

The World of Flexible Packaging

The Ultimate Guide

Introduction



- The aim of this guide is to:

- Introduce you to the world of flexible packaging
- Explain **some** of the terminology
- Allow you to make a more informed decision regarding your packaging
- Show you some of the things that IMPAK Corporation is capable of

If we don't have exactly what you are looking for - we can make it!

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Terminology

3 Side Seal (3SS)

The bag is sealed with a machine on 3 sides

Bottom Tear Notch (BTN)

Tear Notch is placed at the closed end of the pouch

Flush Cut (FC)

This feature refers to the practice of trimming the bag up to the seal creating a neatly cut finish for the pouch.

Fold Over Bottom (F)

The bag has 2 seals on either side but has been folded over at the bottom

Gusset (N/A)

The insert at the bottom, or side, of a bag that allows it to stand freely

Hang Hole (HH)

This feature comes in two common forms: round or sombrero. Both features allow for a package to be suspended on metal hooks on retail shelves.

Load Lip (L)

A thin piece of material that is located on the open of the bag that allows for easy loading usually seen on tamper evident pouches

Open Both Ends (OBE)

This type of pouch is typically used in automated filling processes

Open Zipper End (OZE)

The bag is open on the ZipSeal end and is not filled through the bottom

Skirt (N/A)

A thin remainder of the material left behind on the seal when producing bags on a machine as to all the next bag to be opened at the top

Stand-Up Pouch (SUP)

This bag has a bottom gusset so that it can stand freely on a shelf, which makes for better presentation

Square Bottom Pouch (SBP)

This bag has a bottom gusset that forms a square. It can stand freely on the shelf

Tamper Evident (TE)

Sealed at top and filled at bottom

Tear Notch (TN)

Small cut in the seal of the bag, which allows the consumer to easily tear the bag open.

Tear Slit (TS)

Small cut in the seal of the bag, which allows the consumer to easily tear the bag open.

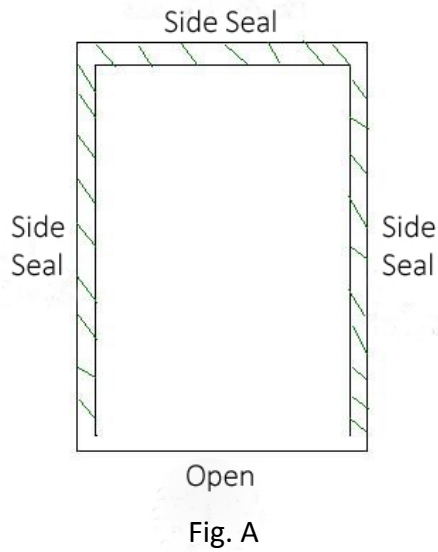
Valve (N/A)

A valve is typically one direction and allows gas from the inside of the pouch to the outside. Typically used in coffee packaging

Zipper Tamper Evident (ZTE)

This pouch comes with a zipper and will be sealed on the zipper end with tear notches above the zipper to indicate if the bag is unopened

Flat Pouches



- Exactly what the name suggests - this bag is flat.
- It will not stand up.
- Available in two different types:
 - 3 Side Seal (Fig. A)
 - Fold Over Bottom (Fig. B)
- The bag is folded in two and the sides are sealed



Fig. B

Seals



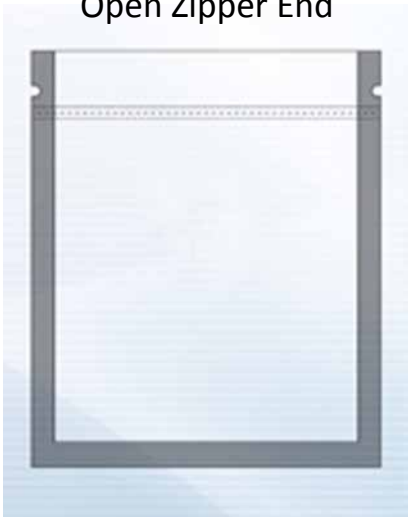
This feature allows you to reseal your package.

