



PAPERplus® - paper padding for perfect protective packaging

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Storopack – Your International Partner for Protective Packaging	3
PAPERplus® – Paper padding for perfect protective packaging	5
PAPERplus® Classic paper padding	7
PAPERplus® Chevron paper padding	13
PAPERplus® Papillon paper padding	15
PAPERplus® Shooter paper padding	17
The Storopack process	19
PAPERplus® case studies	21
Environment	27

Storopack - Your International Partner for Protective Packaging

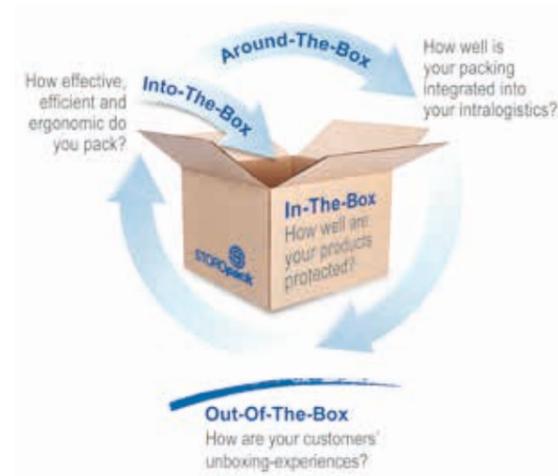
You will find a general overview of customised and flexible protective packaging solutions at www.storopack.co.uk.

The Packaging business segment offers flexible protective packaging solutions. Complete consulting optimises the protective packaging, the protective packaging process and its integration in a company's internal logistics for maximum productivity and sustainability. A fourth dimension includes the customers of the customers: They should experience the protective packaging solution in a positive way during unpacking. The result is perfect protective packaging.

Storopack continuously improves the productivity of customers' protective packaging process.

Storopack offers four flexible protective packaging solutions: The air cushions AIRplus®, the paper cushioning pads PAPERplus®, PU foam cushions FOAMplus® and the packaging chips PELASPAN® and PELASPAN® BIO. The Working Comfort® consultative approach ensures ergonomics, efficiency and effectiveness in the packaging area. Our specialised application engineers can provide customised solutions ranging from equipment for the individual packaging desk to the design and implementation of entire packaging lines. Storopack integrates semi and fully automatic packaging systems to support intralogistics.

Working Comfort® by STOROpack



The globally active corporate group is represented throughout locations in North and South America, Europe and Asia. Storopack's protective packaging can be purchased through our extensive distribution network in over 40 countries.

PAPERplus® - Paper padding for perfect protective packaging

The general protective functions: A pathfinder

This overview provides the general functions of the protective packaging. In the following pages, the pathfinder will show the functions that the individual protective packaging application specifically offers.

- Cushion:** Absorbs shock and protects fragile products.
- Void-Fill:** Fills empty spaces and prevents products from colliding in the box.
- Block & Brace:** Stabilises heavy objects or individual products inside the box.
- Wrap:** Covers product surfaces to avoid contact damage and provides all sides with shock protection.



Picture 1: PAPERplus® Classic paper padding
Picture 2: PAPERplus® Chevron paper padding
Picture 3: PAPERplus® Papillon paper padding
Picture 4: PAPERplus® Shooter paper padding

Because of the wide choice of PAPERplus® systems, almost any protective packaging problem can be solved efficiently with paper padding. From a heavy gearbox to be shipped abroad, to a new smartphone delivery, PAPERplus® provides a solution combining maximum productivity and 100% protection.

As an innovation-oriented service provider, Storopack continually adapts the range of machine systems, paper padding types and papers to the ongoing demands of the market.

