



BILLERUDKORSNÄS



# Form and function for profits and the planet

Strong and pure paper for bags



BillerudKorsnäs Axello®

BillerudKorsnäs Basix – BillerudKorsnäs Xpression



# Because style needs substance

To replace conventional plastic bags, paper bags need to be strong, durable, printable and food-safe. Our Kraft paper is all this, making it the functional and sustainable first choice for bags of all sizes. Use it to your advantage and to help your customers challenge conventional packaging for a sustainable future.

The secret of our papers is the primary fibres from slow-growing, well-managed Scandinavian forests. A renewable fresh source for highly functional and extremely strong and appealing paper bags for all applications and requirements – from FFS bags for flour and sugar to carrier bags for fashion to consumer bags for bread.

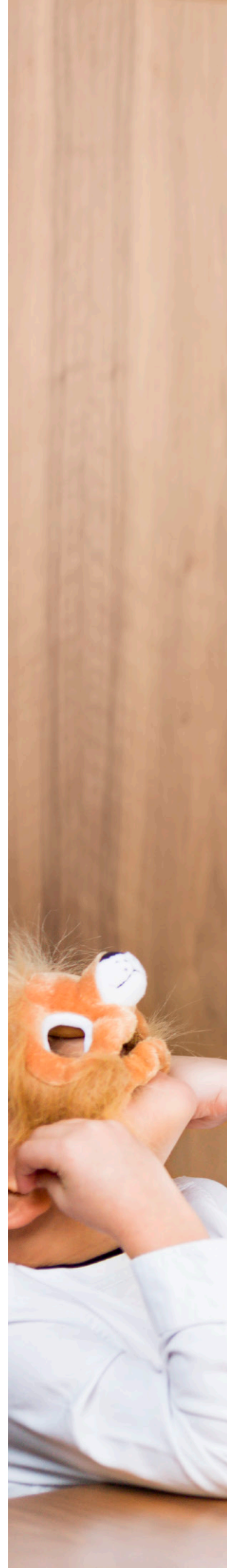
Consumer trends and legislation in this area are going hand-in-hand – plastic bags are on the way out. With our papers, you get the combination of style and function – good stiffness and printability – required to make the switch.

## The best choice for the climate

Recent studies show that carrier bags made of our paper have the lowest carbon footprint, compared with both bags made of recycled paper and recycled plastic.



\*BillerudKorsnäs paper bag from virgin fibre, produced in Sweden







## Our paper for bags is

### ➤ **Strong**

Our paper is strong, resilient and optimised for converting, with the capacity to hold heavy goods and enable efficient filling in long and demanding handling chains.

### ➤ **Safe**

The purity of our paper makes it free from taint and odours and naturally well-suited to – and approved for – direct contact with food.

### ➤ **Sustainable**

Our paper is renewable, putting less strain on the planet, especially since you can minimise material usage.

### ➤ **Stunning**

The high printability of our paper makes the bags attractive and turns them into a cost-effective promoter.

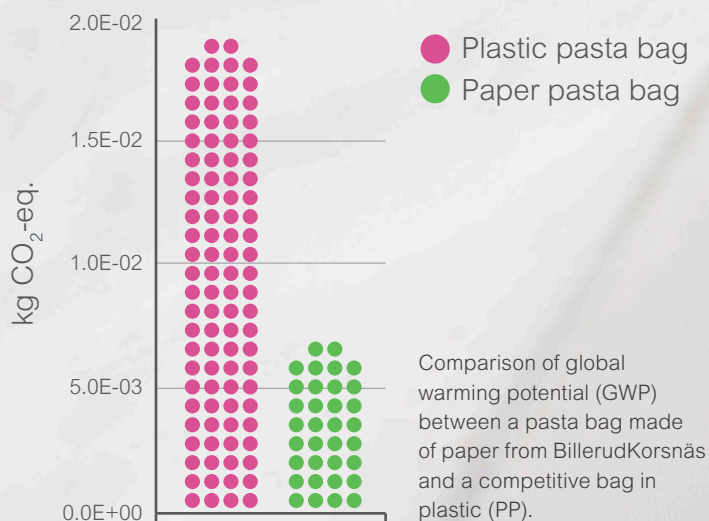


# BillerudKorsnäs Axello<sup>®</sup> paper for demanding FFS processes

Our range of pure, strong Axello paper, is tailor-made for bags produced in demanding processes. Form and fill bags that need to be safe and strong throughout the entire value chain.

