



PAPERplus® - paper pads for perfect product protection

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STOROpack



Storopack – Your International Partner for Protective Packaging

Storopack - Your International Partner for Protective Packaging	3
PAPERplus® - Cushioning pads for optimal product protection	5
Paper packaging PAPERplus® Classic	7
Paper packaging PAPERplus® Chevron	13
Paper packaging PAPERplus® Papillon	15
Paper packaging PAPERplus® Track	17
Paper packaging PAPERplus® Shooter	19
The Storopack process	21
PAPERplus® - Reference projects	23
Environment	27

You will find a general overview of customized and versatile protective packaging solutions at www.storopack.us.

The Storopack Packaging business segment offers flexible protective packaging solutions. Complete consulting optimizes the protective packaging, the protective packaging process, and its integration into a company's internal logistics for maximum productivity and sustainability. An added dimension considers the recipient of the package. They should experience the protective packaging solution in a positive way during unpacking. The combined result is Storopack's Perfect Protective Packaging.

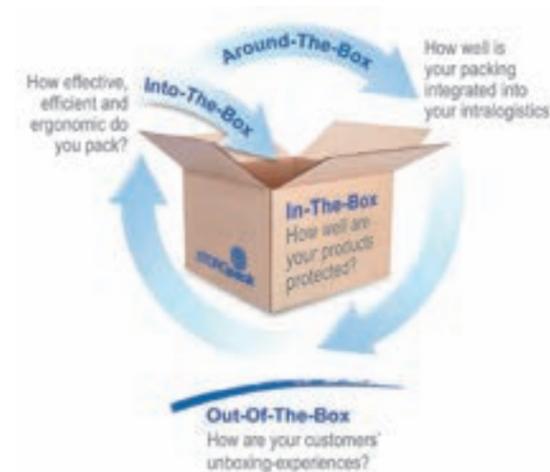
At Storopack we continuously improve the productivity of our customer's protective packaging process

Storopack offers four types of flexible protective packaging solutions: AIRplus® air cushions, PAPERplus® paper cushioning, FOAMplus® polyurethane foam cushions, and loose fill including Styrofill® and Renature®.

Our Working Comfort® consulting approach ensures ergonomics, efficiency and effectiveness in the packaging area. Upon request, specialized application engineers can provide customized solutions ranging from equipment for individual packaging station's to design and implementation of entire packaging lines. Storopack integrates manual, as well as partial and fully automatic packaging systems into intralogistics.

Working Comfort® by STOROPack

The globally active corporate group is represented at locations in North and South America, Europe, Asia and Africa-Middle East. Storopack's flexible protective packaging can be purchased from dealers in over 40 countries.



PAPERplus® - Cushioning pads for optimal product protection

The general protective functions: A pathfinder

This overview describes the general functions of protective packaging. In the following pages, the pathfinder identifies each function provided by the specific protective packaging material.

- Cushioning:** Absorbs impacts and protects breakables.
- Void Filling:** Fills empty spaces and prevents products from banging into each other.
- Block & Bracing:** Stabilizes heavy objects or individual articles in their position.
- Wrapping:** Protects completely against contact damage such as impact and scratches.

Thanks to the wide range of PAPERplus® paper pad systems, virtually any packaging task can be solved efficiently with paper pads. Whether you need to ship heavy equipment abroad or deliver a new smartphone, PAPERplus® has a solution which combines maximum productivity with perfect protection.

As an innovative, full-range supplier, Storopack is continuously adapting its range of machine systems, paper pad styles, and paper to meet current market needs.