There are two common types of ZipSeals:

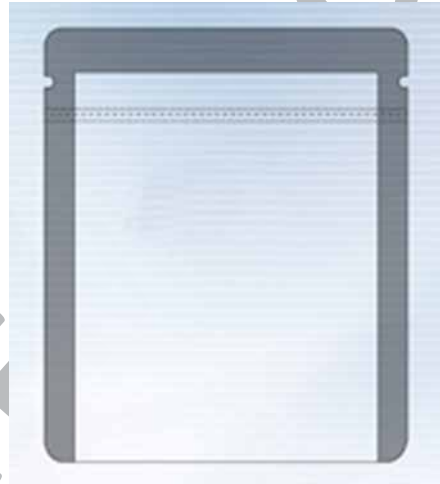
- Standard Single Track ZipSeal
- Dual Track/Double ZipSeal (For added moisture protection)

Stand Up Pouches

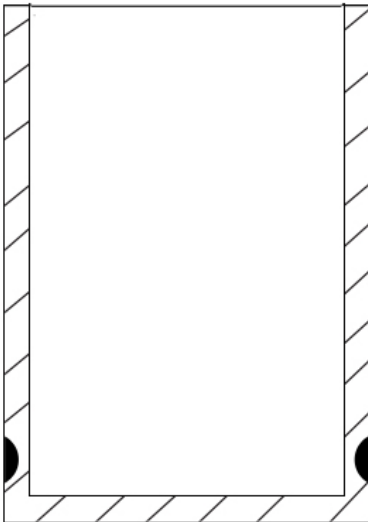
Open Zipper End



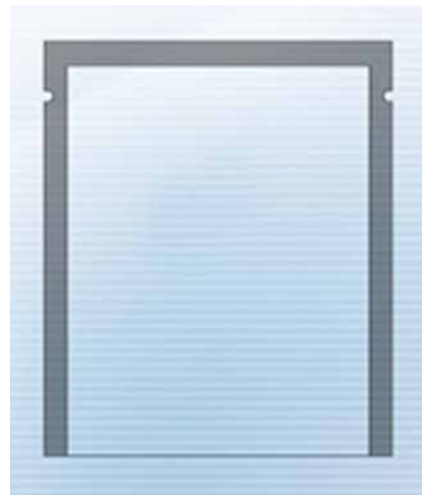
Zipper Tamper Evident



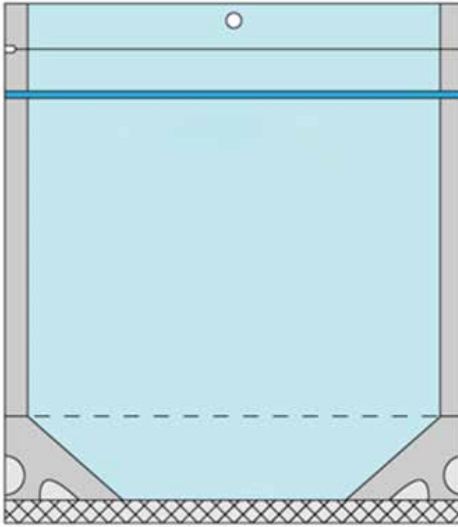
3 Side Seal



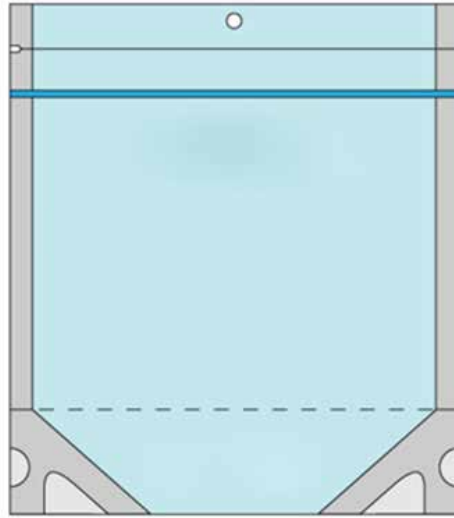
Tamper Evident



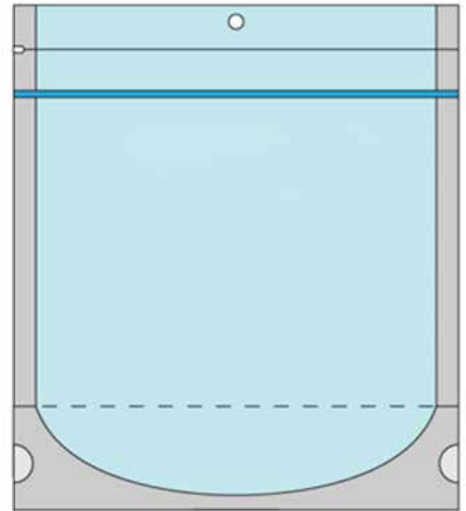