When the end product is packaging for flour, sugar, pasta and grain, it must be approved for food contact, have a low weight and allow high-speed filling. Often no barriers are applied and this requires a paper as strong as it is pure. Made of 100% primary fibres, BillerudKorsnäs Axello delivers on all counts and is the logical and sustainable alternative to plastic. It is available in several uncoated and coated qualities and grammages, combining strength and printability with purity, reliability and a natural feel.

## Help reduce global warming



Life Cycle Assessment, Report U5052, IVL, 2015



Tested and food-safe for:

Pasta



Rice



Oats

**65%**

lower carbon footprint than  
a corresponding plastic bag\*



Muesli



Flour



Sugar

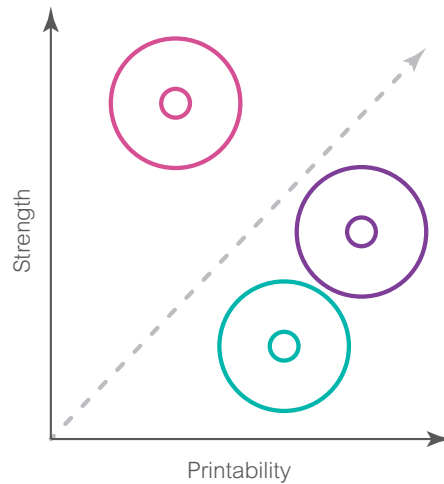
\* Life Cycle Assessment, Report U5052, IVL, 2015



## Pure perfection

BillerudKorsnäs Axello® is a complete range of papers combining high printability and reliable strength.

- BillerudKorsnäs Axello Kraft
- BillerudKorsnäs Axello Glaze
- BillerudKorsnäs Axello Silk, Silk Plus



|        | Product                                     | g/m <sup>2</sup> | Characteristics   | Type of product           | Strength   | Printability   | Printing technique* |
|--------|---|------------------|---|---------------------------|--|--|---------------------|
|        | <b>BillerudKorsnäs Axello Fine</b>          | 70-110           | Kraft paper – for high printing demands                 | Standard                  | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Swan</b>          | 60-140           | Kraft paper – combination of strength and printability* | Standard                  | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Kraft</b>         | 75-130           | Kraft paper – focus on strength                         | Standard                  | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 75%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Tough White</b>   | 80-120           | Kraft paper – focus on extra strength"                  | Extra strength – White MF | <div style="width: 95%; background-color: #4caf50;"></div> | <div style="width: 60%; background-color: #4caf50;"></div> | F                   |
| MF     | <b>BillerudKorsnäs Axello Tough Brown</b>   | 80-120           | Kraft paper – focus on extra strength"                  | Extra strength – Brown MF | <div style="width: 95%; background-color: #4caf50;"></div> | <div style="width: 20%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Gloss</b>         | 70-120           | Kraft paper – with smoothness and gloss                 | Gloss                     | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Natural White</b> | 70-100           | Uncalendered Kraft paper – with only long fibres        | Strength – White MF       | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 20%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Natural Brown</b> | 70-100           | Uncalendered Kraft paper – with only long fibres        | Strength – Brown MF       | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 20%; background-color: #4caf50;"></div> |                     |
| MG     | <b>BillerudKorsnäs Axello Glaze</b>         | 70-110           | MG paper – with smooth outside and rough inside         | Gloss/rough reverse side  | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Glaze X</b>       | 70-110           | MG paper – with smooth outside and rough inside         | Gloss/rough reverse side  | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
| Coated | <b>BillerudKorsnäs Axello Silk</b>          | 80-110           | Coated MF paper – for high printing demands             | Print                     | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 90%; background-color: #4caf50;"></div> | F                   |
|        | <b>BillerudKorsnäs Axello Silk Plus</b>     | 85-115           | Coated MF paper – for premium printing demands          | Print                     | <div style="width: 75%; background-color: #4caf50;"></div> | <div style="width: 95%; background-color: #4caf50;"></div> | F/R                 |

All our products are available with FSC®/PEFCTM certification. \* F = Flexo, R = Rotogravure



## BillerudKorsnäs Axello – high functionality at every stage:



The paper's quality is essential for efficient and functional production and handling throughout the value chain. Axello paper satisfies the demands of producers and customers – every step of the way.



### Part of the First Sealed Paper Packaging

Axello ZAP is a paper customised to work with the ZAP-Module from Bosch. The natural strength, stretch and surface properties of the paper perfectly match the demands of the high speed vertical fill, form and seal process. Together, Axello ZAP and the ZAP-Module create the First Sealed Paper Packaging for dry food – dust-tight, sustainable and unique.