The advantages of PAPERplus® for protective packaging:

- Variety of products: Individual solutions from many pad styles and papers
- Superior: Above average cushioning effect and crush resistance
- Efficient: Pleating technology for maximum use of material
- Reliable: Sophisticated technology for dependable production
- Ergonomics: Touch pad controls, foot pedals, and noise reduction features
- Image: Paper presents an image bonus with end-users
- Environment: No coated paper



Image 1 PAPERplus® Classic paper pad
Image 2 PAPERplus® Chevron paper pad
Image 3 PAPERplus® Papillon paper pad
Image 3 PAPERplus® Track paper pad
Image 4 PAPERplus® Shooter paper pad

Types of paper pads: Always the right solution

Storopack offers four types of paper padding. PAPERplus® Classic is a dense paper mattress with multi-layer structure. PAPERplus® Chevron has the form of a pleated paper tube. PAPERplus® Papillon consists of two 8 inch wide layers of paper. PAPERplus® Track, resembles a train track. PAPERplus® Shooter is a flat, lightly structured paper mattress.

The application options of the different types of paper pads are explained on the following pages. This includes information about machine types and types of paper.

Paper types: Quality and Reliability

Storopack ensures continuous high-quality paper and reliable delivery for PAPERplus® through long-term partnerships with manufacturers. Storopack does not use coated paper.



PAPERplus® Classic paper pads: In-the-box packaging

PAPERplus® Classic is used for heavy weight products. The dense, multi-layered paper mattress provides the padding strength and durability to stabilize heavy objects. PAPERplus® Classic is resistant to tearing. The paper mattress is firm and can be easily formed to work with different types of packing methods.

Protective functions of PAPERplus® Classic paper pads

- Cushion
- Block and Brace



Image 1 Block and Brace with PAPERplus® Classic paper pads
 Image 2 Block and Brace with PAPERplus® Classic paper pads
 Image 3 Cushion with PAPERplus® Classic paper pads

Paper packaging PAPERplus® Classic

PAPERplus® Classic performance: Protects heavy weights

- extremely high density and resilience
- for packaging of heavy products
- example: Engine parts
- example: medical devices

Storopack will advise you on how the paper padding is to be used for your particular application. Below are two examples.

Cushion with PAPERplus® Classic

Protective cushioning can be achieved by rolling up two paper mattresses into a "snail". First, place one of the rolled up paper pads into the empty carton and place the goods to be packaged on top of this. Then place the second snail on top. The goods to be packaged sink into the bottom cushion and press against the top padding when the carton is closed. The result is overall protection.

Block and Brace with PAPERplus® Classic

To block and brace a product, fill the voids by placing the paper mattresses alongside and on top of the item. Or cross two long paper mattresses diagonally in the bottom of the carton, then place the item on top of the paper and fold the ends of the paper over the item.



The "Coiler" attachment produces ready-to-use coils at the push of a button.



PAPERplus® Classic paper pads in different paper qualities:

PAPERplus® Classic paper qualities

Classic GE paper for PAPERplus® Classic pads in-the-box packaging

When Classic GE paper is used for the production of PAPERplus® Classic paper pads, less material is used for the same amount of volume. This protective packaging is suitable for medium to heavy packed goods. The reduced material requirements of PAPERplus® Classic paper pads made from Classic GE provides an economical solution for filling of voids around heavy items.

Performance:
High resilience with less paper

- high performance class for density and resilience
- for medium to heavy packed goods

Classic paper for PAPERplus® Classic pads: in-the-box packaging

When the PAPERplus® Classic paper pads are made from Classic paper, they will achieve maximum density. This resilience is also suitable for very heavy objects.

Performance: Maximum values

- highest performance class for density and resilience
- for packaging of heavy and very heavy goods



Roll width - Classic paper has a greater width than Classic GE paper.



Classic paper

Classic GE paper

Material application - Paper pads made from Classic GE paper have the same volume with less material usage.