Stand Up Pouches



K-Seal



Plow Seal



Round Bottom Seal

There are different types of seals available:

- Standard Seal
- Narrow Seal
- Wide Seal
- K Seal
- Plow Seal
- Round Bottom Seal

Gusset Styles



Figure D



Figure C

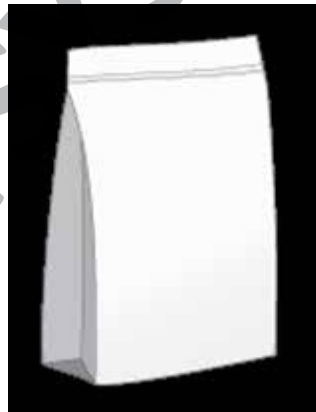
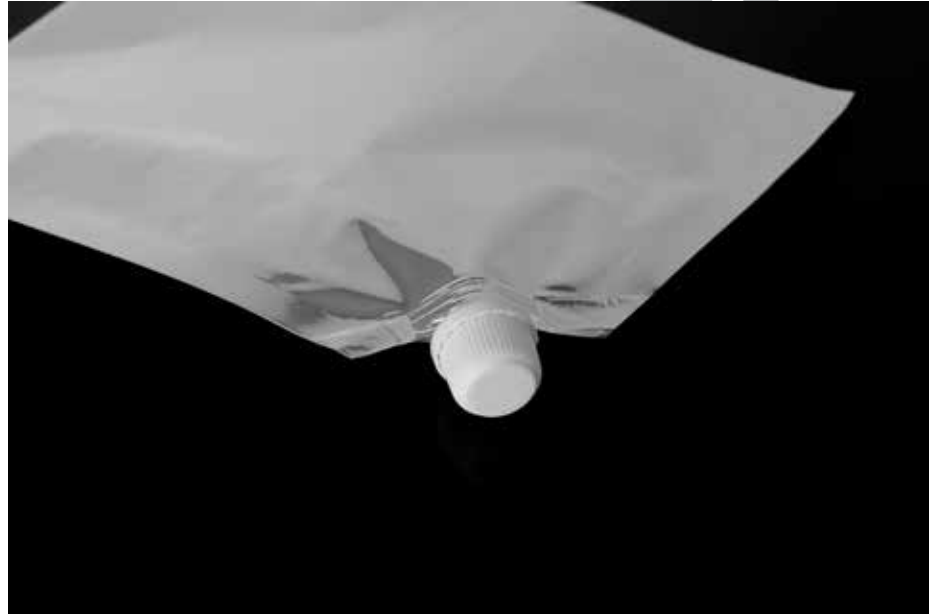


Figure E

- These pouches have a gusset that allows them to stand up.
- Gusset Styles:
 - Bottom Gusset (Fig. C)
 - Side Gusset (Fig. D)
 - Square Bottom (Fig. E)