# BillerudKorsnäs Xpression creates strong brands

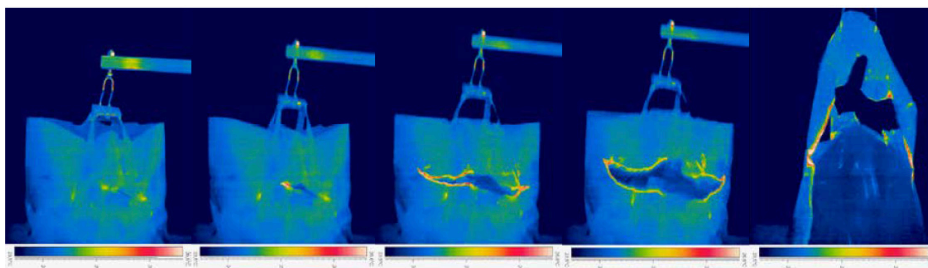
An extremely strong and resilient paper for consumer bags, Xpression combines high printability and potential for brand expression with the capacity to hold heavy groceries and hardware.

Our range of Xpression is lab-tested to meet and exceed all capacity requirements for tensile and burst strength, and tear resistance. Our Xpression Tough paper is specially developed for heavy objects such as books, sporting gear, electronic equipment and heavy shopping in general. If needed, you can apply barriers for moisture protection, adding even more resilience to your carrier bags.



## Extreme strength

Our paper reaches and exceeds carrier bag strength requirements.



High-speed thermography technology can detect weak spots in a bag design during performance trials and helps identify areas for improvement. The weak spots are visualised as a difference in temperatures, here shown in yellow and red.





Fashion

| Product                                    | g/m <sup>2</sup> | Characteristics  | Type of product          | Strength                            | Printability                        |
|--|------------------|--|--------------------------|-------------------------------------|-------------------------------------|
| <b>BillerudKorsnäs Xpression Glaze</b>     | 70-110           | MG Paper for high printing demands                     | Gloss/rough reverse side | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Fine</b>      | 70-140           | Kraft paper – for improved printability                | Standard                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Swan</b>      | 70-140           | Kraft paper – combination of strength and printability | Standard                 | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Gloss</b>     | 70-120           | Kraft paper – uncoated MF paper with higher gloss      | Gloss                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Silk</b>      | 80-110           | Coated MF paper – for high printing demands            | Printability/strength    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Silk Plus</b> | 85-115           | Coated MF paper – for premium printing demands         | Printability/gloss       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

Retail

|  |        |   |                |                                     |                                     |
|--|--------|---|----------------|-------------------------------------|-------------------------------------|
| <b>BillerudKorsnäs Xpression Kraft</b>         | 75-130 | Kraft paper – focus on strength                           | Strength       | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| <b>BillerudKorsnäs Xpression Tough</b>         | 80-120 | Kraft paper / extra strong for food retail and heavy duty | Extra strength | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| <b>BillerudKorsnäs Xpression Natural White</b> | 70-100 | Uncalendered Kraft paper – only long fibres               | Strength       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |

Handles

|   |        |                                    |               |                                     |                          |
|---|--------|------------------------------------|---------------|-------------------------------------|--------------------------|
| <b>BillerudKorsnäs Xpression Handle White</b> | 80-100 | Kraft paper – suitable for handles | Handles white | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|---|--------|------------------------------------|---------------|-------------------------------------|--------------------------|

All our products are available with FSC®/PEFC™ certification.



# Secure food safety with BillerudKorsnäs Basix consumer bags

Pure and compliant with all applicable requirements for food contact, BillerudKorsnäs Basix is ideally suited for use as paper bags to carry bread and food. Its purity depends on the unique qualities related to paper that is made from 100% primary fibres from certified, well-managed forests.

Basix bags are available in a broad range of grammages and can be surface treated to withstand contact with greasy food, such as Danish pastries and French fries.







| Product   | g/m <sup>2</sup> | Characteristics                                      | Recommended end-use             |
|---|------------------|--|---------------------------------|
| <b>BillerudKorsnäs<br/>Basix Light</b>              | 22-40            | White MG paper                                       | Standard bags                   |
| <b>BillerudKorsnäs<br/>Basix Glaze</b>              | 35-70            | White MG paper                                       | Standard bags                   |
| <b>BillerudKorsnäs<br/>Basix Glaze S</b>            | 40-50            | White MG paper with high strength                    | Bags with focus on strength     |
| <b>BillerudKorsnäs<br/>Basix Repel 4D WS</b>        | 34-70            | White MG grease-resistant, KIT level 4, wet strength | Grease-resistant bags and wraps |
| <b>BillerudKorsnäs<br/>Basix Repel 4D</b>           | 34-70            | White MG grease-resistant, KIT level 4               | Grease-resistant bags and wraps |
| <b>BillerudKorsnäs<br/>Basix Repel 4D<br/>Brown</b> | 35-60            | Brown MG grease-resistant, KIT level 4               | Grease-resistant bags and wraps |

