AIRplus® - Air Cushions for Working Comfort
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Storopack -
Your International Partner for Protective Packaging

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

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®

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.
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 impacts and protects fragile products.
- **Void Fill:** Fills empty spaces and prevents products from colliding into each other.
- **Block & Brace:** Stabilises heavy objects or individual articles in their position.
- **Wrap:** Covers product surfaces to avoid contact damage and provides optimal protection against scuffing and scratches.
Perfect Protective Packaging

AIRplus® -
Air Cushions for Working Comfort

The air cushion formats AIRplus® Void, AIRplus® Cushion, AIRplus® Bubble and AIRplus® Wrap offer a broad range of air cushion types. This means diverse application options for the protection of goods in packages.

The AIRplus® range features a variety of machine types designed for different packaging processes. Perfectly fitting equipment is offered to every company using our extensive range of machines designed for small, medium and high performance packaging needs.

The advantages of AIRplus® for protective packaging:

- Reliable: constant film quality from the company’s own production facilities
- Diverse: there is an air cushion type for every application
- Economical: Reduction in raw materials due to multi-layer CO extrusion
- Durable: excellent mechanical properties
- Environmental: AIRplus® film types can be recycled and AIRplus® Bio film is compostable in accordance with DIN Certco EN 13432
- Saves space: on-demand system for minimal storage
- Integrates: compact, user-friendly devices for key packing areas
- Practical disposal: one step and all that remains is the empty film

The special plastic expertise

The know-how, development, expertise and the practical experience of own production facilities means constant quality, delivery, security and progress through innovation. Storopack implements new ideas for customers: e.g. air cushions with personalised marketing message.

AIRplus® CX films
Co-extruded film quality for extra durability and reliability

AIRplus® BIO films
Can be composted, certified in accordance with 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 box

The AIRplus® Void air cushions are excellently suited for quickly and economically filling empty space in one simple step. Equipped with this protective packaging, the goods are fixed in the package preventing migration. Our void fill air cushion application is an ideal solution for pre-packaged products with minimal risk of breakages.
**AIrplus® Void air cushions**

**Performance profile:**
Exceptional empty space filler

- Individual cushions
- Cushion sizes to suit varying applications
- Example: suited for the dispatch of pre-packaged products
- Example: excellent for shipping of products with minimal risk of breakages

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

- Void Fill
- Block & Brace

**AIrplus® Void air cushions: Available film types**
AIrplus® CX films, AIrplus® BIO films

**AIrplus® Void air cushions: Cushion formats and roll lengths**

<table>
<thead>
<tr>
<th>Film type</th>
<th>pad width in mm</th>
<th>pad length in mm</th>
<th>roll length in m</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX Void film</td>
<td>200</td>
<td>120, 175</td>
<td>1125</td>
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<tr>
<td>CX Void film</td>
<td>200</td>
<td>65, 200, 250, 300</td>
<td>1000</td>
</tr>
<tr>
<td>CX Void film Heavy</td>
<td>200</td>
<td>120, 175</td>
<td>670</td>
</tr>
<tr>
<td>CX Void film Heavy</td>
<td>400</td>
<td>110, 135</td>
<td>500</td>
</tr>
<tr>
<td>CX Void film Heavy</td>
<td>200</td>
<td>120, 175</td>
<td>430</td>
</tr>
<tr>
<td>CX Void film Heavy</td>
<td>400</td>
<td>110, 135</td>
<td>322</td>
</tr>
<tr>
<td>BIO Void film</td>
<td>200</td>
<td>100, 200</td>
<td>535</td>
</tr>
</tbody>
</table>

Individual imprint for CX film types:
makes an impression when unpacking
AIRplus® Cushion film - air cushion: Uses in box

AIRplus® cushion is the perfect solution for wrapping products. The pad strand is separated on the perforation between each film section for the desired length. The smaller or greater the contours of the object are, the more flexible the form of the pad strand must be. Because of this we offer variations in the number of air chambers per film section and the product can also be used for void fill and blocking & bracing.
**AIRplus® Cushion - air cushions**