SpoutPaks

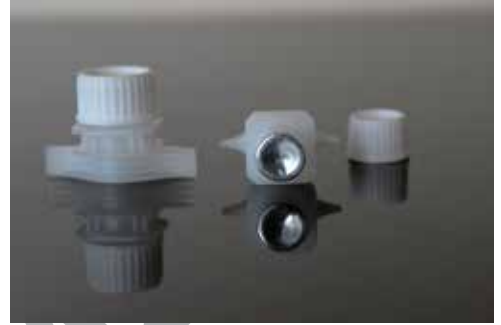


- Available as Flat Pouch or Stand-Up Pouches
- These bags have a spout attachment - ideal for use with liquids but have also been used for granules, powders and other applications.
- We offer Tamper Evident, Spout Fill, Side Mounted, Top Mounted and a range of sizes and features

Visit our webpage:

<http://www.sorbentsystems.com/spoutpak.html>

Spout Fitments



We have a variety of Spout Fitments available:
Need a special fitment - Let us know!

Special Features

Hang Holes



Round



Sombrero

Grommet



Load Lip



Valve



Handle



Special Features

Round Corners



Black Light Technology



Matte Finish Print



Custom Windows



Custom Shapes

Tuscan Pak



Large Triangle
Dispenser Bag



Dispenser Tip



Triangle Bag



Custom Shaped
SpoutPak



Circle Bag

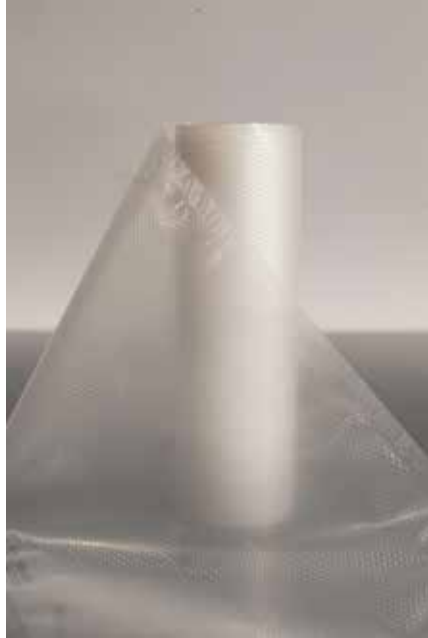


Header Bags



These bags are completely sealed at the top, above the ZipSeal, and have a hang hole application.

Special Surface/Channel Bags



- These bags have been designed to work in a range of “home use” vacuum sealers such as:
 - FoodSaver®
 - Seal-a-meal®
 - Tilia®

Visit our webpage:
http://www.sorbentsystems.com/channel_bags.html

Finseal Bags



These bags are commonly used in candy, potato chip and sports card applications:

Visit our webpage:
<http://www.sorbentsystems.com/finseal.html>



StickPaks



- A narrow pouch commonly used to package single-serve powder beverage mixes such as fruit drinks, instant coffee, tea, sugar and creamer products.
- Other uses include small electronic components and adhesives.

Visit our webpage:

<http://www.sorbentsystems.com/minipouches.html>

Mailers - Lip and Tape



- We can custom make these mailer bags.
- The Lip and Tape make them easy to seal.
- We can produce re-sealable and Tamper Evident mailers.

Visit our webpage:

<http://www.sorbentsystems.com/mylarenavelopes.html>



Oven Bags



- Our Oven Bags are simple and easy to use.
- Automatically folded to:
 - 1.0" x 1.25" x 0.625" OD
 - 1.0" x 1.9" x 0.625" OD
- Opens to:
 - 9.75" x 14.9" OD
 - 9.75" x 14.9" OD

Visit our webpage:

<http://www.sorbentsystems.com/nylonpouches.html>

Label Ready Bags



- Simply apply your label, fill and seal and your product is 'Shelf-Ready'.
- These bags are ideal for Jerky, Snacks, Spices and other applications.

