

# CHOOSING THE RIGHT INNER PACKAGING

The choice of packaging depends on the weight and sturdiness (ability to withstand crushing and impact) of the contents. Inner packaging provides excellent cushioning protection against these types of external forces, provided the right inner packaging was selected.

## CHALLENGES

Inner packaging must meet the following criteria:

- Provide cushioning against mechanical stress that is external
- Prevent contents from shifting during transport = fixing contents in place
- Prevent multiple item contents from direct contact with each other
- Prevent direct contact of contents with external packaging (at least 5 mm distance)

There are different types of inner packaging:

- Dividers
- Custom foam packaging
- Wrapping solutions such as bubble wrap, single face corrugated (corrugated roll), shredded cardboard mats
- Filler materials such as machine-crumpled kraft paper
- Loose filler materials such as packing peanuts or shredded cardboard strips/chips

## CHOOSING THE RIGHT MATERIALS

Materials such as bubble wrap or air pillows were frequently used in the past but more widespread eco-consciousness has led to a strong decline in demand.



### Shredded cardboard strips

- ✓ Fills empty spaces
- ✓ Recyclable



### Wood shavings

- ✓ Fills empty spaces
- ✓ Decorative



### Packing peanuts

*Made from potato or corn starch*

- ✓ Fills empty spaces
- ✓ Flexible: Suitable for any content shape!  
→ Especially recommended for products with unusual shapes
- ✓ Biodegradable/dissolve in water
- ✓ Ideally, select peanuts in the shape of a figure-8 → prevents shifting of contents during transport (see white packing peanuts)



### Machine crumpled packing paper

- ✓ Provides protective padding
- ✓ Fills empty spaces
- ✓ Recyclable
- ☒ Hand-crumpled packing paper provides less cushioning and is thus less recommended



### Single face corrugated roll

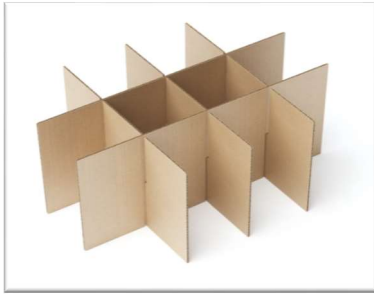
- ✓ Good to adequate protection if items are wrapped **multiple times**
- ✓ Good, for example, for plastic containers with liquid contents
- ✓ Recyclable



### Shredded cardboard mats

*Netting structure*

- ✓ Good to excellent protection if items are wrapped **multiple times**
- ✓ Good, for example, for glass bottles and other fragile goods
- ✓ Also available as bottle sleeves
- ✓ Recyclable



**Dividers**

- ✓ Separation of packaged goods
- ✓ Good for products that are more susceptible to crushing such as spout bags
- ✓ Recyclable



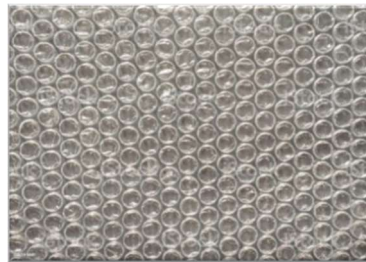
**Bottle sleeves**

- ✓ Separation of bottle containers
- ✓ Excellent, for example, for fragile goods such as glass bottles
- ✓ Recyclable



**Air pillows**

- ✓ Provides protective padding
- ✓ Fills empty spaces
- ✓ Recyclable\*



**Bubble wrap**

- ✓ Provides protective padding
- ✓ Separation of packaged goods
- Multiple wrapping required to protect product



**Polystyrene (Styrofoam)**

- ✓ Excellent protective padding
- ✓ Modifiable for perfect fit, thus excellent product protection
- ✓ Available as edge/corner protectors

\*Depends on type of material/product

Material type	Padding	Fills empty spaces	Separation	Sustainability
Shredded cardboard strips	✓	✓		✓
Wood shavings		✓		✓
Packing peanuts	✓	✓	✓ *	✓
Packing paper	✓	✓	✓	✓
Single face corrugated roll	✓		✓	✓
Cushioned/flat shredded cardboard netting mats	✓	✓	✓	✓
Dividers			✓	✓
Bottle sleeves			✓	✓
Bubble wrap	✓	✓	✓	
Air pillows	✓	✓	✓	
Polystyrene (Styrofoam)	✓	✓	✓	

\* Note: products may shift during transport ("quicksand effect")

## DIFFERENCES DURING THE SELECTION OF INNER PACKAGING

Often, the difference between padding and filler materials is one of degree. **Filler materials** fill empty spaces reliably and **prevent product shifting**. They are frequently composed of multiple individual or small pieces, such as bubble wrap, packing peanuts or shredded wood. Packing paper can also be used for filling spaces. In any case, the product should be capable of filling an empty space in the shipping packaging as soon as one appears, to prevent product shifting (exception: glass bottles with bottle sleeves).

For **packing peanuts**, special care needs to be taken to avoid the "quicksand effect". That means that the packaged goods may shift as a result of vibrations and product weight. Products may move outwards and come into direct contact with box exterior walls. This dramatically increases the risk of damage to fragile products. Packing peanuts shaped like a figure-8 can mostly eliminate the quicksand effect.

Ideally, the packaged goods are already securely packaged (thanks to sales or storage packaging) or are impact-resistant. Products that are not impact-resistant need additional **cushioning material**. In most cases the packaged good is directly wrapped for protection. Normally, this process automatically separates the item from others in the shipment. The key point here is to use enough material to create a buffer zone. More fragile products need thicker layers of cushioning material.



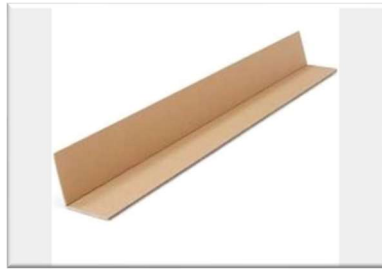
## OTHER ASPECTS OF INNER PACKAGING

When furniture or other large and heavy packaged goods are shipped, corner and edge protectors can be used to prevent damage to these places. Flat inserts provide additional stability and serve as buffer zones from external crushing and impact.



#### Corner protectors

- ✓ Place in all 8 corners



#### Edge protectors



#### Flat inserts

- ✓ Use multi-wall as buffer zone

### RETENTION/SUSPENSION PACKAGING AS INNER PACKAGING

In addition to the filler and cushioning materials and dividers already mentioned, there are other constructive elements that can be created individually to protect packaged goods. This is called **retention/suspension packaging** and falls into the category of inner packaging.



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### EXAMPLES

A small selection of objects and possible inner packaging are presented here as examples and serve primarily as orientation. The **type** and **quality** of outer packing, inner packaging and seals should be chosen for their combined ability to ensure safe transport for the selected product.

Object	Inner packaging
Glasses and tableware	Dividers, single face corrugated, bubble wrap
Glass bottles	Bottle sleeves
Small furniture	Corner/edge protectors, flat inserts, air pillows, bubble wrap

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**Electrical/electronic goods**

Styrofoam, corner/edge protectors, customized cardboard inserts

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