



Packaging guidelines

Introduction

Packaging is a vital part of the shipment process. 11% of all packages have some sort of damage when they arrive in distribution centers (Speed Commerce Insights, 2020). This causes disruptions for the shipper and the customer that is waiting for their package. In this post, we will explain the cause, impact, solution, and how fit for purpose packaging will help you.

Speed Commerce Insights. (2020, 4 December). *Avoid Damaged Goods During Shipping* Speed Commerce. <https://www.speedcommerce.com/insights/damaged-goods/>

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The impact

Product damage can have quite an impact on the company of the shipper. Damaged packages can affect the bottom line of the company. There are costs associated with returns of the shipment and replacement of the damaged products. It can also have an effect on customer relations. With damaged packaging, brand perception and long-term relationships could be at risk. Imagine if your damage and return rates were greatly reduced and what impact that would have on customer satisfaction.

The cause

There can be endless reasons for damage during the shipment of your goods. When damage is reported, it is often assumed that the package was handled poorly. However, poor handling is not even 1% of the 11% of packages that are reported with damage. The majority of package damage reported is caused by: repeat handling, poor load stability, and prolonged vibrations. This might seem like causes that the shipper can't influence, but there is a way...

 SHIPPING MADE SIMPLE au.worldoptions.com						
	Poor quality carton	Items value	number of shipments	damaged goods	returned goods	
Poor packaging						Packaging cost: 2.5*2000 = \$5000 Original shipping cost: 75*2000 = \$150,000 Return shipping cost: 75*40 = \$3000 Replacement cost: 600*40 = \$24000 Repacking cost: 2.5*40 = \$100 Total: \$182,100
	\$2.5	\$600	2000	2%	40	
Good packaging						Packaging cost: 5*2000 = \$10000 Original shipping cost: 75*2000 = 150,000 Return shipping cost: 75*2 = \$150 Replacement cost: 600*2 = \$1200 Repacking cost: 5*2 = \$10 Total: \$161,360
	\$5	\$600	2000	0.1%	2	
	+50%	-	-	-95%	-95%	-11.4% savings

The solution is fit for purpose packaging. In this section, we will discuss how to correctly pack carton parcels, pallets, and the basics of dangerous goods shipments.

Pallets

Surface (keeping the pallet surface sturdy)

In addition to preventing boxes from sliding during shipment, a level surface makes your pallet stackable. Your pallet is automatically labeled as "non-stackable" if the surface is not smooth; this results in additional fees.

Edges (avoid oversize charges)

Try to fill all available space on your pallet when packing, so that none of the packages hang over the edge. The chance of products being damaged increases by 21% with overhanging sides.

Pallets that overhang are typically not accepted by couriers, thus when building your pallet, try to build them as efficiently as possible. Also, when having soft loads or thin cartons on the pallet consider using edge protectors as the strap could cut into the boxes.



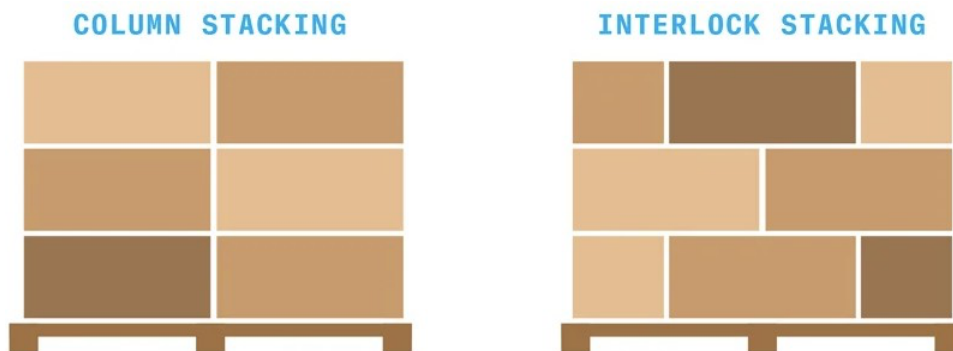
Wrapping & strapping (keeping everything together)

Once your pallet is constructed, be sure to wrap it with sufficiently sturdy plastic to hold it together and include the pallet itself to prevent things from shifting during shipment. It is suggested to use black wrapping to conceal the pallet's contents.

The strapping is strongly advised for awkward-sized and different-sized pallets. This will ensure that the goods and pallet stay together.

Stacking (Make it stable)

It is important to stack pallets in an aligned way. When using same-size boxes, target for an aligned block shape. This can be done by column stacking and interlocking stacking (a.k.a. brick stacking).



For different size boxes, some more effort has to be made into getting them well aligned. The most crucial layer of the pallet is the top layer. The largest boxes on the bottom layer give the pallet the most stability when the boxes are all in the same weight range.

Start constructing the rest from the centre out whenever your parcels become too dissimilar to achieve a flat surface of one layer. The lightest packs should be on the outside, with the heaviest boxes in the centre. As a result, the pallet will be more stable. Prior to shrink-wrapping the whole pallet, using tape adds additional rigidity, especially to the top layer, and prevents the boxes on top from slipping during transport.

Carton parcels

All parcels have to be packaged with care, even if they are non-fragile. Just slapping a parcel with a fragile sticker to the side won't give you certainty, as most damage arises from vibrations, repeat handling, and poor load stability. Items could get delivered in thin carton boxes from manufacturers, but when they get shipped again to the customer, they get damaged. For example, packages that arrive in a container from China, are not automatically suitable for domestic transportation after they've arrived in the warehouse. Chinese containers are frequently tightly packed, helping to keep products in their proper locations and prevent damage. So, make sure to properly pack your packages according to the guidelines provided. In this section secure packaging of parcels will be discussed.