Visit our webpage:
<http://www.sorbentsystems.com/vistabag.html>

Vase Bags

- Perfect for gifts or using year-round.
- Attractive Bags to showcase your flowers.
- Available in a range of colors and styles.

Visit our webpage:

http://www.sorbentsystems.com/vase_bags.html



Materials

- Standard Material.High O2 and H2O barrier – PAKVF4.
- High Temperature:
 - PAKVF4RCPP
- Boilable/Auto-clavable Material
 - PAKVF4PCA
- Oils/Solvents
 - PAKVF4MCP
- High Barrier
 - PAKDRY7500
 - PAKVF4PC
- Dry Ice (CO₂ Transportation)
 - PAKPM56
- We have a large range of materials available both in-stock and for custom pouches.
- Please visit our Technology Page to view the material specifications for more information:

Visit our webpage: www.sorbentsystems.com/technology.html

Suggested Materials for Different Applications

• Liquids:

- PAKVF4
- PAKPM4

• Oils/Solvents:

- PAKVF4PC
- PAKVF4PCA
- PAKVF4MCP

• Puncture Resistance:

- PAKDRY7500
- PAKVAC2C5

• Powders:

- PAKVF4C
- PAKVF1.5M
- PAKVF2.5M

• Light Sensitive:

- PAKVF2.5MB
- PAKVF4C Black

• Hot Food/Autoclavable:

- PAKVF4PCA
- PAKPM4AO
- PAKPM5
- PAKPM56
- PAKVF4RCPP

• Vacuum Packaging:

- PAKVF4N – Nylon/Foil
- PAKVAC3.0 - Transparent
- PAKVAC4.0 - Transparent
- PAKVAK5.0 – Transparent
- PAKVAC2C5 - Transparent

• No Foil Layer:

- PAKPM56
- PAKPM4
- PAKPM4S4.0
- PAKVAC3.0
- PAKVAC5.0

• Industrial Applications:

- PAKVF4NDC
- PAKVF4NNX

* These are only suggested applications. It is very IMPORTANT to order a samples and test the material with your specific application!!!

Custom Laminations

Due to the increasing number of demanding applications our products are being used with, IMPAK has found it necessary and beneficial to offer custom material laminations. These substrates can be tailored to your exact requirements or we can employ chemists who will take your product components and/or problems into consideration and create an entirely new film.

An example of one of our custom laminations are our PAKVF4PC MylarFoil film which has a contact/sealant layer of polypropylene and as such contains far less additives, slip agents and additional components commonly found in films with an LLDPE sealant layer, making it ideal for products with essential oils or volatile compounds. Other examples include customer specific Pantone Colors and additions of chemical coatings to prevent oxygen and water vapor transmission.

When other companies will not entertain the thought of running a small amount of material to determine compatibility or even a small run of finished pouches or roll stock, IMPAK can work with your company to get you the material you need to make an informed and educated decision.

Please contact one of our Technical Sales representatives by email here: techinfo@sorbentsystems.com for more information and/or a quotation.

Custom Print

- We can provide your pouch, printed with your unique design and label information.
- Please see the following links for a guide on Custom Print:
- <http://www.sorbentsystems.com/pdf/Artwork%20Submission%20with%20tips%20for%20artwork%202012.pdf>



Custom Printed Films

The film is produced first before it is converted into bags.