Advantages of PAPERplus® for protective packaging:

- Wide range: individual solutions from a diverse range
- Superior: outstanding cushioning effect and compressive strength
- Efficient: creasing technology for maximum material utilisation
- Reliable: high availability through proven technology
- Ergonomics: e.g. touch panels, foot pedals and noise reduction
- Image: paper has a favourable image with end customers
- Environment: Papers with FSC® certification and no coated types



Paper padding types: The right solution every time

Storopack produces four paper padding types. PAPERplus® Classic is a paper strip with a thick, multi-ply structure. PAPERplus® Chevron forms a tube with pleating creases. PAPERplus® Papillon consists of two 20cm wide layers of paper. PAPERplus® Shooter is a flat paper strip with a light structure.

The following pages describe typical applications for these paper padding types. You will also find details on machine and paper types.

Paper types: Quality and Security

Through its long-term partnerships with producers, Storopack can ensure that PAPERplus® enjoys consistently high paper quality and security of supply. All paper is FSC® certified and originates from responsible forest management. Storopack does not use coated paper.



PAPERplus® Classic paper padding: In-The-Box applications

PAPERplus® Classic is used for products in higher weight categories. The thick, multi-ply paper produces a pad suitable for cushioning products weighing up to several kilograms. PAPERplus® Classic is tear resistant and the paper pads can be easily shaped, making PAPERplus® suitable for a variety of packing techniques. The PAPERplus® pads provide the strength and durability to stabilise heavy objects and provide the bulk needed for superior cushioning and void fill.

Types of protection provided by PAPERplus® Classic paper padding

- Cushion
- Block & Brace



Picture 1: Block & Brace with PAPERplus® Classic paper padding
Picture 2: Block & Brace with PAPERplus® Classic paper padding
Picture 3: Cushion with PAPERplus® Classic paper padding

PAPERplus® Classic paper padding

PAPERplus® Classic paper padding performance profile: Protects heavy weights

- very high density and resilience
- Ideal for heavy packaged goods
- typical use: gearbox parts
- typical use: medical devices

Storopack gives advice on how paper padding should be used in individual cases. Here are two examples of what is possible.

Cushioning and Wrapping with PAPERplus® Classic

Cushioning protection is achieved in the example below using two coiled paper pads. First, one of the rolled-up paper pads is placed in the empty box, and the packaged goods then placed on top. The second coil is then placed over the goods. The goods sink into the lower cushion, and when the lid is closed, they press into the top cushion. Result: all-round protection.



The "Coiler" machine attachment produces ready-to-use coils of paper padding at the touch of a button.

Blocking and Bracing with PAPERplus® Classic

To brace a product, the remaining void can be filled with paper padding to the side of, or above, the packaged goods. Alternatively, two strips of padding are placed diagonally into the box on top of each other. The goods are placed on top and the ends of the strips are then folded over.



PAPERplus® Classic paper padding in a variety of paper types

Classic GE paper for PAPERplus® Classic cushioning: In-The-Box applications

If PAPERplus® Classic paper padding is produced using Classic GE paper, less material is used for the same volume of paper padding. This type of protective packaging is suitable for medium-weight to heavy packed goods. The reduced material requirements using Classic GE paper provides economical void filling solutions for heavy shipments.

Performance profile:

High resilience with less paper

- high performance density and resilience
- Ideal for medium to heavy packaged goods

Classic paper for PAPERplus® Classic padding: In-The-Box applications

If PAPERplus® Classic paper padding is produced using Classic paper, it achieves maximum density. Its resilience is suitable even for very heavy objects.

Performance profile: Maximum performance

- highest performance density and resilience
- Ideal for heavy products

PAPERplus® Classic paper types



Roll width – Classic paper roll width is greater than Classic GE paper.



Classic paper

Classic GE paper

Material utilisation – With Classic GE paper, the paper pad has the same volume using less material.