**Performance profile: The diverse solution**

- 2, 4, 8, 12, 16, or 28 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: Filling empty spaces between products

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

- Cushion

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### AIRplus® Cushion air cushions: available film types

### AIRplus® CX films

### AIRplus® Cushion - air cushions:

**cushion formats and roll lengths**

<table>
<thead>
<tr>
<th>Film type</th>
<th>Pad width in mm</th>
<th>Pad length in mm</th>
<th>Roll length in m</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX Cushion film 2p</td>
<td>400</td>
<td>150</td>
<td>500</td>
</tr>
<tr>
<td>CX Cushion film 2p Heavy</td>
<td>400</td>
<td>150</td>
<td>322</td>
</tr>
<tr>
<td>CX Cushion film 4p</td>
<td>400</td>
<td>150</td>
<td>500</td>
</tr>
<tr>
<td>CX Cushion film 4p Heavy</td>
<td>400</td>
<td>150</td>
<td>322</td>
</tr>
<tr>
<td>CX Cushion film 8p</td>
<td>400</td>
<td>125</td>
<td>500</td>
</tr>
<tr>
<td>CX Cushion film 12p</td>
<td>400</td>
<td>190</td>
<td>500</td>
</tr>
<tr>
<td>CX Cushion film 16p</td>
<td>400</td>
<td>250</td>
<td>500</td>
</tr>
<tr>
<td>CX Cushion film 16p Heavy</td>
<td>400</td>
<td>250</td>
<td>322</td>
</tr>
<tr>
<td>CX Cushion film 28p</td>
<td>675</td>
<td>250</td>
<td>300</td>
</tr>
<tr>
<td>CX Cushion film 28p Heavy</td>
<td>675</td>
<td>250</td>
<td>192</td>
</tr>
</tbody>
</table>

Individual imprint for CX film types:
- makes an impression when unpacking
AIRplus® Bubble air cushions: Uses in box

Anyone who wraps fragile products in AIRplus® Bubble air cushions ensures protection on all sides of the object. The products are padded and cannot be scratched. The on-demand solution is an efficient alternative to conventional air pad film or pre-inflated bubble wrap. AIRplus® Bubble offers product protection at the push of a button. The smart tear-off quality perforation lets you quickly tear the material off without looking for the perforation. One single section has a length of just 160 mm. This makes the protective packaging for small products significantly more material and volume efficient than the market standard of 250 mm. A compact device with the film roll replaces the large and cumbersome bubble wrap, saving both storage space and reducing the handling costs. Compared to conventional bubble wrap, AIRplus® Bubble also offers advantages for the end user. With one cut, the air escapes the air cushions, leaving only a small amount of film for disposal or recycling. The AIRplus® Bubble is one of the most low cost solutions on the market.
**AlRplus® Bubble air cushions**

**Performance profile: efficient wrapping**

- 29 or 53 round air chambers per perforated section
- Suited for small products: small individual section avoids waste
- Quality perforation ‘Smart Tear Off’ allows the packer to tear the material quickly without searching for the perforation
- Enclosing and wrapping products
- Example: padding around fragile objects
- Example: protect packaged objects from impact and scratches
- Example: individual film section for small objects

**Protective functions of AlRplus® Bubble air cushions**

- Wrap

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**AlRplus® Bubble air cushions: available film types**

**AlRplus® CX films**

<table>
<thead>
<tr>
<th>Film type</th>
<th>Pad width in mm</th>
<th>Pad length in mm</th>
<th>Roll length in m</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX Bubble film 29b</td>
<td>400</td>
<td>160</td>
<td>500</td>
</tr>
<tr>
<td>CX Bubble film 29b Heavy</td>
<td>400</td>
<td>160</td>
<td>322</td>
</tr>
<tr>
<td>CX Bubble film 53b</td>
<td>700</td>
<td>160</td>
<td>286</td>
</tr>
<tr>
<td>CX Bubble film 53b Heavy</td>
<td>700</td>
<td>160</td>
<td>184</td>
</tr>
</tbody>
</table>