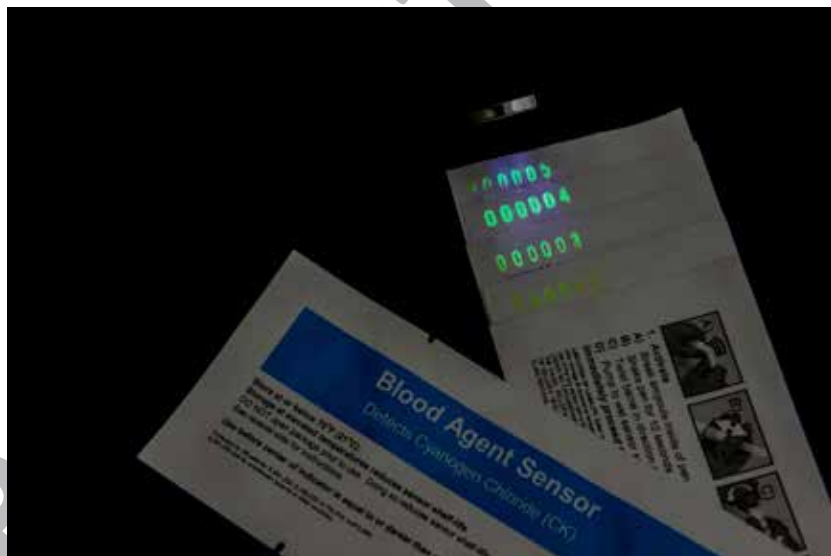
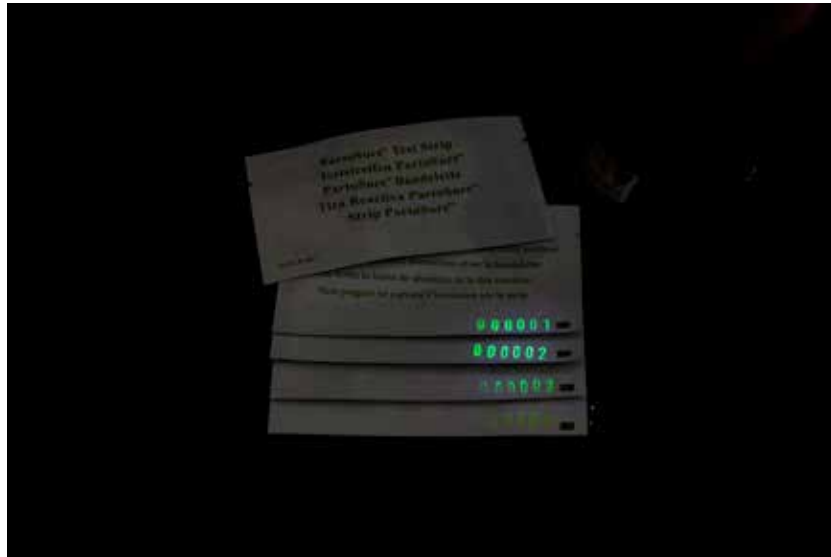


Promotional Bags



Have a special event coming up? Need some packaging? Look no further – IMPAK can make it happen!

Anti-Counterfeit Printing



- Black light technology is more than a unique printing and promotional tool. It has been used in the medical industry to prevent counterfeit products.
- We have the ability to apply this technology to your packaging.
- Prevent damage to brand and reputation by using this technology.

