



# The Ultimate Guide to Protective Packaging



- 3 Introduction**
- 4 Why You Need to Use Protective Packaging**
  - Overall Quality & Branding
  - Value
- 5 Environmental Considerations**
  - Biodegradables
  - Consumer Appeal vs Higher Cost
  - Lightweight Films
  - If You Go Green, Make It Seen
- 7 How to Implement Protective Packaging**
  - Understand your goals
  - Understand the needs of the consumer
  - Understand your current capabilities
- 9 Selecting The Appropriate Materials For Your Project**
  - Flexible Films Breakdown
  - Bagging
  - Shrink Packaging
  - Carded Packaging
  - Shipping Protection
- 13 Effective Solution - Working with a Professional**
- 14 Conclusion**
- 14 Resources**



If you are packaging products for the retail environment, to be shipped direct-to-consumer, or are handling bulk shipments, two of the most important aspects of your process are delivering your product on time as well as in pristine condition.

When choosing how to package and deliver your product to your customer there are a lot of things to consider. What materials should I use, how will these materials impact the environment and my overall costs, are there packaging requirements for the retailer or distributor, do I have the necessary machinery for the packaging I want that also meets the needs of production and speed, what is the best way to deliver my product? Learn about how you can make not only the best first impression with your end-users and ensure a long lasting relationship with flexible protective packaging.



## Overall Quality & Branding

**First impressions** - First impressions are everything - and when a consumer buys your product or opens a delivery box, you need to make sure the 'unboxing experience' is perfect. 40% of people would share a photo of packaging if it is interesting - that right there is viral marketing at it's best!

**Flawless Delivery** - Delivering your product on time and in perfect condition is vital for creating both a positive brand experience and ensuring product quality. Supply Chain 24/7 found that 73% of participants indicated that they would be unlikely to purchase from the company again after receiving a damaged item. On the other hand, if the packaging is difficult to open or too tamper-proof, your first impression is no likely no longer a positive one.

**Ecommerce vs. Retail** - When designing a package for the retail environment product security and visibility on the shelf are of most importance, these characteristics aren't as important when being delivered directly to the consumer's door.

You can provide value to your customer and to the environment, while also providing monetary value to your business by re-imagining your ecommerce packaging completely. Reduce the amount of material used in your packaging and opt for an easy-open package design that protects your product differently. Flexible films can keep your product from being damaged inside a bag or box during shipment, and protective air pillows provide a form of additional cushioning protection while also having less impact on the environment than alternatives like molded styrofoam, paper, or packaging peanuts and other loose fill.

A new era of packaging is upon us, so take the steps to capitalize on ecommerce packaging now before it becomes the norm. This can set your brand apart by providing a less wasteful, easy un-boxing experience, and save you in packaging costs.

## Value

In the long run spending the time and capital upfront on proper protective packaging will ensure that your product is delivered in the same quality as when it left your production facility, and stays that way either on the shelf or at home. This can reduce the costs of rewraps and packaging waste internally as well as the high costs of replacement orders, additional shipping and handling and/or customer refunds.



Many see packaging as excessive and wasteful, however, if it is done properly protective packaging can actually help the environment and save you money.

## Biodegradables

*Packaging trends* show biodegradable flexible packaging materials emerging as an increasingly viable field. Features like *biodegradability* have been shown to make a marked impact on buyer decisions, and from an ethical standpoint, your business is making a decision that benefits the environment. A packaging professional can guide you in selecting appropriate films for your specific application that are either recyclable, eco-friendly, (i.e., derived from corn, potatoes or other renewable resources), or even bio-compostable or biodegradable bioplastics. Biodegradable & compostable films do come with a slightly higher cost, but prices are coming down and becoming more market-friendly the more that demand increases.

## Consumer Appeal vs Higher Cost

The impact of becoming an eco-conscious brand can boost consumer appeal that drives increased revenue, let alone being great for branding in general. In October 2015, *the Nielsen Group* surveyed over 30,000 people across the globe to understand how sustainability impacts consumer buying habits. **66% of respondents said they were willing to pay more for sustainably packaged products.** Additionally, the study detailed that brands who simply claimed their sustainability directly on their packaging design saw sales growth of 7.2%. So, before completely disregarding the opportunity to go green because of initial cost, it's worth a little research on your target market to realize potential revenue growth that negates the high investment altogether.