Non-fragile items:

The weight and carton

The weight of the item is vital when choosing the packaging material for the parcel box. Here is a table of what type of carton you need when shipping your non-fragile products.

Parcel Weight	Construction
Up to 10 kg's	Single wall
10 to 30 kg's	double wall

SINGLE WALLED BOX VS DOUBLE WALLED BOX

SINGLE WALLED BOX



This type of box is only suitable for light weight and non-fragile products.

DOUBLE WALLED BOX



Double walled boxes should be used for heavier items.

When going over the 30kg's a specific type of carton box is needed to ensure that your parcel arrives without any damage. These specific types of cartons can be triple-walled cartons or extra rigid double-walled boxes. It's important to look for the weight limit of these boxes when using them for shipment.

Box padding

For non-fragile items: foam protection, bubble wrap, airbags, or form peanuts are ideal. It is important that there is at least 5cm between the shipped item and the box carton. The filling material should be at least 5cm on all sides, including top and bottom. It is always important that items within the same parcel get packed individually. This is really important as products might damage each other during the shipping of the parcel.



(In this illustration only, the sides are well protected, and the top layer has too little protection)

Fragile parcels:

The weight and carton of the parcel

It is recommended to use the box-in-box approach to double-secure any products that need additional protection during shipment. There are two boxes needed, and the external box must be at least 14 cm bigger than the inside box in every dimension. For both boxes, it is suggested that you utilize a double-walled box at all times with fragile parcels. A specific heavy-weight box should be used if the box weighs more than 30 kg. It is important to check the maximum weight of these boxes.

Box padding

It's crucial to pack each item within the same package separately. This is important since different items could clash when being shipped inside a package. Furthermore, it's important that there is at least 7cm between the shipped item and the box walls. The filling material should be at least 7cm on all sides, including top and bottom. It's recommended to use tailor made padding materials for fragile materials as listed below:

Type of Material	Cushioning	Void Fill	Protection	Divider	Other Function
Bubble wrap	✓	✓	✓		
Foam Wrap	✓	✓	✓		
Foam peanuts/pellets	✓	✓		✓	
Airbags		✓			
Crumpled paper		✓	✓		
Corrugated inserts		✓	✓	✓	
Shredded cardboard		✓	✓	✓	Shock Absorption



Labeling and taping:

Taping

Use the H shape taping to ensure that the sealing is maintained during the shipping of the parcel. With H shape taping it's recommended to stick the tape just around the corner when applying it to the parcel.



Labeling

It's crucial to properly identify fragile items before shipping. Utilizing handling instruction labels correctly can assist to ensure that your shipment is transported, handled, and stored properly throughout transit.



Dangerous goods

Dangerous goods shipments are goods that are a risk to people's safety, property, or the environment. Known dangerous goods are batteries, paints, cosmetics, gases, and some liquids

There are 9 classes of dangerous goods

- ◆ Explosive substances
- ◆ Flammable gas
- ◆ Nonflammable gas
- ◆ Toxic gas
- ◆ Flammable liquids
- ◆ Flammable solids
- ◆ Substances liable to combustion
- ◆ Oxidizing substances
- ◆ Organic peroxides

The shipper is responsible for knowing the up-to-date regulations regarding packaging and shipping of dangerous goods. The packing guidelines regarding these shipments can be found in the IATA guide. All these shipments must come with a label declaring what the dangerous goods are in the shipment. It's important to obey the IATA rules as the carrier may not accept the goods without the proper packing and labeling. Further, breaches of the related laws could result in loss of life, property, injury, and prosecution.



Sustainability

Sustainability in the shipping industry has become increasingly important as the global community seeks to reduce its carbon footprint and mitigate the impacts of climate change. The shipping industry is responsible for around 3% of the world's carbon emissions, making it a significant contributor to global emissions.

There are multiple ways to improve the sustainability of your packaging process. However, don't forget that the packaging safety margins should always be maintained. It is always more sustainable to ship an item properly (with a bit more material usage) once rather than replacing it and sending it again because of damage.

Reduce the size of the box or envelope:

By choosing the smallest possible box or envelope that can still accommodate your items, you can reduce the number of materials needed to pack and ship the parcel. This, in turn, reduces the weight of the package and the amount of fuel needed to transport it. You can also use smaller packaging materials to fill empty spaces inside the box to minimize movement during transportation.

Use recycled or eco-friendly materials:

Another way to make your parcel packaging more sustainable is to choose packaging materials made from recycled or eco-friendly materials. These can include biodegradable bubble wrap, recycled paper, or cardboard. By choosing these materials, you can reduce the amount of waste generated by your parcel packaging and ensure that your packaging materials have a lower impact on the environment.

Plastic is a common packaging material, but it is not biodegradable and can take hundreds of years to decompose. When possible, try to avoid using plastic materials in your packaging. Instead, consider using paper, cardboard, or other biodegradable materials. This will help to reduce the amount of plastic waste generated by your parcel packaging and minimize the impact on the environment.

Reuse packaging materials:

Whenever possible, try to reuse packaging materials such as boxes and packing materials. This can include using boxes or envelopes that you have received in previous shipments or using packing materials that you have saved from other packaging. However, it is vital that the boxes from the previous shipment have no damage and are a good fit with the package sent.