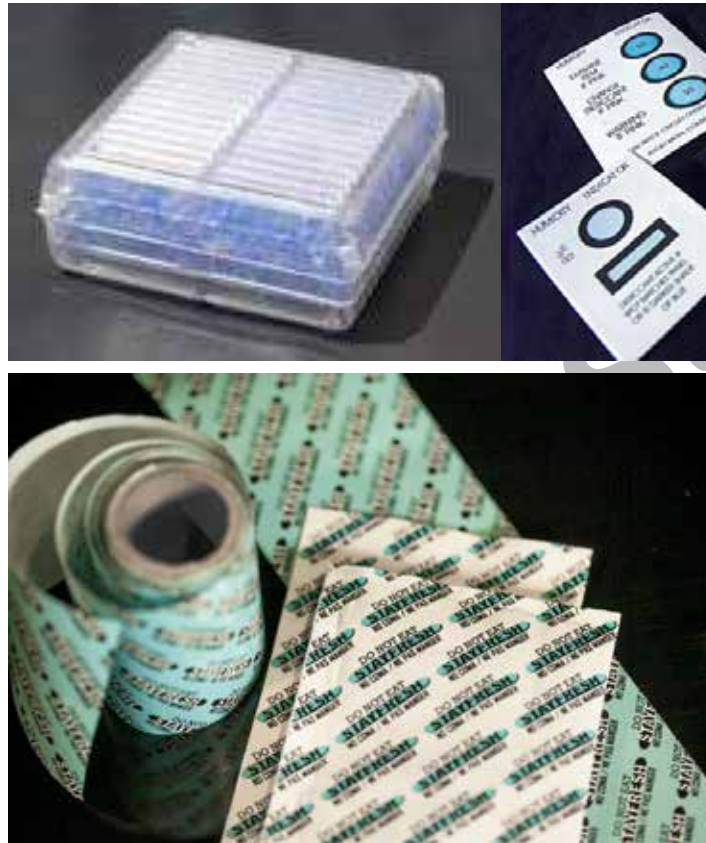
Custom Printed: Colors



- Proud to be a fan?
- Pick your team – we can make a bag in your color!
- This bag has a black front and a silver back



Modified Atmosphere Technologies

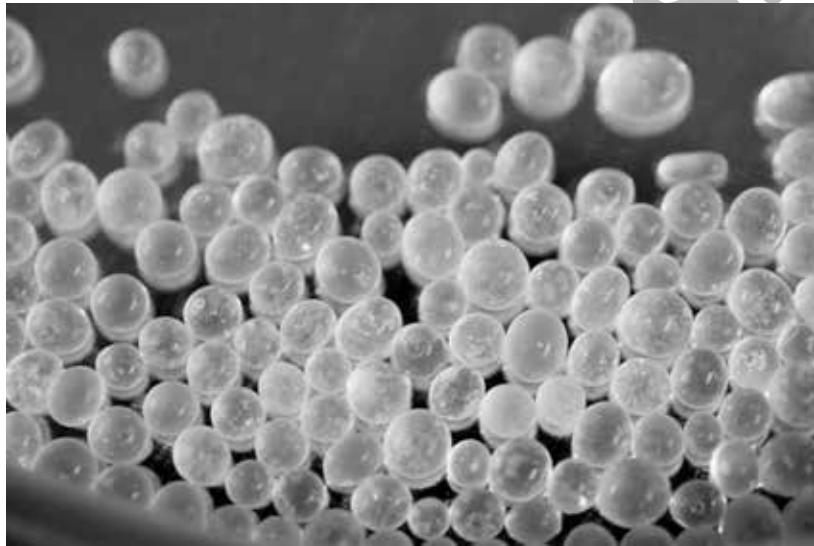


- Need to modify your product's atmosphere?
- We offer a wide range of desiccants and molecular scavengers to suit your needs.
 - Silica Gel
 - Desiccant Paper (Standard and Custom Shapes)
 - CM900 (Strong, dense, dust free, high temp)
 - Humidity Indicator Montmorillonite Clay
 - Oxygen Absorbers
 - Humidity Indicator Cards
 - Dri-Box Technology (reusable)
 - Molecular Sieve

