



NEWSPAPER

ABOUT MEDICAL PAPERS FROM BILLERUD



Next generation of Billerud Sterikraft®

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HIGHER SEAL STRENGTH, CLEANER PEEL PROPERTIES

It has taken nearly two years of research and development. But now they are here. With properties that include increased permeability, improved seal strength and cleaner peeling performance, Billerud's two new flagships in the Sterikraft family are at last on the market. "We can now offer our customers papers that meet all the expectations of the market", says David Shaw, technical manager at Billerud's mill in Beetham, UK.

"We have created two superior bacterial barrier papers, which can withstand the demanding sterilisation processes used in modern health care", says a very satisfied David Shaw.

The medical paper industry has long been faced with three challenges: Im-

proving seal strength, providing a clean peel that does not release fibres during pack opening and delivering a paper with optimum permeability so that the sterilisation medium can pass through at the same time as it maintains an effective barrier against bacteria.

With the new products, Billerud Sterikraft PeelClean S and Billerud Sterikraft PeelClean EO, David Shaw and his colleagues at the research facility in Beetham have successfully met all three challenges.

Billerud Sterikraft PeelClean S (Steam)

– for autoclaving.
Areas of application: Steam sterilisation of reusable medical instruments in medical care, dental care and other health care facilities.

Billerud Sterikraft PeelClean EO (Ethylene Oxide Gas)

– for gas and gamma sterilisation.
Areas of application: Industry and manufacturers of single-use medical articles such as syringes, catheters and needles.



**BILLERUD
INVESTS
FOR THE
FUTURE**



**SEAL LAB
AT YOUR
SERVICE**



The worldwide producer:
**"QUALITY
AND RELIABILITY
ARE IMPORTANT"**



**NEW
STATE-OF-THE-ART
TECHNOLOGY AT
PM7 SKÄRBLACKA**

Billerud invests for the future

We all want to improve ourselves and satisfy the market's wishes and needs. We at Billerud are no exception. This is why I am proud that today we have the ability and capacity to do just that. Billerud is now launching the next generation of Billerud Sterikraft, one of the cleanest and strongest MG papers on the market. At the same time, we are investing heavily in ultramodern technology with advanced hygiene control.



We are also proud of our recently inaugurated Seal Lab. Here, we help our customers and end users to achieve higher productivity. Our job is to find exactly the right paper for our customers' existing equipment, without the need for costly investments.

We do all this because our goals are high. Billerud aims to be the market leader in both service and quality. With more than 40 years' experience of medical packaging paper and knowledge of the health care sector's needs, we can state that our investments are in line with the market's wishes and requirements.

Thanks to innovation, strong and steady demand and the solid support of all our customers, I believe and hope that we will continue to grow. We at Billerud want to take responsibility for supplying the modern healthcare sector with strong, clean and very safe paper.

Steven Blacow
Sales & Marketing Director
Industrial Products, Billerud AB



With new Billerud Sterikraft,
we have succeeded in increasing
permeability 40 per cent

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Billerud Sterikraft®



David Shaw

STERIKRAFT PEELCLEAN S

"Seal strength has been increased 20 per cent. For our customers producing products for use in the Hospital sector who use bacterial barrier paper for steam sterilisation of reusable articles, this means that they can increase their productivity.

Products can be sealed more quickly, which, of course, results in higher cost effectiveness", says David Shaw.

Despite this increase in seal strength, the peeling performance of the paper has been improved with exceptional clean peel results seen.

The paper will also be found to be stronger in seal strength when sterilising medical instruments in hospital autoclaves, providing greater pack integrity.

"The paper can withstand the pressure changes and hot steam better, the pack seals remain fully intact, which results in sterility right up to the point of use", says David Shaw.

This improved sterilisation performance comes from the paper's increased permeability that has been increased by as much as 40 per cent. Despite this, the ability of the paper to provide a microbial barrier has not been compromised.

STERIKRAFT PEELCLEAN EO

This paper is designed to meet the rigorous demands of gas and irradiation sterilisation processes used in the industrial sector.

"When a paper is peeled, fibres may sometimes be released, but our new papers remain completely intact and no dust particles adhere to the sterilised articles. With the new paper, the product's sterility is maintained".

Seal strength
is optimised and the
peel is cleaner than
ever before

The performance of Sterikraft PeelClean EO has shown a significant improvement in peeling performance, providing an exceptional clean peeling paper. Despite this the paper offers a high sealing strength to a range of medical films.