Paper types	Cushioning applications – suitable for products up to approx.	Bracing applications – suitable for products up to approx.	Machine system
Classic 1ply XL 745mm 430m	5 - 12 kg	5 - 15 kg	Classic
Classic 1ply L 745mm 380m	5 - 12 kg	8 - 20 kg	Classic
Classic 1ply 745mm 325m	7 - 20 kg	10 - 25 kg	Classic
Classic 2ply L 745mm 280m	12 - 30 kg	15 - 35 kg	Classic
Classic 2ply L 745mm 410m	12 - 30 kg	15 - 35 kg	Classic
Classic 2ply 745mm 280m	15 - 40 kg	20 - 50 kg	Classic
Classic 2ply 745mm 410m	15 - 40 kg	20 - 50 kg	Classic
Classic 2ply H 745mm 280m	30 - 50 kg	40 - 70 kg	Classic
Classic 2ply H 745mm 410m	30 - 50 kg	40 - 70 kg	Classic
Classic GE 1ply L 600mm 430m R	5 - 12 kg	5 - 15 kg	Classic / Classic ²
Classic GE 1ply L 600mm 430m	5 - 15 kg	6 - 17 kg	Classic / Classic ²
Classic GE 1ply 600mm 325m R	5 - 18 kg	8 - 20 kg	Classic / Classic ²
Classic GE 1ply 600mm 325m*	5 - 20 kg	8 - 25 kg	Classic / Classic ²
Classic GE 1ply H 600mm 280m R	7 - 30 kg	10 - 35 kg	Classic / Classic ²
Classic GE 1ply H 600mm 410m R	7 - 30 kg	10 - 35 kg	Classic / Classic ²
Classic GE 2ply 600mm 280m R	15 - 40 kg	18 - 50 kg	Classic / Classic ²
Classic GE 2ply 600mm 280m	15 - 40 kg	18 - 50 kg	Classic / Classic ²

Legend: H = Heavy, L = Light, XL = extra Light, R = Recycle

* Classic GE 1ply paper is available in different versions.

Picture 1: PAPERplus® Classic paper padding

Machines for PAPERplus® Classic paper padding

PAPERplus® Classic² machine system

For the first time, there is now a machine for producing very dense paper padding in a slimmer, more upright design. Fully optimised for efficiency and ergonomics in the protective packaging process.

- paper output above the work area
- portable stand for changing work locations
- touch panel for easy data entry
- enclosure for low noise emissions
- foot pedal for fluent packing process and individual work rates

PAPERplus® Classic machine system

Proven over many hours' service worldwide. For optimal integration, the PAPERplus® Classic machine system is available in various designs.

PAPERplus® Classic standard machine

- vertical design for small footprint
- adjustable output chute
- handy separate keypad
- stable, robust and suitable for long-term use

The Classic² machine processes only Classic GE type paper – see table of paper types.

Classic² specifications

Size: 1150 x 720 x 1830-2130 mm
 Weight: 150 kg
 Voltage: 230V
 Speed: up to 40 metres/minute



The Classic Machine processes both Classic GE and Classic paper types – see table of paper types.

Classic specifications

Size: 1800 x 950 x 950 mm
 Weight: 150 kg
 Voltage: 230V
 Speed: 12 metres/minute (standard)

Additional customised versions are available, for example a horizontal design and a table model.

Classic table model specifications

Size: 760 x 1400 x 1900 mm
 Weight: 180 kg
 Voltage: 230V
 Speed: 12 metres/minute (standard)



Picture 1: PAPERplus® Classic paper padding

PAPERplus® Chevron paper padding

PAPERplus® Chevron paper padding performance profile: Efficiency with a premium image

- for light to medium-weight packed goods
- volume: fill voids quickly and economically
- good cushioning, secure bracing
- easily shaped
- premium image
- typical use: shipments of prepacked products
- typical use: white paper for medicines or cosmetics

Paper types	Void filling applications – suitable for products up to approx.	Bracing applications – suitable for products up to approx.	Machine system
Chevron 1ply L 500m	2 - 12 kg	2 - 8 kg	Chevron ² / Chevron ³
Chevron 1ply 390m*	4 - 14 kg	4 - 13 kg	Chevron ² / Chevron ³
Chevron 1ply H 390m*	6 - 16 kg	6 - 15 kg	Chevron ² / Chevron ³

Legend: H = Heavy, L = Light

* Chevron and Chevron H paper grades are available in various versions.

