, and we have succeeded in putting the technology into practice.

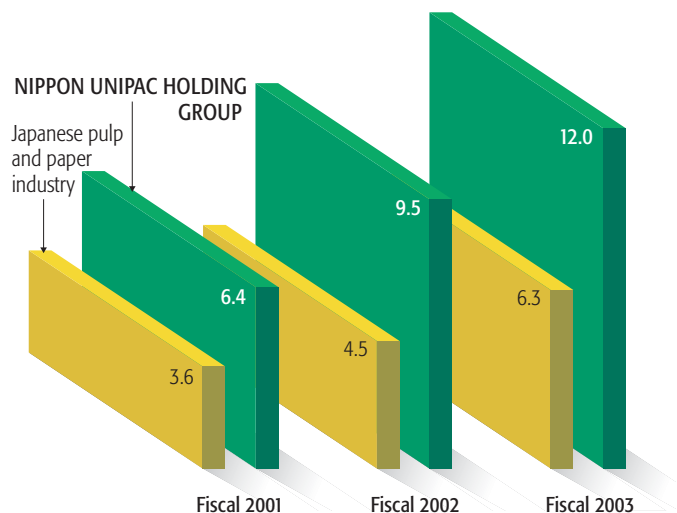
Other materials: In the paper-making process, where materials such as fillers[*11] and pigments[*12] are also important, we have developed technology for manufacturing those materials. We developed technology for producing in-house filler of better quality with lower cost. We have also made major strides toward our own pigment production, which will further reduce costs. These in-house-produced materials will be used in developing a wide range of products, from printing paper to newsprint.

* Please refer to the Glossary on pages 60 and 61 for details.

Density of Kingdom Glory in Comparison with the Other Types of Coated Rotogravure Paper



The Ratio (%) of Wastepaper from Magazines Used in Raw Materials for Paper



Source: Yearbook of Paper and Pulp Statistics from the Ministry of Economy, Trade and Industry

Advantageous Mill Locations

The excellent locations of our paper and paperboard mills in Japan give us a significant advantage over competitors.

- ◆ Many of our major mills are located in waterfront areas, giving us a cost advantage in raw materials and fuels, such as wood chips and coal, for most of which Japanese companies rely on imports in terms of procurement.
- ◆ Our other key mills are near major metropolitan areas, which give us easier and cheaper access to enormous amounts of wastepaper, a raw material for manufacturing paper and paperboard.
- ◆ The well-balanced locations of our mills across Japan make it easier for us to deliver products and provide other customer-friendly services.

We will make optimal use of the advantageous locations of these mills as part of our aggressive cost-cutting efforts. We are also taking steps to rationalize production facilities, with the aim of ensuring that we make the most efficient use of our assets. In these and other ways, the Nippon Unipac Holding Group as a whole is continually striving to achieve the most cost-effective operations possible.

- Mills located in waterfront areas
- Mills located near major metropolitan areas
- Nippon Paper Industries
- Nippon Daishowa Paperboard
- Other mills