Both the new products have been analysed by the German laboratory ISEGA. "They have been subjected to rigorous

tests and passed them all with flying colours. Bacteria do not pass through the paper even where we have increased the permeability. We are very pleased now that we have successfully met the challenge".

LONG DEVELOPMENT PROCESS

David Shaw and his colleagues in Beetham have worked for two years to improve Sterikraft.

"It has been a very long process. First, we decided on what we wanted to achieve, then we worked through the raw materials and during the past year we have been working with the paper in our laboratory in Beetham".

David Shaw predicts – and hopes – that the demand for Billerud's new Sterikraft PeelClean products will increase if more people realise what good properties the paper has.

"That's our goal, of course. Earlier, our market was more limited with demand for our paper in certain already given areas. But now we have a product that could open up completely new markets. It is intended that several other new products could come out of this project. It is extremely important for us that this major investment produces results".



The worldwide producer:

"Quality and reliability are important"

German manufacturer B. Braun is one of the world's largest suppliers of medical products. With keywords such as service, efficiency, safety and product quality, the company has experienced steady growth. Today, B. Braun delivers 20,000 different products to the health and medical care sector all over the world. Quality and reliability are qualities that B. Braun requires of its suppliers.

B. Braun produces syringes, gloves, surgical materials and other medical products and delivers them to hospitals and other healthcare facilities all over the world. Cleanliness and high quality are what are most important in its activities and B. Braun makes the same demands on its suppliers.

"It's mainly the combination of reliability and quality that is of utmost importance when we choose suppliers. Everyone understands that product safety comes first in our business. Criteria further down the list are efficiency and cost competitiveness", says

Axel Heinemann, Purchasing Manager at the Almo plant in Bad Arolsen, Germany.

SAFE PRODUCTION

B. Braun produces more than 20,000 products for the medical market, and for this it needs packaging paper that is effective and safe. For each product, a paper is chosen that is suitable for just that product.

"We decide what papers should be used and we contract the volume directly with the paper supplier. Then we organise the slitting and printing afterwards with our printers. To a certain extent,

we can do the printing ourselves".

The company sterilises its products with ethylene oxide gas, and this requires paper with microbial barrier properties. In six countries, B. Braun's plants use Billerud Sterikraft.

"We use it for all direct seal applications where we need high performance in combination with cost efficiency", Axel Heinemann says.

He is satisfied with the choice.

"We've had 0 per cent claims in the last two years with the various Billerud papers".

B. Braun

MARKET OUTLOOK

STRATEGIC GROWTH

B. Braun employs 35,000 people worldwide and has an annual turnover of EUR 3.57 billion. The company is expanding year by year. Axel Heinemann predicts that the demand for packaging materials will increase.

"B. Braun has an aggressive growth strategy for many products. Substantial growth rates have been targeted and as a result, paper consumption is increasing year by year. Our strategic growth products also involve creating a win/win situation with our suppliers, such as Billerud", says Axel Heinemann.

SEAL LAB – AT YOUR SERVICE



Billerud is now opening the doors of its new laboratory Seal Lab. Here, end users will be given help to find the right packaging paper for their business activities and thus achieve a very high rate of production and high profitability.

Billerud's new laboratory for medical packaging materials, Seal Lab, will be inaugurated in November. Manufacturers of medical articles can get help in determining what paper is best suited to the customer's existing conversion equipment with the goal of increasing the speed with which medical packagings are sealed. "We simulate an environment with the same technology the company uses and analyse how efficient sealing is today. Then we test different types of paper to find the paper most compatible with the customer's equipment", says Ole Paulussen, sales manager at Billerud's office in Hamburg.

He points out that it is not always self-evident that machines and packaging materials function well together. "Finding

the paper that provides the best runability and seals the packs quickly is very important. This is where we can help. No two manufacturing environments are exactly the same and with the right type of material, production speed can increase as much as 30 per cent. That helps the customer to increase production and generate higher profits", says Ole Paulussen.

TESTING OF ALL MATERIALS

End users and manufacturers of medical articles who want to have their materials and equipment tested at Billerud's Seal Lab are welcome.

"If the end user does not use Billerud's paper, he is of course welcome to have it tested here too. It's a question of collaboration that is free of charge". When a

customer moves to a high performance paper with better sealing properties, Ole Paulussen sees the result. The rate of production always increases.

