

## Close to the customer around the world

National markets have different requirements and needs — despite globalization. In order to meet these needs, and to be as close to the customer as possible, the Storopack Group has a decentralized structure. Offices in each country act independently, quickly and flexibly.

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AIRplus® -  
Air Cushions for Working Comfort



**STOROpack**



**STOROpack**



## Storopack – Your International Partner for Protective Packaging

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You will find a general overview of customized and versatile protective packaging solutions at [www.storopack.us](http://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 mattresses, FOAMplus® polyurethane foam cushions, and loose fill including PELASPAN® and PELASPAN® BIO.

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 and Asia. Storopack's flexible protective packaging can be purchased from dealers in over 40 countries.





### 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.



Picture 1 AIRplus® Void air cushions  
Picture 2 AIRplus® Cushion air cushions  
Picture 3 AIRplus® Bubble air cushions

## AIRplus® - Air Cushions for Working Comfort

The AIRplus® line includes AIRplus® Void, AIRplus® Cushion, and AIRplus® Bubble Film. This broad range of air cushioning products provide diverse application options for protective packaging.

AIRplus® includes four machine types designed for various packaging processes. The flexibility of our systems provides the perfect solution to fit any company's requirements. The performance range extends from small-, to medium-, to high-volume packaging needs.

### The advantages of AIRplus® for protective packaging:

- **Reliable:** Consistent film quality from Storopack's own production facilities
- **Diverse:** There is an air cushion type for every application
- **Economical:** Low use of raw materials due to multi-layer co-extrusion
- **Durable:** All equipment has excellent mechanical properties as the proven industry standard
- **Environment:** AIRplus® film types can be #2 curbside recycled or composted in accordance with ASTM 6400 and DIN Certco EN 13432
- **Saves space:** On-demand systems for minimal storage
- **Integrates:** Compact, user-friendly devices allow key placement in packing areas
- **Convenient Disposal:** one step to deflate packaging material leaving only the empty film

### The special plastic expertise

The know-how, development expertise, and the practical experience of our own production facilities means consistent quality, delivery security, and progress through innovation. Plus, Storopack implements new ideas for customers such as air cushions with imprinted branding.

#### AIRplus® CX films

Co-extruded film quality for extra durability and reliability

#### AIRplus® BIO films

Can be composted, certified in accordance with ASTM 6400 (US) and DIN Certco EN 13432 (EU)

#### AIRplus® ESD films

ESD film for the protection of electronic components against electrostatic discharging

You will find more information about AIRplus® film types on page 21.



**AIRplus® Void air cushions:  
Uses in-the-box**

The AIRplus® Void air cushions are perfectly suited for quickly and economically filling empty space in one simple step. Equipped with this protective packaging, the products are fixed in the package and cannot move around. This air cushion type is, for example, an ideal solution for pre-packaged products or articles with little or no danger of breaking.



Picture 1 Filling with AIRplus® Void air cushions  
Picture 2 Filling with AIRplus® Void air cushions  
Picture 3 Fixing with AIRplus® Void air cushions

## AIRplus® Void air cushions

**Performance profile:  
Exceptional empty space filler**

- One cushion per perforated section
- Fewer cushions fill up medium to large volumes
- Example: Suited for the shipping of pre-packaged articles
- Example: Sending of articles with small/low danger of breaking

**Protective functions of  
AIRplus® Void air cushions**

- Filling space
- Fixing products in place

AIRplus® Void Film available film types:

AIRplus® CX Films, AIRplus® BIO Films, AIRplus® ESD Films

AIRplus® Void air cushion sizes and roll lengths:

Film type	pad width in inches	pad length in inches	roll length in feet
CX Void film	8	4, 5, 6, 8, 10, 12	3,500
CX Void film	10	4, 6, 8, 10, 15	2,800
CX Void film	12	4, 6, 8	2,400
CX Void film Heavy	8	4, 6, 8, 12	2,350
CX Void film Heavy	10	10	1,900
CX Void film Heavy	12	4, 6, 12	1,600
ESD Void film	8	4, 8	3,500

Custom imprinting makes an impression when unpacking.



Protective function: Void Fill



Protective function: Blocking and Bracing



**AIRplus® Cushion air cushions:  
Uses in-the-box**

AIRplus® Cushion air cushions are the perfect solution for wrapping products. The pad strand can be separated to the desired length with the perforation between each film section. AIRplus® Cushion is available with two or sixteen air chambers per film section. This provides the flexibility needed to fit the varying contours of different types and sizes of products.