**Individual imprint:**

Makes an impression when unpacking

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Protective function: Wrap
AIRplus® Wrap air cushions:
Uses in box

Our AIRplus® Wrap film can be used to wrap your fragile and delicate products even more tightly to protect them thanks to its innovative wavelike structure. Another advantage is its on-demand production, with the packer creating the air cushions according to their needs directly at the packing station. AIRplus® Wrap film is therefore a space-saving alternative to conventional air bubble film.
Perfect Protective Packaging

AlRplus® Wrap air cushions

Performance profile: flexible wrapping and optimum protection

- 19 or 36 rhombs in one row
- Allows items to be wrapped even more tightly
- Quality “Smart Tear Off” perforation: allows the packer to tear the material quickly without searching for the perforation
- Enclosing and wrapping items
- Example: protect unpacked items from knocks and scratches
- Example: padding around fragile objects
- Example: individual film sections as intermediate layer

Protective functions of AlRplus® Wrap air cushions

- Wrap

AlRplus® Wrap air cushions: available film types
AlRplus® CX films

AlRplus® Wrap air pillows: pillow formats and roll lengths

<table>
<thead>
<tr>
<th>Film type</th>
<th>pad width in mm</th>
<th>pad length in mm</th>
<th>roll length in m</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX Wrap film 19d</td>
<td>400</td>
<td>175</td>
<td>500</td>
</tr>
<tr>
<td>CX Wrap film 36d</td>
<td>710</td>
<td>175</td>
<td>280</td>
</tr>
</tbody>
</table>
AIRplus® machine types

Performance profile:
quick, compact and always ready for use

- Compact and portable with conventional plug
- Saves electricity: energy-efficient operation
- Can be flexibly integrated: one device supplies multiple packaging areas or stands directly at the workplace station
- On demand thanks to sophisticated technology
- Always ready to go: no loss of cushion after start/stop
- Air filling and speed are variable
- Self-explanatory: intuitive operating system
- Quickly refilled: Easy to change rolls
**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 24 metres of air cushion film per minute. Due to the short start-up time, the device is ideally suited for start and stop operations.

**Specifications**

GTI VS (200 mm rolls): 400 x 330 x 510 mm  
GTI VL (300 / 400 mm rolls): 550 x 330 x 510 mm  
GTI C (400 mm Cushion 16p/Bubble 29b rolls): 550 x 330 x 510 mm  
GTI XL (up to 800 mm Cushion 28p/Bubble 53b rolls): 927 x 330 x 510 mm

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**AIRplus® Mini**

Light and compact: AIRplus® Mini is the ideal equipment for every workplace. Integrated with a silo or as a table top device, the machine can also be mounted on a stand. For the winding of rolls is a coiler-table available.

**Specifications**

Size: 354 x 670 x 370 mm  
Weight: 10.5 kg  
Voltage: 95-250 V (AC)  
Energy consumption: 65 watts in continuous operation, 3 watts in idle operation  
Speed: 12 m per minute  
Air supply: room air

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**AIRplus® BagSeparator**

For maximum work efficiency at the packaging station, there is the AIRplus® BagSeparator. The device produces air cushions and automatically divides the pad strand in sections of the desired length. In practical tests, packers have filled up to ten cardboard packages per minute. In combination with the Intelligent Delivery System (IDS), a device can supply up to 24 sensor-controlled packaging stations with air cushions (see pages 14-15 for more information).