Continued onto next page >



### Lightweight Films

The materials you choose can also greatly reduce freight costs. Flexible packaging is popular, and growing in market-share for many reasons, primarily due to its lighter weight and ability to offer a smaller footprint than that of bulkier corrugated and glass packaging options. Some of these packaging materials, contrary to popular belief are actually plastics-derived products.

### If You Go Green, Make It Seen

Going green is always an excellent additional marketing tool for your package design, too! If you do opt for eco-packaging, make it known directly on the package with prominent messaging!

If the environmental effects are of great importance to you, you may want to consider working with a professional who can provide you with guidance and the best possible products to ensure environmental safety.



Implementing new processes is never easy, and packaging may require the purchase of new equipment and materials. There are many things to take into consideration including your goals, the needs and desires of your customer, and of course your current in-house capabilities.

Take the following questions into consideration while you are preparing to implement a new packaging initiative.

## Understand Your Goals

- What do you need for protection in terms of durability?
- Will it be a shelf product or is this a distribution-specific item?
- Will this be a retail specific product or will you be shipping direct-to-consumer or both?
- Is there a shelf-life to your product? Will you need customized multilayer films or specialized additives in your material to maximize the life of the product before consumption?
- How many units will you need to produce on a weekly, monthly and annual basis?
- How important is sustainability to your brand?
- What kind of competition will you be facing?
  - » Will you need high-quality graphics on the package to maintain visibility on the shelf?
- What is your competition like in the market?
  - » Could a retail point-of-purchase display provide you with additional visibility for promotional purposes?

Continued onto next page >



## Understand The Needs Of The Consumer

- What does the consumer look for in a package?
  - » Is sustainability important to them?
- Color plays a major role in consumer purchases. Are you designing the package with your target market in mind?
- Are there sustainability requirements for your retail environment?
- Do you have limited shelf-space?
- Is easy-open packaging important to the consumer?
- Is resealability important to the consumer?
- Will lighting affect your product appearance? Certain multilayer films and materials with certain additives can reduce impact of light and other natural elements.

## Understand Your Current Capabilities

- What kind of space do you have available in your facility for the project?
  - » Can you handle the project in-house or would it be more cost-effective to outsource with a contract-packager?
- Will your current packaging machinery meet your needs for production or will you need to upgrade some of your line?
- Do you need to add machinery or perhaps a full packaging line?
- Can you automate any of the packaging process that is done manually now?
- Do you need a local supplier for frequent material re-or can you manage stocked material inventory in-house?
- Will you need localized technical support or do you have in-house maintenance technicians?
  - » Do you have preventative maintenance plans in place now?
- Do you have the initial capital required to meet the needs of production?
- What are your most-pressing constraints?
  - » Can they be relieved with outsourced support for your supply chain?



There are a multitude of options in flexible protection for each part of your packaging process, but for the sake of time we will briefly cover the most popular materials and applications are for you to consider.

Keep in mind though, one of the benefits of working with a professional is that they will be able to guide you in selecting the most optimal packaging products for your specific application, which in turn will likely save you time and money in the long run.

## Flexible Films Breakdown

**LDPE (Low Density Polyethylene)** - low melting point, good stretch & strength - commonly used for foods and meat products and stretch wrapping/palletizing

**LLDPE (Linear Low-Density Polyethylene)** - thinner than LDPE, just as strong, decent clarity - used for bulk foods, frozen foods, prints, grocery, trash bags, palletizing/stretch wrapping

**MDPE (Medium Density Polyethylene)** - slightly better clarity than most LLDPE film, less strong - good for thin paper products (toilet paper, ppt) and consumer goods

**HDPE (High Density Polyethylene)** - one of the most common polymers in plastics packaging - USDA/FDA-approved for food contact, lightweight, durable, water-resistant, bad O<sub>2</sub>-resistance- good for certain foods, retail products, clothing, stretch wrap for pallets