Picture 1 Pads with AIRplus® Cushion air cushions  
Picture 2 Pads with AIRplus® Cushion air cushions

## AIRplus® Cushion air cushions

**Performance profile: The diverse solution**

- 2, 4 or 16 air chambers per perforated section
- Filling small to medium-sized empty spaces
- Enclosing and wrapping articles
- Example: Products that need extra padding, unpackaged articles
- Example: Padding and filling between products

**Protective functions of  
AIRplus® Cushion air cushions**

- Cushioning

AIRplus® Cushion Film available film types  
AIRplus® CX Films, AIRplus® ESD Films

AIRplus® Cushion air cushion sizes and roll lengths:

Film type	pad width in inches	pad length in inches	roll length in feet
CX Cushion film 2P	16	6	1,475
CX Cushion film 2P Heavy	16	6	1,066
CX Cushion film 16P	16	9.84	1,475
CX Cushion film 16P Heavy	16	9.84	1,066
ESD Cushion film 16P	16	9.84	1,475

Custom imprinting makes an impression when unpacking.



Protective function: Cushioning



**AIRplus® Bubble Film:  
Uses in-the-box**

Wrapping sensitive products in AIRplus® Bubble air cushions ensures the object is padded and protected from scratches on all sides. With the simple push of a button, this on-demand solution efficiently replaces premade bubble, saving storage and reducing handling costs.

The “Smart Tear Off” quality perforation lets packers quickly separate sections without looking for the perforation. One single section has a length of just 3.35 inches making it significantly more material- and volume-efficient for packaging and protecting small products than the market standard of 9.84 inches.

AIRplus® Bubble is also easier for the recipient: one cut and the packaging material is deflated leaving only the flat film. The air cushion line of AIRplus® Bubble is one of the lowest cost solutions on the market.



Picture 1 Wrapping with AIRplus® Bubble air cushions  
Picture 2 Wrapping with AIRplus® Bubble air cushions  
Picture 3 Wrapping with AIRplus® Bubble air cushions

## AIRplus® Bubble Film

**Performance profile: Efficient wrapping**

- 14 round air chambers per perforated section
- Suited for small articles: Small individual section avoids waste
- Quality perforation "Smart Tear Off": Separate sections quickly without searching for perforation
- Enclosing and wrapping articles
- Example: Cushioning around fragile objects
- Example: Protect packaged objects from impact and scratches
- Example: Individual film section for small objects

**Protective features of AIRplus® Bubble Films**

- Wrapping and Cushioning



Protective function: Wrapping

AIRplus® Bubble Film available in film types  
AIRplus® CX Films

AIRplus® Bubble air cushion sizes and roll lengths:

Film type	pad width in inches	pad length in inches	roll length in feet
CX Bubble film	16	3.35	1,850

Custom imprinting makes an impression when unpacking.



## AIRplus® machine types

### Performance profile:

#### Quick, compact and always ready to go

- Compact devices with conventional plugs for easy location changes
- Saves electricity: Energy-efficient operation
- Flexible Integration: One device supplies multiple packing areas or services a single work station
- Versatile designs with the ability to run multiple film configuration
- Always ready to go: No loss of cushion after start/stop
- Variable controls for air filling and operation speed
- Self-explanatory: Intuitive operating system
- Quickly refilled: Easily change film rolls



Picture 1 AIRplus® GTI  
Picture 2 AIRplus® Mini  
Picture 3 AIRplus® BagSeparator

## AIRplus® GTI

Named after one of the most popular cars in the world, AIRplus® GTI shares two of the most attractive features of the car: the sporty high-performance motor, and a high degree of reliability. AIRplus® GTI processes up to 75 feet of air cushion film per minute. Plus, it's quick start-up time makes it ideal for start and stop operation. GTI VS is designed for 8 inch rolls, while the GTI VL is designed for 12 and 15.75 inch rolls.

### Specifications

Size: VS (8 inch rolls):	13" x 20" x 15.75"
Size: VL (12 / 15.75 inch rolls):	13" x 20" x 21.25"
Weight:	33 lbs.
Voltage:	95-250 V (AC)
Energy consumption:	196 watts in continuous operation, 7 watts in idle operation
Speed:	75 feet per minute
Air supply:	ambient air

## AIRplus® Bag Separator

For maximum work efficiency at the packaging area consider the AIRplus® Bag Separator. The device produces air cushions then automatically divides the pad strand into sections of the desired length. In practice tests, packers have processed up to ten cartons per minute. Combined with the Intelligent Delivery System (IDS), the machine can supply up to 24 sensor-controlled packaging stations with air cushions (see pages 14-15 for more information).

## AIRplus® Mini

Light and compact, AIRplus® Mini is the ideal equipment for every workplace. It can be easily integrated with overhead storage, used on a tabletop, placed on a caster stand, or wall mounted.