Paper qualities	Basis Weight	Color	Type	Roll length in feet
PAPERplus® Classic	30/30/30	Kraft	3 ply	450
PAPERplus® Classic	30/30	Kraft	2 ply	900
PAPERplus® Classic	30/30	Kraft	2 ply	1,350
PAPERplus® Classic	30/50/30	Kraft	3 ply	900
PAPERplus® Classic	40	Kraft	1 ply	1,800
PAPERplus® Classic	40/40	Kraft	2 ply	900
PAPERplus® Classic	40/40	Kraft	2 ply	1,300
PAPERplus® Classic	50/50	Kraft	2 ply	900
PAPERplus® Classic	50/50	Kraft	2 ply	1,200
PAPERplus® Classic	60	Kraft	1 ply	900
PAPERplus® Classic GE	35/40	Kraft	2 ply	918
PAPERplus® Classic GE	40	Kraft	1 ply	1,800
PAPERplus® Classic GE	55	Kraft	1 ply	1,066

Image 1 PAPERplus® Classic paper pads



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Machines for PAPERplus® Classic paper pads

PAPERplus® Classic² unit

For the first time, a unit in a slim, upright design is available for the production of very dense paper pads. Fully optimized for protective packaging processes in terms of both efficiency and ergonomics.

- paper output above the work space
- wheeled stand for changing locations
- touch panel for convenient data input
- housing for low noise emissions
- foot pedal for smooth packing processes and individually adapted work rhythms

PAPERplus® Classic unit

Tried and tested in many hours of operation all over the world. For optimal integration, the PAPERplus® Classic unit is available in different designs.

PAPERplus® Classic standard unit

- small footprint through upright design
- adjustable output chute
- handy, separate input device
- stable, robust and suitable for continuous operation

The Classic² unit only processes Classic GE paper qualities; see table on qualities.

Specifications Classic²

Dimensions: 45" x 28" x 72" to 84"
 Weight: 330 lbs.
 Voltage: 110 V
 Speed: up to 131 ft per minute



The Classic unit can process both paper qualities; Classic GE and Classic, see table on qualities.

Specifications Classic

Dimensions: 71" x 37" x 37"
 Weight: 330 lbs.
 Voltage: 110 V
 Speed: 40 ft per minute (standard)



More customized designs are available, including a horizontal design and table models.

Specifications Classic Table Model

Dimensions: 30" x 55" x 75"
 Weight: 396 lbs.
 Voltage: 110 V
 Speed: 40 ft per minute (standard)



Image 1 PAPERplus® Classic paper pads



**PAPERplus® Chevron paper pads:
In-the-box packaging**

PAPERplus® Chevron paper pads use minimal paper for filling voids in packages. This system is extremely efficient due to the large volume of the pleated paper tubes. The cushioning effect of the pleated tube also provides excellent padding for medium-weight products, Chevron's pleated paper tubes are flexible-making them easy to handle for all kinds of packing techniques. They are perforated every 4 inches for easy separation. Air and paper are a clever combination to create a lightweight protective packaging.

**Protective functions of
PAPERplus® Chevron paper pads**

- Void-Fill
- Block and Brace



Protective function of void-fill and block and brace

Image 1 Void-Fill with PAPERplus® Chevron paper pads
Image 2 Void-Fill with PAPERplus® Chevron paper pads
Image 3 Block and Brace with PAPERplus® Chevron paper pads

Paper packaging PAPERplus® Chevron

PAPERplus® Chevron paper pads: Efficient and top-quality appearance

- for light to medium weight packed goods
- volume effect: Fill voids quickly and economically
- good cushioning effect, secures in place
- easily molded
- high-quality appearance
- example: shipments of pre-packed products
- example: white paper for pharmaceutical or cosmetic products

Paper qualities	Basis Weight	Color	Type	Roll length in feet
PAPERplus® Chevron	40	Kraft	Fanfold	1,640
PAPERplus® Chevron	60	Kraft	Fanfold	1,280
PAPERplus® Chevron	60	White	Fanfold	1,280

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: 26.5" x 13.25" x 77"
Weight: 159 lbs
Voltage: 110 V, 14 A
Speed: 104 ft per minute

Specifications Chevron³ Table Model

Dimensions: 26.5" x 13.25" x 37"
Weight: 121 lbs
Voltage: 110 V, 14 A
Speed: 104 ft per minute





Paper packaging PAPERplus® Papillon

Performance profile PAPERplus® Papillon paper pads: 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
- example: black paper for luxury goods and a perfect unboxing experience

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

The pads' special shape is patent-protected. The pads are light and fit snugly into tight spaces. They can be used for both void fill and wrapping products. The pads provide reliable protection and adapt to the products in the box. The pads are neatly removed from the carton providing the customer a good unboxing experience.