**PP (Polypropylene)** - another very common polymer in plastics packaging, strong, chemical resistant, high clarity, heat-sealable, FDA/USDA-approved for food handling, non-breathable - great for dry foods, e.g., herbs, candy, nuts, confectionery, retail

**PVC (Polyvinyl Chloride)** - once the most popular shrink film in the world, mainly used for packaging products like CD/DVDs. Emits harmful odors when heated during shrinking process - not suitable for direct contact with foods - temperature-sensitive - becomes very brittle after being heated/shrunk - not good for sealability

**POF (Polyolefin)** - commonly used as protective shrink film - highly durable and excellent clarity characteristics- wide range of uses including retail, foods, toys and other consumer goods - shrinks and forms to product when heat is applied - strong sealing capabilities - FDA- approved for food contact - Cross-linked formulation provides stronger sealability and durability as well as less residue on machinery which promotes longer sealing-blade/ wire life - great for all uses including high-speed applications

**BOPP (Bi-axially Oriented Polypropylene)** - moisture-resistant and high tensile-strength - great for produce, confectionery, perishables and pet foods  
Resealable Poly (PP) Bags - generally sealed with a slide or zipper-type closure (Ziploc) - great for almost any application

Continued onto next page >



## Flexible Films Breakdown (continued)

**Multilayer Films**- Multiple films and additive layers can be co-extruded into one film to gain 100% of each layers benefits. These can include foils, barrier layers that protect from chemicals, vapor, oxygen, moisture (MVTR), etc.. Commonly seen in pouch packaging, bundling films and laminates with high quality graphics.

**Surlyn** - ionomer resin - provides excellent clarity and durability - great for food, cosmetic, medical, skin, and stretch packaging. Attractive and lightweight alternative to clamshell & blister packaging

**Cellophane** - thin film with low vapor, liquid, chemical, and bacterial permeability - ideal for food and perishable items

Multilayer Films- Multiple films and additive layers can be co-extruded into one film to gain 100% of each layers benefits. These can include foils, barrier layers that protect from chemicals, vapor, oxygen, moisture (MVTR), etc.. Commonly seen in pouch packaging, bundling films and laminates with high quality graphics.

The following are all made of the films listed above, some have additional layers and types of flexible packaging including aluminum that provide further protection from different elements. Discuss the best options for your application with a professional to get the best results for your needs.

## Bagging

**Flat/Roll Poly (PP) Bags** - measured in 2 dimensions (W/L), heat-sealable, stapled tied, taped closed - good for foods, medical items, agriculture, electronics, etc. - bags can come in rollstock-

**Resealable Poly (PP) Bags** - generally sealed with a slide or zipper-type closure (Ziploc) - great for almost any application

**Poly (PP) Tubing** - ideal for odd-shaped items and limited space. Sealed at both ends with heat, ties, tape - multiple widths and gauges (thicknesses) available - USDA/FDA-approved for foods, multi-use

**Gusseted** - made with a tucked-in pleat and sealed, allowing for expansion & larger capacity - great for almost any application - gusseted bags also available in rollstock, pre-perforated, must be torn off roll to open

**Flat/Roll Poly (PP) Bags** - measured in 2 dimensions (W/L), heat-sealable, stapled tied, taped closed - good for foods, medical items, agriculture, electronics, etc. Bags can come in rollstock

**Resealable Poly (PP) Bags** - generally sealed with a slide or zipper-type closure (Ziploc) - great for almost any application

**Poly (PP) Tubing** - ideal for odd-shaped items and limited space. Sealed at both ends with heat, ties, tape - multiple widths and gauges (thicknesses) available - USDA/FDA-approved for foods, multi-use

Continued onto next page >



## Shrink Packaging

**Overwrap** - Film is placed around an item. When heated is applied, generally by a heat gun or in a shrink tunnel, the film will shrink uniformly around the item. This adds a secure layer of protection from outer elements, as well as preservation of perishable items inside. Shrink film is also used in smaller scale applications to wrap gift baskets

**Bundling** - Film is placed around multiple items and heat is applied to shrink the film, creating a protective barrier from tampering and external elements. Bundling films are common in multipacks or combination products.