"We have long experience of how the different properties and performance of papers impact on effectiveness. There is no doubt that the investment in higher performance paper pays for itself in the form of higher productivity", says Ole Paulussen and gives an example from the manufacturing process for pouches for autoclaving.

"The rate of production is largely determined by the size of the machines used and the size of pouches manufactured, but with the right paper the sealing process can be speeded up by 30 per cent. Higher performance paper is actually always profitable", says Ole Paulussen.

SEAL LAB

Where: Skärblacka mill, Sweden

When: Will be inaugurated in November

Assignment: To test sealing properties using simulated equipment

Why: Optimises companies' production

With right type of material, our customers can increase their rate of production by 30 per cent



New state-of-the-art technology at Skärblacka

Billerud is making major investments in improving the production of medical paper. With an investment of EUR 23 million, Billerud is developing cutting-edge technology in order to produce the cleanest and best paper qualities – with the goal of being the market leader in the future.

One of Billerud's largest paper machines at its Skärblacka mill in Sweden has been given a thorough facelift. The medical papers manufactured here will have superior properties thanks to improved production technology.

"This investment means that we can now offer our customers a paper with first-class hygiene, cleanliness and runability that satisfies the demands made by the market", says Anna Boman, technical support manager at Billerud's paper mill in Skärblacka.

The superior quality MG paper is used in several different fields, but it is in order to satisfy the needs of the medical market that Billerud is investing in state-of-the-art technology.

"The new equipment gives us a paper with less variations in thickness and permeability, and thus a smoother and more even surface", says Anna Boman. "It enables us to focus on just the properties that are so important for medical packaging paper. The paper has improved seal & peel properties as well as better microbial barrier properties. Printability is also better, which, in turn, results in better packaging".

IMPROVED SEALING PROPERTIES

With its improved sealing properties, the seals are more durable throughout the sterilisation process.

"During autoclaving, which is the most common method used in hospitals, the paper must be able to withstand exposure to high temperature steam and demanding pressure and vacuum cycles. It is the durability of the seals and the paper's strength

that are the challenges for the industry", says Anna Boman.

The Skärblacka mill has also invested in improved hygiene technology and an ultramodern hole and spot detector, which further reduce the risk of unevenness.

"We now have a very clean and very strong paper", says Anna Boman.

"WE MUST SATISFY THE CUSTOMER"

Anna Boman is convinced that the investment will be a success.

"Obviously if we are to be able to satisfy our customers' wishes and give them material of the highest quality, we must always be one step ahead and not be afraid to invest. Our ambition is to be a reliable, long-term and competitive partner.

EUR 23 MILLION INVESTMENT

*Improved stock preparation
Optimum treatment of fibers*

*New head box
Optimum profiles*

*Wire section
Optimum formation*

*New soft calender
Optimum surface treatment*

*New hole & spot detector
Optimum purity*

We can now offer our customers a paper with first-class hygiene, cleanness and runability that satisfies the demands made by the market

A good environment is important for health



There is no contradiction between creating sterile and hygienic materials and, at the same time, ensuring that they are environmentally sustainable. At Billerud, we know this. Environmental work is included in everything we do and is a natural part of our business.

Billerud's medical packaging materials satisfy all the demands on cleanliness, strength and excellent runability at the same time as they are manufactured with the minimum environmental impact. This is a consequence of continuous environmental work where Billerud controls the whole chain from raw material to product.

OUR VALUABLE RAW MATERIAL

All our products come from carefully selected forests, primarily from Scandinavia and Sweden. Swedish forestry is characterised by a long-term approach and responsibility, and all Swedish forest owners are required by law to ensure that replanting takes place in conjunction with

felling. For every tree felled, between two and four new trees are planted. Since 1950, forest growth has increased by more than 50 per cent at the same time as more timber has been extracted from the forests every year.

ENVIRONMENTAL PRODUCTION

When felling, the whole tree is utilised and we use the residue as biofuel in our own power station at Skärblacka mill. When we cook our pulp, black liquor is formed – a biofuel that we burn, thus supplying us with power. This means that a large part of our production is climate-neutral and thus does not contribute to the greenhouse effect. The surplus heat is piped to the surrounding buildings via the district-heating network. We thus provide the general public with heating, which reduces dependence on oil.

Paper is recyclable

Paper is compostable

Paper is degradable

Paper is part of the natural eco-cycle and is not a threat to the climate or the natural environment

NEWSPAPER

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