Machine types PAPERplus® Chevron³

Fast, ergonomic, adaptable, user-friendly and mobile. PAPERplus® Chevron³ has everything that makes filling cartons with paper padding more efficient – plus versatile integration options.

- equipped with the latest technology
- various settings: Cushioning and material use can be adjusted incrementally

Specifications Chevron³

Dimensions: 670 x 340 x 1700 - 1990 mm
 Weight: 72 kg
 Voltage: 230 V
 Speed: 30 m per minute

Specifications Chevron³ Table Model

Dimensions: 670 x 340 x 950 mm
 Weight: 55 kg
 Voltage: 230 V
 Speed: 30m per minute

PAPERplus® Chevron paper padding: In-The-Box applications

Only a small amount of PAPERplus® Chevron paper padding is required to fill the void in a package. This coverage results from the large volume formed by the pleated paper tube. The cushioning effect of the pleated tube provides excellent padding even for medium-weight products. The strip of padding can be flexibly and effortlessly shaped for different packing techniques. Perforations every 7 cm allow easy separation with no need to cut. Air and paper – a clever combination for lightweight protective packaging.

Types of protection provided by PAPERplus® Chevron paper padding

- Void-Fill
- Block & Brace



Protection type: void-fill and block & brace

Picture 1: Block & Brace with PAPERplus® Chevron paper padding
 Picture 2: Void-Fill with PAPERplus® Chevron paper padding
 Picture 3: Block & Brace with PAPERplus® Chevron paper padding





**PAPERplus® Papillon paper padding:
In-The-Box applications**

The pads' special shape is patent-protected. The pads fit particularly snugly and are light, thus they can be used both for void-fill as well as wrapping shipped items. They quickly adapt to the products in the box, thereby providing reliable protection of the item to be dispatched. In addition, they offer the recipient a positive unboxing experience.

**Types of protection provided by
PAPERplus® Papillon paper padding**

- Void-Fill
- Wrapping



Protection type: void-fill and wrapping

Picture 1: Void-Fill with PAPERplus® Papillon paper padding
Picture 2: Wrap with PAPERplus® Papillon paper padding
Picture 3: Void-Fill with PAPERplus® Papillon paper padding

PAPERplus® Papillon paper padding

Performance profile PAPERplus® Papillon paper padding: Efficient and top-quality appearance

- optimal protection for small to medium weight packed goods
- intelligent paper cushioning system for filling empty space or wrapping
- very light paper pads and easily adaptable
- high-quality look
- Example: Shipments of prepacked products
- Example: white paper for pharmaceutical or cosmetics products

Paper types	Void-Fill application - suitable for products up to approx.	Wrapping application - suitable for products up to approx.	Machine system
Papillon 1ply 280m*	1 - 8 kg	1 - 8 kg	Papillon

* Papillon paper is available in different versions.

Machine types PAPERplus® Papillon

With its low weight and size of 330 mm x 340 mm x 370 mm, the machine only requires a small footprint and can be easily integrated into various packing stations. The PAPERplus® Papillon is simple to operate. The padding material is produced directly at the workstation and conveyed into cartons. This increases productivity while ensuring optimum ergonomics at the workstation in the sense of Storopack's Working Comfort® approach.

Three different operating modes make the PAPERplus® Papillon extremely versatile: automatic, on-demand and foot pedal. The "Plug & Play" principle and multiple positions mean the machine is easily integrated into existing shipment processes.

Specifications Papillon

- Dimensions: 330 x 340 x 370 mm
- Weight: less than 15 kg
- Voltage: 230 V
- Speed: 40 m per minute

Papillon Table Top Model



Papillon Floor Stand Model



Papillon height-adjustable Table Stand Model





**PAPERplus® Shooter paper padding:
In-The-Box applications**

PAPERplus® Shooter paper padding is a protective packaging solution for void filling above packaged goods (Top-Fill). A high machine speed results in the flat cushioning strip almost automatically spreading itself over the goods (see below). The multi-ply filling material is produced from single-ply paper by folding and creasing. The cushioning effect is suitable for light weight products.