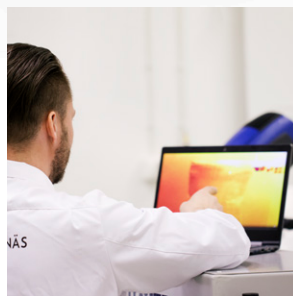
*All our products are approved for food contact in accordance with FDA and BfR and are available with FSC®/PEFC™ certification.*



## Our Packaging Development Centre secures performance



Bag strength in terms of drop height is measured according to ISO7965. Both flat drop and butt drop testing can be performed.



We have access to advanced testing equipment for analysis of barrier properties.



We compare the porosity and different combinations of papers and study the effect in terms of dusting.



Extensive analysis of print quality is always performed to ensure shelf stand-out.



# World-class services for flawless functionality

We work hard to secure a supply of our material to you and give you support. If you want to optimise the packaging you produce or need technical consulting, our services will help you on-site. Wherever you are in the world.

Supply Models



## Get a seamless supply

To secure a reliable and seamless supply of material in line with your needs, we offer a range of adaptable supply models.

- Direct deliveries
- Call-off warehouse
- Green logistics

## Expect fast response

Our knowledge and service are not restricted by geographical boundaries. Our local service managers will answer in your local language and without delay.



Customer Services

- Order confirmation
- Deviation reporting
- On-time in full tracking



## Make the best packaging in the world

We can help you create new packaging for your customers, or improve their current solutions – giving you sustainable and profitable business relationships.

- Education & Workshops
- Packaging innovation
- Packaging optimisation

## Smarter Packaging Services



## Technical Services



- Proactive consultation
- Workshops and training
- Expert on-site support

## Optimise converting efficiency

Our technical expertise is close at hand to help ensure that your operations run as smoothly and efficiently as possible.



# Save resources with smarter materials and solutions

BillerudKorsnäs is a global provider of renewable packaging materials and solutions. Our offer is based on these first-class materials, value-adding services and a network of like-minded partners. Together we can challenge conventional packaging for a sustainable future.

We strive to constantly improve packaging. From protecting and preserving goods to creating fun, interactive consumer experiences, enhancing recycling and reducing environmental impact.

Our agenda includes tackling food waste, food safety, littering and reducing unnecessary plastics. Put in a greater context, it is about saving resources and developing ever smarter materials for high-performance solutions.

## Genuine commitments for sustainability

### RESPONSIBLE VALUE CHAIN

- 1 Promote responsibility from raw material supply and production to recycling
- 2 Provide engaging workplaces where safety, diversity and human rights are a priority

### INCREASED CUSTOMER VALUE

- 3 Improve our customers' business using our knowledge of sustainable packaging solutions
- 4 Through innovation, expand the market of renewable packaging materials

### SUSTAINABLE AND BIO-BASED SOCIETY

- 5 Combat climate change throughout the value chain
- 6 Generate value for society through global and local collaboration



## BillerudKorsnäs in numbers

NET SALES  
APPROX.  
**24.4**  
BILLION SEK

EBITDA  
**2.8**  
BILLION SEK

All numbers for 2019



**8**

PRODUCTION UNITS

(Packaging paper, consumer board,  
containerboard and pulp)

Beetham

Frövi

Gruvön

Gävle

Karlsborg

Pietarsaari

Rockhammar

Skärblacka



**4 500**

NUMBER OF EMPLOYEES

DIVISIONS  
Share of net sales

**56%**  
DIVISION BOARD

**33%**  
DIVISION PAPER

**4%**  
DIVISION SOLUTIONS

**7%**  
OTHERS





## We challenge conventional packaging for a sustainable future

BillerudKorsnäs is a leading provider of strong, light, renewable and recyclable packaging material. We have eight production units in Sweden, Finland and the UK and 4,400 employees in over 17 countries. Together with brand owners, converters and packaging partners all over the world, we create smarter packaging solutions that increase profits, excite millions of consumers and contribute to a sustainable future for generations to come.

Kraft paper bags.  
More information  
and contacts:



[billerudkorsnas.com](http://billerudkorsnas.com)