**Shrink Sleeves** - Custom-printed, high-quality graphics are added to shrink formed in the shape of a flattened tube. These are perforated for manual application to a finished good, and also come in rollstock for automated machinery. Product is placed inside and the tube will shrink uniformly to form a tight label.

**Printed Films** - Most shrink packaging can be custom-printed with branding, nutritional information and marketing material, reducing the need for additional labeling application

## Carded Packaging

**Blister Packaging** - Used in consumer goods applications where thermoplastic film is molded to a pre-formed shape and adhered to a printed paperboard. In pharmaceuticals, an aluminum foil backing or lidding seal is used for pill-packs.

**Skin Packaging** - A thermoplastic film is placed over an item and a pre-printed paperboard with a heat-seal coating. Heat is then applied to form the plastic around the product while adhering itself to the board. Vacuum-sealing is common here to aid in forming the film.

**Clamshell Packaging** - Often preformed thermoplastic consisting of two halves that fold together around an item. Printed paperboard or labeling is also used for branding and other required information. Clamshells may also be in the form of rigid plastic containers for fruits and hardware supply applications.

All carded packaging can be displayed in different formats including hang-tabs or in point-of-purchase displays.

Continued onto next page >



## Shipping Protection

**Inflatable air pillows**

**Bubble wrap**

**Foam-in-place**

**Polyurethane packaging**

**Paper dunnage and void fill systems**

**Corrugated die cut inserts**

**EPS packaging (Expanded Polystyrene)**

**Corrugated Boxes or other shipping containers**

**Stretch wrap for palletizing/unitizing**

**Strapping for boxing or palletizing**

Some of these materials are dependent upon the size and weight of your product as well as the quantity you will need to package. They may also require specific machinery to meet your needs for production efficiency and meeting consumer demand. These can add up in regards to cost. You may want to consider utilizing a professional co-packer who has equipment available and access to the materials required to execute your packaging needs which can also save you both time and money in the long run with this type of a partnership

Continued onto next page >



One of the most beneficial aspects of working with a (good) Packaging Professional is that they will first understand your business, and couple that with their knowledge of the packaging world to offer different ideas for packaging overhauls that will provide you with real savings.

A great example of a professional providing real value can be found with one of Industrial Packaging's CPG customers.

A large pickling company had been packaging their pickled goods (say that three times fast) in glass jars and they couldn't find a way to effectively reduce their (very) high shipping costs. They had one of the Industrial Packaging professionals review their current package design, their plant, and their current capabilities. From there, they were able to work together to design an appealing, resealable laminate pouch to replace the bulky, heavy glass jars.

The lightweight pouch packaging not only saved them over 40% in annual shipping costs, but also reduced their product footprint drastically! This in turn allowed them even more shelf space, and the visually-appealing, consumer-friendly new package gained a lot of much-desired retail visibility.

In addition, the reduction in floor space the pouch provided when compared with the glass jars allowed for less storage space and more space on their plant floor!

If you want to work with an innovator in packaging to achieve results like this, get in touch with our team.

Working with a professional allows you to focus on what's important, building your company and brand.

Professional packaging companies can provide as much or as little as you need including, materials, parts, machinery, technical support and consulting as well as supply chain services to aid manufactures and distributors with logistics & costs.



At the end of the day you want to have a happy and long lasting customer at a cost you can maintain from both a time and money standpoint.

Proper protective packaging of your products is one of the most effective ways for you to achieve this, and if done correctly, also protect the environment.

**Unsure of where to start?**

**Let our experts help,  
we'd love to hear about your next project!**

**TALK TO AN EXPERT**



**Resources:**

<https://hbr.org/2012/06/how-packaging-protects-the-env>

<http://blog.thepaperworker.com/?p=1491>

[http://www.supplychain247.com/paper/emotional\\_response\\_to\\_protective\\_packaging](http://www.supplychain247.com/paper/emotional_response_to_protective_packaging)

<https://www.nibusinessinfo.co.uk/content/packaging-environmental-considerations>

<http://www.rocketindustrial.com/ri/documents/rocket-industrial-protective-packaging-guide.pdf>