Types of protection provided by PAPERplus® Papillon paper padding

- Void-Fill
- Wrapping



Protection type: void-fill and wrapping

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

Paper qualities	Basis Weight	Color	Type	Roll length in feet
PAPERplus® Papillon	40	Kraft	Fanfold	900, 1640
PAPERplus® Papillon	50	Kraft	Fanfold	1250
PAPERplus® Papillon	40	White	Fanfold	900, 1640
PAPERplus® Papillon	50	Black	Fanfold	1050

Machine types PAPERplus® Papillon

With its low weight and size of 13" x 13" x 15", 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 and Working Comfort®.

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: 13" x 13" x 15"
 Weight: 26,5 lbs
 Voltage: 110 V, 14 A
 Speed: 130 ft per minute

Papillon Table Top Model



Papillon Floor Stand Model



Papillon height-adjustable Table Stand Model





**PAPERplus® Track paper padding:
Just the right fit for any product**

Whether replacement parts, electronic components, or ceramic products, shipping goods are optimally protected with the paper pads of the PAPERplus® Track, thus named because it resembles a train track. Depending on the desired cushioning characteristics, the crimp of the paper pad can be tailored to any product in advance. Users also benefit from the blade-free technology: the paper is perforated, allowing the paper pad to be mechanically separated with ease, thus minimizing cutting scraps and maximizing employee safety.

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

- Block & Brace
- Cushion
- Void Fill



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

PAPERplus® Track paper padding

Performance profile PAPERplus® Track paper padding: soft to firm with adjustable crimp and cushioning

- Sturdy: paper pad with outstanding cushioning
- Versatile: for medium to large packages with a weight of 10 to 110 lbs
- Fast: paper pad production at the press of a button
- Compact: lightweight, space-saving machine
- On-demand: automatic paper pad production
- Adjustable: cushioning characteristics and crimp can be tailored to the product in advance
- Blade-less: perforation allows paper pads to be removed with ease
- Cutting edge technology: touchscreen, USB port, and Wi-Fi-compatible
- User-friendly: low-maintenance, quiet operation, and simple paper replacement

Paper types	Color	Type	Machine system	Roll length in feet
Track 2ply	Kraft	Fanfold	Track	900

Machine types PAPERplus® Track

User-Friendly and Fast

All PAPERplus® Track components were developed for speed: thanks to the on-demand function. The Track system automatically produces more paper pads the moment they are removed. Another benefit: the machine features a touchscreen and can connect to Wi-Fi via a USB port and can be monitored and controlled externally via a smartphone or tablet if required.

The low-maintenance PAPERplus® Track is designed for three-shift operation, works quietly, and enables fast and easy paper replacement.



Specifications Track

- Dimensions: 39" x 20" x 43" - 59"
- Weight: 35 lbs
- Voltage: 110 V
- Speed: 130 ft per minute



**PAPERplus® Shooter paper pads:
In-the-box packaging**

The PAPERplus® Shooter is a protective packaging solution for filling voids above the products (top-fill). The void-fill is dispensed at a high speed directly on top of the product in the carton (see below). The PAPERplus® Shooter creates multi-layer void-fill by folding and pleating one-ply paper. This type of cushioning is suitable for light-weight products.