**Types of protection provided by
PAPERplus® Shooter paper padding**

- Void-Fill



Protection type: void filling

Picture 1: Void-Fill with PAPERplus® Shooter paper padding
Picture 2: Void-Fill with PAPERplus® Shooter paper padding

PAPERplus® Shooter paper padding

**PAPERplus® Shooter paper padding
performance profile: lightweight void filling**

- multi-ply cushioning strip from single-ply paper
- void filling for light weight products
- uniform compression gives superior protection compared to hand-crumpled paper

Paper types	Void filling applications – suitable for products up to approx.	Machine system
Shooter 1ply 375mm 640m	2 - 8 kg	Shooter

PAPERplus® Shooter machine

The PAPERplus® Shooter machine makes the protective packaging process effortless. At top speed, the machine is so fast that the cushioning strip almost seems to flow into the box by itself. Starting and stopping the filling process is controlled by the packer through a foot pedal. With the PAPERplus® Shooter machine there is no operator fatigue from tearing paper as the unit has a highly functional cutting system. Paper supply is from a dispenser carton which is easy to replenish.

- lightning speed – up to 220 metres/minute of material
- integrated sensor: no paper jams even at high feed rates
- ergonomics: height-adjustable, swivel head

Freestanding model specifications

Size: 1750 x 600 x 600 mm
Weight: 29 kg
Voltage: 230V
Speed: 67 - 220 metres/minute

Tabletop model specifications

Size: 1000 x 470 x 600 mm
Weight: 18 kg
Voltage: 230V
Speed: 67 - 220 metres/minute





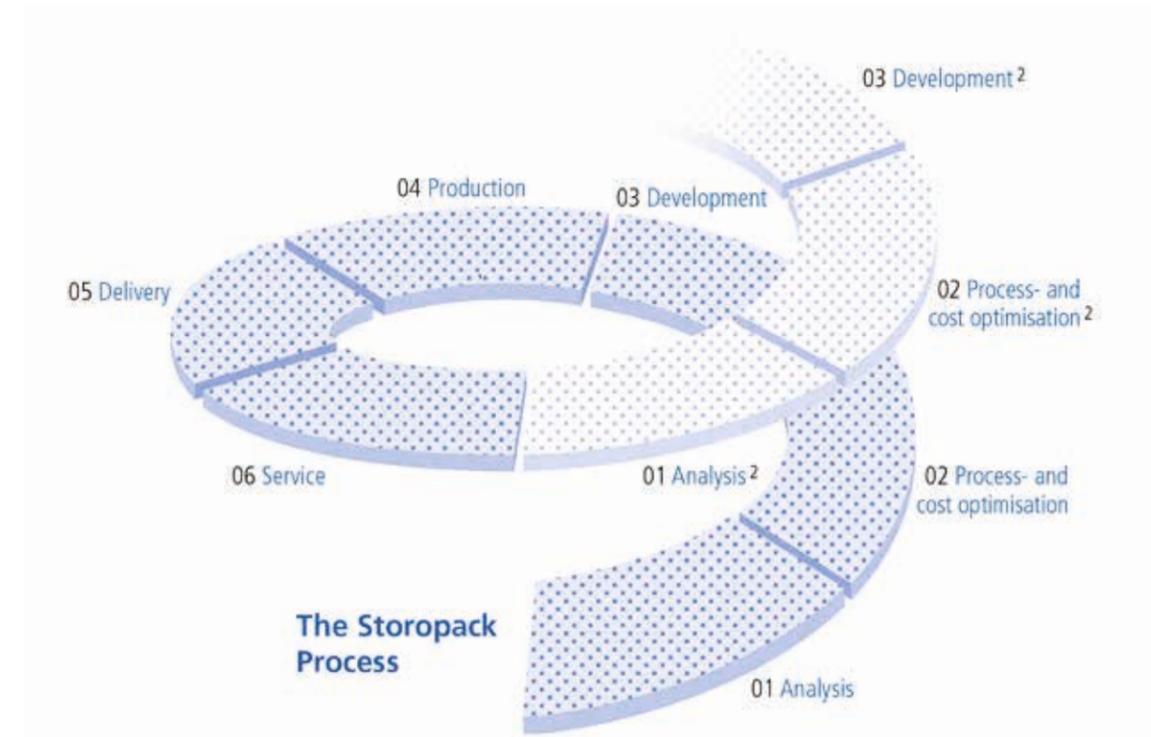
Storopack's service process: Integration for high performance at every workstation