### Specifications

Size:	19" x 16" x 19"
Weight:	19.8 lbs.
Voltage:	95-250 V (AC)
Energy consumption:	120 watts in continuous operation, 8 watts in idle operation
Speed:	40 feet per minute
Air supply:	ambient air

### Specifications

Size:	14.5" x 27.5" x 31"
Weight:	86 lbs.
Voltage:	95-250 V (AC)
Energy consumption:	165 watts in continuous operation, 7 watts in idle operation
Speed:	34.5" per minute
Air supply:	ambient air



#### Performance process of Storopack: Integration for high performances at every workplace

- Based on findings: Detailed analysis of needs
- Competent: Application engineers prepare concept and table of measures
- Working Comfort: Ergonomics, efficiency and effectiveness at each packaging area
- Everything from one source: Storopack does all of the planning and engineering in-house.

Protective packaging solutions with AIRplus® offer almost unlimited options for integration into inner-company logistics. Storopack provides solutions for companies with only one packing station as well as distribution centers with 50 or more. Experience has showed that 20 percent increases in productivity can be achieved, total costs fall, and the employees are more satisfied. Often, worker disposition shows great improvement because the ergonomic packaging areas are more comfortable in every way.

Air cushions can be fed through silos supplying multiple packers with ergonomic access to the packaging material. Usually only one or two machines are required to supply multiple packaging stations with AIRplus®. The automatic supply of air cushions is provided by the Intelligent Delivery System (IDS) and controlled by sensor. The transparent plastic body of the freestanding silos lends the work environment a light, bright atmosphere.

## AIRplus® reference projects

### Integration for electronics retailers

#### Products:

Electronic components

#### Size:

39 packing stations with one integrated silo each

#### Machine equipment:

Seven AIRplus® Bag Separators

#### Partial automation:

Integrated Delivery System (IDS)

#### Total performance:

5,000 packs/day (average)

**Challenge:** The company needed a partner that could address their lean management initiatives in the area of protective packaging. The first task was to check whether loose fill was still the best void fill packaging material for their needs or whether there were better anti-static packaging solutions.

**Solution:** Storopack started a continuous development partnership. The first review showed that air cushions were more economical in this specific case. Air cushions with ESD protection were recommended for the electronic components. Partially automated integration, and pre-separation of the packaging material using AIRplus® Bag Separators resulted in faster processing times, significant savings in packaging material consumption, and higher productivity.

**The customer response:** "We have faster processing times, greater ergonomics, and the integration into our existing logistics layout was successful. We have "Working Comfort".





## AIRplus® reference projects

### Integration for a major dealer of commercial vehicle replacement parts

#### Products:

Truck replacement parts

#### Size:

12 workplaces; space-saving transfer of air cushions through overhead bridge construction

#### Machine equipment:

6 AIRplus® GTIs

#### Performance per packaging place:

2 minutes per pack (average)

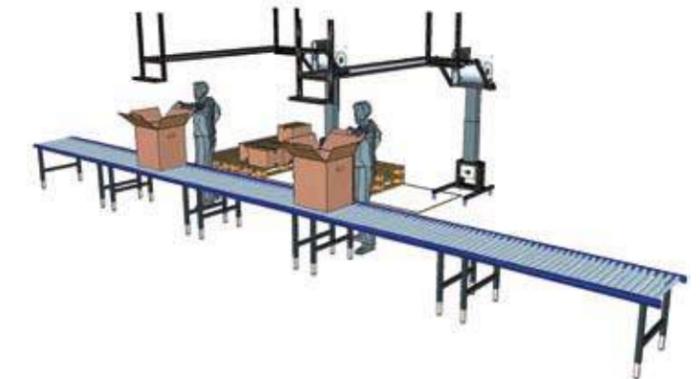
#### Total performance:

2,000 packs/day (average)

**Challenge:** The company sought new protective packaging for partially heavy, partially scratch-sensitive, packaged truck replacement parts. The point of the protective packaging is to fill empty space and pad articles. The available installation space was extremely small and did not permit the inclusion of a silo.

**Solution:** The air cushion type AIRplus® Cushion with 16 air chambers per film section is very flexible and works well for wrapping sensitive products. The three-layer CX film also sustains heavy products. The space-saving supply of cushions at the workplace was achieved with a clever bridge construction.

Reliable product protection with the flexible air cushion type AIRplus® Cushion, plus space-saving, overhead integration with high-speed AIRplus® GTI machines.