**Protective functions of
PAPERplus® Shooter paper pads**

- Void-Fill



Protective function: Void-Fill

Image 1 Void-fill with PAPERplus® Shooter paper pads
Image 2 Void-fill with PAPERplus® Shooter paper pads

Paper packaging PAPERplus® Shooter

**PAPERplus® Shooter
paper pads: light void-fill**

- multi-layered 1-ply padding
- void-fill for light-weight products
- superior protective function compared to manually crumpled paper due to even density

Paper qualities	Basis Weight	Color	Type	Roll length in feet
PAPERplus® Shooter	30	Kraft	1 ply	2,100

PAPERplus® Shooter unit

The protective packaging process is extremely easy with the PAPERplus® Shooter. In the high speed range, the unit is so fast that the cushion strand seems to almost flow in to the package. The packer starts and ends the filling process using a foot pedal. No cumbersome tearing of paper is required with the PAPERplus® Shooter. The device features an extremely efficient cutter. The paper is fed over a dispenser box, which can be conveniently replaced for refilling.

- Lightning speed up to 720 ft per minute
- Integrated sensor: no paper jam even at high inputs
- Ergonomics: adjustable height, swivel motion

Specifications standing model

Dimensions: 69" x 24" x 24"
 Weight: 63 lbs.
 Voltage: 110 V, 14 A
 Speed: 220 – 720 ft per minute

Specifications table model

Dimensions: 40" x 18" x 24"
 Weight: 39 lbs.
 Voltage: 110 V, 14 A
 Speed: 220 – 720 ft per minute





The Storopack process

Storopack production design: Integration for high performance at any workplace

- thorough: Comprehensive needs analysis
- competent: Application engineers create designs and action plans
- Working Comfort®: Ergonomics, efficiency and effectiveness at each packing station
- everything from one source: in-house design and manufacturing

Storopack turns paper into an efficient and productive protective packaging solution for in-house logistics. The versatility and quality of PAPERplus® paper padding systems allows for individual, high-performance integrations that fit the needs of virtually any situation. Experience has shown that increases in productivity of ten to twenty percent can be achieved. The total costs are reduced and employees are not only happier, but even enthusiastic, since working at ergonomic packaging stations is much more pleasant and less tiring.

The spectrum ranges from cleverly arranged single work stations to high-performance packaging lines.



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® - Reference projects

Integration for a retail company

Products:

High-quality tools

Size:

14 employees

Machine equipment:

14 PAPERplus® Classic under-the-table versions

Capacity at the packing station:

4 minutes per shipment (average)

Total capacity:

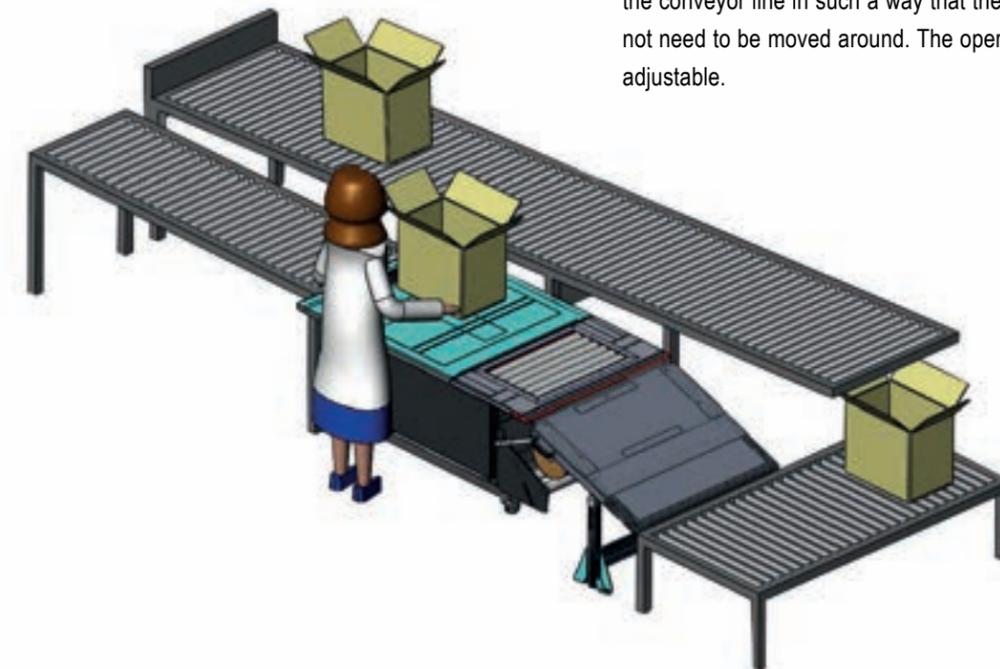
1,700 shipments per day (average)