- thorough: comprehensive assessment of requirements
- capable: application engineers produce the design and the implementation plan
- Working Comfort®: ergonomics, efficiency and effectiveness at every workstation
- turnkey: our own design and manufacturing

Storopack makes paper the efficient and productive protective packaging solution for internal logistics. The diversity and quality of the PAPERplus® paper padding system make powerful tailored integration possible for almost any requirement. Experience has shown that productivity increases of ten to twenty percent are achievable. Total costs fall and the employees are more satisfied working at an ergonomic packing station.

The range extends from intelligently equipped single workstations to high-capacity packing lines.

The Storopack process



Today, in most markets only one thing is certain: change. With the Storopack process, companies are prepared to meet this challenge. The process shows our complete range of services, from which our customers can take advantage of one, multiple or all areas.

Protective packaging solutions by Storopack offer unlimited possibilities for integration into the intra-logistics of a company.

The variety and quality of our protective packaging enable customized, high-performance integration meeting all safety requirements. Experience shows that Storopack can achieve productivity gains of more than ten percent. Overall costs go down, and employees are happier.

PAPERplus® case studies

Integration for logistics centre

Products:

Fine chemicals, laboratory chemicals

Size:

24 workstations

Equipment:

24 PAPERplus® Classic (under-table variant)

Capacity at packing station:

4 minutes per shipment (average)

Total capacity:

5000 - 6000 shipments/day (average)

Challenge:

In order to save storage space, the ready-made protective packaging previously used has to be replaced. The weight of the packaged goods ranges from a few hundred grams to several kilos. The desired on-demand protective packaging solution must cover this range.

Solution:

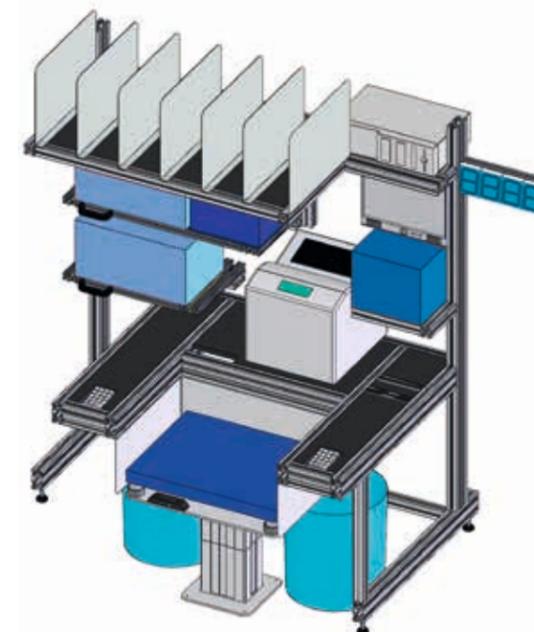
PAPERplus® Classic paper padding provides the required density and resilience for heavy packaged goods. Because a single-ply paper type is used, the solution is still correctly sized for light products. Integration brings two advantages: the on-demand system produces the appropriate volume of paper padding, and the under-table variant of the PAPERplus® Classic machine system requires no extra space for installation.

Our customer said:

“High safety levels for shipments, ergonomics, good cost structure – those are the facts.