**Specifications**

Size: 375 x 555 x 803 mm  
Weight: 36 kg  
Voltage: 95-250 V (AC)  
Energy consumption: 210 watts in continuous operation, 40 watts in idle operation  
Speed: 14 m per minute  
Air supply: room air
Performance process of Storopack: Integration for high performances at every workplace

- Based on findings: detailed analysis of needs
- Competent: application engineers prepare conception and catalogue of measurements
- Working comfort: ergonomics, efficiency and effectiveness at each packaging station
- Everything from one source: company’s own planning offices and workshops

Protective packaging solutions with AIRplus® offer almost unlimited options for integration into the intra-company logistics of a company. Storopack provides solutions for dispatch locations with only one packaging bench as well as for distribution centres with 50 or more packaging benches. Integration has demonstrated over a 20% productivity improvement for end users without any other changes being made. Total costs fall and the employees are more satisfied. Often, they are really excited because the work at the ergonomic packaging station is more comfortable in every way.

The air cushions can be fed to silos that make it possible for multiple packers to have ergonomic access to the packaging material. Usually, one or two devices are sufficient in order to supply multiple packaging benches with AIRplus®. The automatic supply of air cushions takes place with the Intelligent Delivery System (IDS) and is controlled by sensors. The transparent plastic body of the freestanding silos makes the work environment a light, bright atmosphere.
Integration for electronics retailers

**Products:**
electronic components

**Size:**
39 benches with one integrated silo each

**Machine equipment:**
seven AIrplus® BagSeparators

**Partial automation:**
integrated Delivery System (IDS)

**Total performance:**
5,000 dispatches/day (average)

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

**Solution:** Storopack starts a continuous development partnership. The first review shows that air cushions are more economical in this specific case. The development of air cushions with ESD protection (innovation of Storopack), the development of partially automated integration, a divided packaging strand, faster processing times, significant savings in packaging material consumption and higher productivity.

**The customer says this:** „We have faster processing times, greater ergonomics, and the integration into our existing logistics layout was successful. The „Working Comfort“ consultative approach” fully paid off for us.
Integration for a major dealer of commercial vehicle replacement parts

**Products:**
truck replacement parts

**Size:**
12 workplaces; space-saving feeding of air cushions through overhead bridge construction

**Machine equipment:**
6 AIRplus® GTIs

**Performance per packaging bench:**
2 minutes per dispatch (average)

**Total performance:**
2,000 dispatches/day (average)
Challenge: The company sought new protective packaging for its fragile lorry spares that were susceptible to scratching. The point of the protective packaging is to fill empty space and pad articles. The available installation space is extremely small and does 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 can be used for the wrapping of fragile products. The three-layer CX film also sustains heavy products. The space-saving supply of cushions at the workplace is achieved with a clever bridge construction.

Reliable product protection with the flexible air cushion type AIRplus® Cushion, space-saving, overhead integration with quick AIRplus® GTI machines.
The air cushions from AIRplus® come in three film types. They are developed and produced in the company's own production facilities.
AIRplus® film types

AIRplus® CX film: Advantages of multiple layers

The AIRplus® CX film is a co-extruded film. Just by touch it is possible to feel the distinctive quality: The material is soft and does not crackle. The outer film layers are slip-resistant and support the fixing of goods. The middle layer ensures the good mechanical properties of the film and its high elasticity. It cannot be easily punctured by sharp objects, corners or edges. The inner layers ensure a good seal, making the air cushions very elastic and thus resistant to package content with corners and edges. AIRplus® CX film is transparent and provides a free view of the articles in the package.

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 on the basis of polylactic acid (PLA) with copolyester. Storopack has used this material on the basis of renewable raw materials out of conviction and due to the company’s values. Storopack rejects environmentally harmful o xo-degradable plastics that call themselves ‘biologically degradable’ as well as other compromises that give themselves a ‘bio’ seal of approval, as ‘green washing’ does not really improve the environmental balance. The ability to compost AIRplus® Bio film is certified according to the European standard DIN EN 13432.

AIRplus® ESD film: Antistatic for electronic components

Since 2011, AIRplus® ESD has provided film quality 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.
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.
Sustainability & environmental protection

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 reclaimed 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 transport.

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

- AIRplus® film is fully 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 polyactic acid (PLA) with copolyester.