## AIRplus® reference projects

### Integration for drug companies

#### Products:

Medicine

#### Size:

6 workplaces, one silo for two employees

#### Machine equipment:

One AIRplus® Bag Separator

#### Partial automation:

Integrated Delivery System (IDS)

#### Performance per packaging place:

15 seconds per pack (average)

#### Total performance:

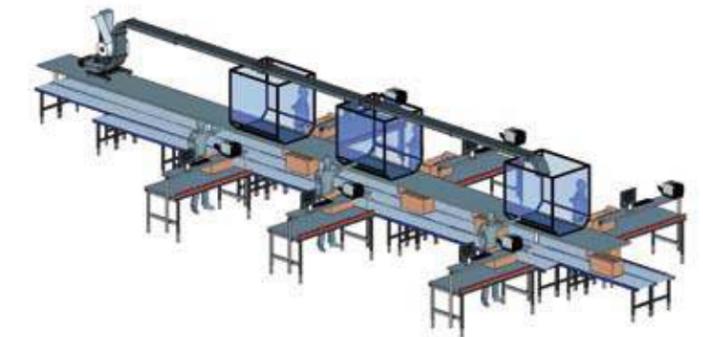
1,800 packs/day (average)

**Challenge:** Reduce the cost of protective packaging.

**Required work cycle:** The package must leave the packing table within 15 seconds.

**Solution:** One AIRplus® Bag Separator supplies six packaging stations with air cushions automatically. The protective packaging can be inserted in the package immediately because the air cushion is pre-separated to the proper length. The ergonomics are improved: instead of laterally, the material is removed from the storage hopper directly above the packaging area. The low consumption of packaging material results in solid cost savings.

Quick protective packaging and void fill solution for medicines; sustainable cost savings through intelligent integration solutions with higher work productivity and improved ergonomics.





AIRplus® air cushions come in three film types. They are developed and produced in Storopack's own production facilities.

Picture 1 AIRplus® CX film  
 Picture 2 AIRplus® ESD film  
 Picture 3 AIRplus® BIO film

## AIRplus® film types

### AIRplus® CX film: Advantages of multiple layers

The AIRplus® CX Film surface blends soft and pliable qualities with a slip-resistant outerlayer that will easily hold your product in place. The middle layer ensures the good mechanical properties of the film and its high elasticity. The inner layers provide a good seal and support the air cushion resistant to sharp corners and edges so it's not easily punctured. AIRplus® CX film is transparent and allows a clear view of the articles in the package.

### AIRplus® ESD film: Antistatic for electronic components

Since 2011, AIRplus® ESD has provided quality film for the protective packaging of electronic components. The plastic is statically conductive, which means it prevents electrostatic discharge (ESD). AIRplus® ESD meets the requirements of DIN EN 61340-5-1.

### AIRplus® BIO film: Truly uncompromising

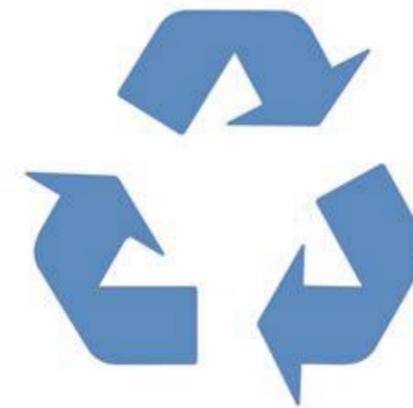
Storopack has offered a film type from compostable plastic since 2008 with AIRplus® BIO. The raw material is a plastic compound based on polylactic acid (PLA) with copolyester. Storopack has developed this material that uses renewable raw materials out of conviction and due to the company values. Storopack rejects environmentally harmful oxo-degradable plastics that claim to be "biologically degradable" as well as other adaptations that give themselves a "bio" seal of approval, but as "green washing" do not really improve the environmental balance. The ability to compost AIRplus® Bio film is certified according to ASTM 6400 and the European norm DIN EN 13432.



## Sustainability & environmental protection

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.



RECYCLE means that ...

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

- AIRplus® film is fully #2 recyclable. The disposal via the existing recycling cycles contributes to the reduction in the use of primary raw materials.

RENEW means that ...

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

- AIRplus® BIO film consists of a biologically degradable plastic compound on the basis of the renewable raw material polylactic acid (PLA) with copolyester.

REUSE means that...

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

- Due to the exceptional quality of AIRplus®, the air cushion can be used multiple times.

REDUCE means that ...

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

- the polyethylene film of AIRplus® contains recycled raw materials from post-consumer and production recycled materials.
- the production technology of the three-layered co-extruded films reduces the use of raw material and improves the quality of the air cushions.
- the low weight of AIRplus® protective packaging leads to fuel savings during shipping.