Challenge:

The workstations need to be equipped to handle heavy tools at times. The product range also includes small, light-weight items.

Solution:

All shipments are already well protected by the PAPERplus® Classic. As a universal protective packaging this paper pad type suits both light-weight and heavy products. Storopack integrated the packing stations in the conveyor line in such a way that the shipments do not need to be moved around. The operating height is adjustable.



The customer says:

"The new packing stations are practical and allow for ergonomically sound layout. Storopack has ensured that we are in compliance with all relevant safety regulations. We were really surprised at how much our productivity benefited from this update. The Storopack consultants understood exactly what we needed."





PAPERplus® - Reference projects

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:

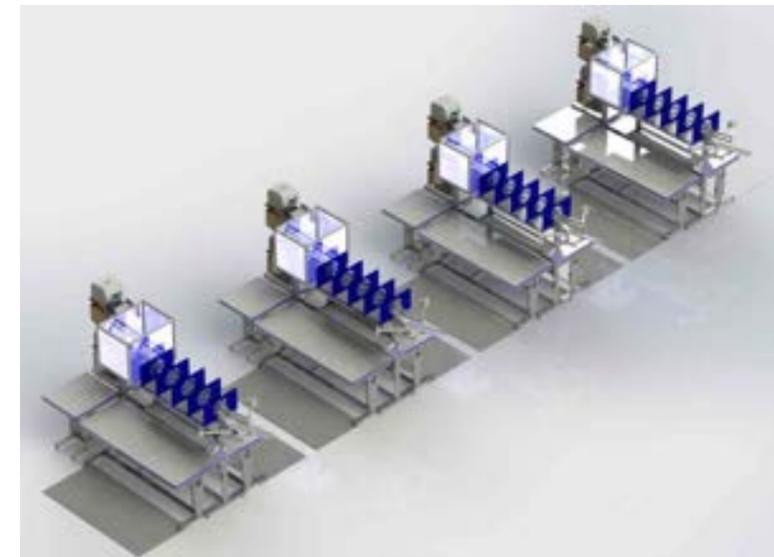
500 - 4,000 shipments / day

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.



The customer says:

"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."



Environmental

Storopack's own commitment to the responsible handling of our environment and society is derived from the corporate philosophy. Storopack's "Vision & Guidelines" 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.

Although resources are necessary for the production of protective packaging, without protective packaging or in the case of too little, or improperly used protective packaging, the transported products will be damaged requiring the new production of these goods. To avoid an impactful waste of resources Storopack advocates the effective and efficient use of protective packaging.

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REUSE means ...

this product can be reused multiple times for its originally intended purpose.

- Due to the excellent quality of PAPERplus®, the paper pads can be reused several times

REDUCE means ...

this product and the associated production process are designed so as to reduce the use of natural resources.

- Storopack offers paper with recycle content. This is an efficient use of the recycling loop.
- The more narrow rolls of the GE paper require up to 20 percent less water and energy to produce.

RECYCLE means ...

post-consumer or production waste from this product can be substituted for primary raw materials.

- The PAPERplus® paper pads are part of the materials stream for paper and are fully recyclable. Storopack does not use coated paper. Disposal via the existing recycling chain ensures that the use of primary raw materials is reduced.
- PAPERplus® only allows the use of inks which can be removed easily by the recycler. (deinking process).

RENEW means that ...

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