But we also gained more than this: the new protective packaging solution simplifies our working day. A lot of praise comes from our customers too, as they receive their shipments in a single type of packaging.

Card outside, paper inside, and they can dispose of it all in the same way.”





PAPERplus® case studies

Integration for tools company

Products:

High value tools

Size:

14 workstations

Equipment:

14 PAPERplus® Classic (under-table variant)

Capacity at packing station:

4 minutes per shipment (average)

Total capacity:

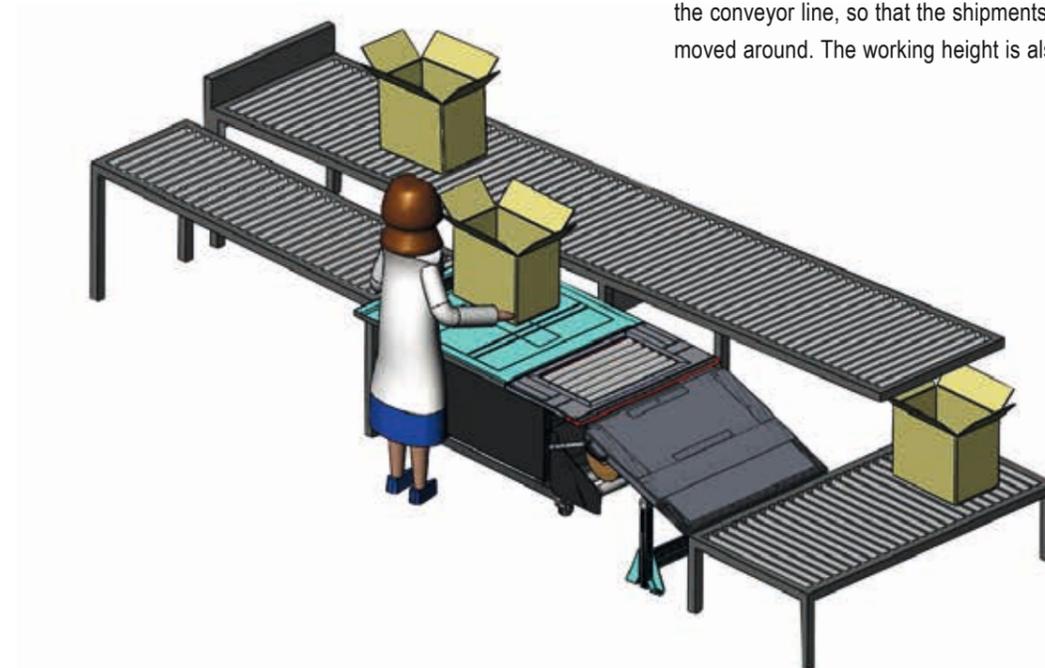
1700 shipments/day (average)

Challenge:

Workstations must be equipped for handling sometimes heavy tools. The product range also includes small and light items.

Solution:

With PAPERplus® Classic, all shipments are optimally protected. As it is a universal protective packaging, this type of paper padding is suitable for both light and heavy products. Storopack integrated the packing stations into the conveyor line, so that the shipments do not have to be moved around. The working height is also adjustable.



Our customer said:

“The new packing stations are practical and provide good working ergonomics. Storopack ensured that we met all relevant safety requirements.

We were really surprised how much productivity improved from this update. Storopack’s representatives understood us very well.”





PAPERplus® case studies

Integration for a department store group

Products:

Clothing, cosmetics, toys, wine and gift items

Scope:

7 SMARTline packing stations

Machinery:

7 PAPERplus® Papillons

Output at packing station:

140 boxes per packing station per day

Total output:

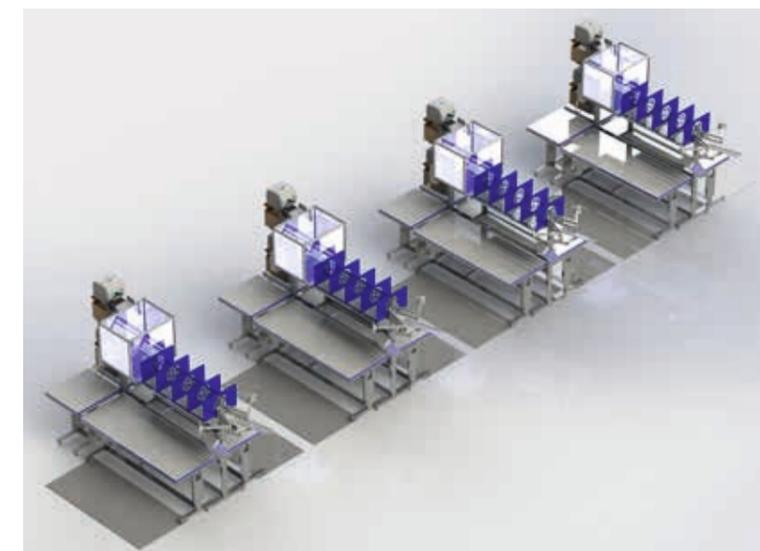
500 - 4,000 shipments / day

Challenge:

The challenge of this integration was first and foremost to optimally harmonize our packaging solution with the logistics processes of the Swiss department store chain. Consequently, Storopack assisted in redefining its logistics processes and to adapt them with respect to the packaging solution to achieve the best possible result.

Solution:

The PAPERplus® Papillon machines are mounted on seven SMARTline packing stations with silos and form the core of the packaging process. Each machine is equipped with a silo where paper pads are stored for two packing stations at a time. The shelves mounted above the table can accommodate shipping boxes and other packing materials that can be grabbed by the packers at any time.



Our customer said:

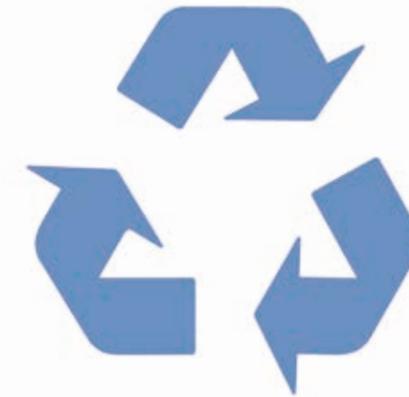
"Storopack not only offered us good products, they also provided support in form of expert comprehensive advice. As a result, we've optimized our workflows, and since the packing stations are designed not only with performance in mind, but employee comfort as well, our packers benefit quite directly from the Storopack solution, too. Thus the results are optimal for the customers, employees and company."



Environment

Storopack's own commitment to the responsible handling of our environment and society is derived from the corporate philosophy, 'Vision & Guidelines' and includes formally agreed principles for all Storopack employees. Managers are responsible for the motivation and promotion of the employees so that the awareness of society, culture and the environment continues to develop.

Resources are necessary for the production of protective packaging. Without protective packaging or in the case of too little or incorrectly used protective packaging, the transported products will be damaged, however, new production of these goods is a waste of resources. For this reason, Storopack advocates the effective and efficient use of protective packaging.



REUSE means that...

this product can be reused multiple times for its original purpose.

- Because of the outstanding quality of PAPERplus®, the paper padding can be used many times.

REDUCE means that ...

this product and the related production process are designed to keep the use of natural resources as low as possible.

- Storopack supplies paper with recycled constituents. This means an efficient use of the recycling loop.
- Manufacture of the narrower GE paper rolls requires up to 20% less water and energy.

RECYCLE means that ...

Post-consumer or production waste from this product can replace raw materials.

- PAPERplus® paper padding is part of the paper recycling loop and is fully recyclable. Storopack does not use coated paper. Disposal via existing recycling facilities contributes to reducing the use of primary raw materials.
- PAPERplus® uses only inks which the recycler can easily remove (de-inking process).

RENEW means that ...

this product is produced from renewable raw materials, e.g. from wood or plants.

- Storopack exclusively uses paper that is FSC-® certified for responsible forest management.