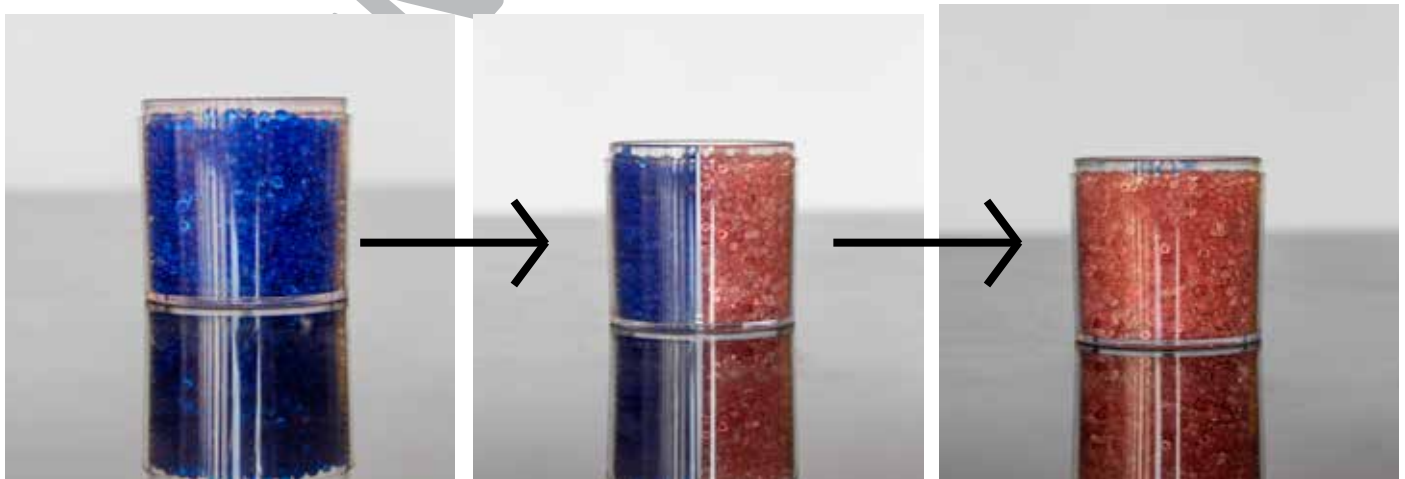
Learn more about the added benefits of using Modified Atmosphere Technology:
www.sorbentsystems.com/desiccant_overview.html

Silica Gel

- Silica gel is available in both plain and indicating.
- Indicating silica gel has been impregnated with cobalt chloride which has a blue to pink/lavender indication when the product has reached its limit of adsorption capacity.
- The gel is packaged in Tyvek , dust-free tear resistant packets.
- Also available in capsules.



Non-Indicating Silica Gel



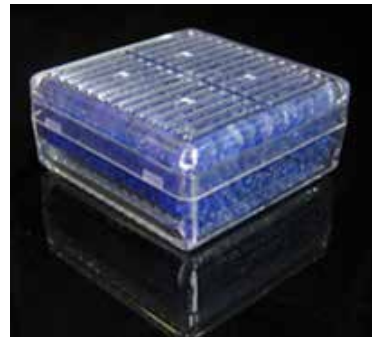
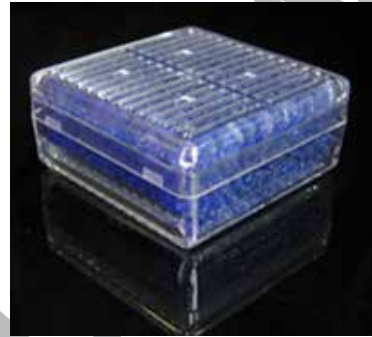
Before Adsorption

Indicating Silica Gel

After Adsorption

Dri-Box Technology

- A DRI-BOX is a *regenerable dehydrating cartridge*.
- It will remove the moisture in a sealed 3 cubic ft. area
- The DRI-BOX will also assist in the prevention of corrosion, mildew, and other problems caused by humidity in *unsealed* containers
- When the DRI-BOX turns pink, it is time for re-generation.
- The DRI-BOX can be regenerated *hundreds and hundreds of times* in a conventional oven or microwave



http://www.sorbentsystems.com/desiccants_dri-box_appl.html

Molecular Sieve

- Molecular sieve also known as synthetic sodium alumina silicate is a specialty adsorbent with a very unique pore structure.
- It is by far the best choice in terms of desiccant for companies looking to maintain the lowest possible relative humidity.
- The vast majority of molecular sieve that is produced has no indicating feature. However, Impak Corporation has the capability of producing indicating molecular sieve.



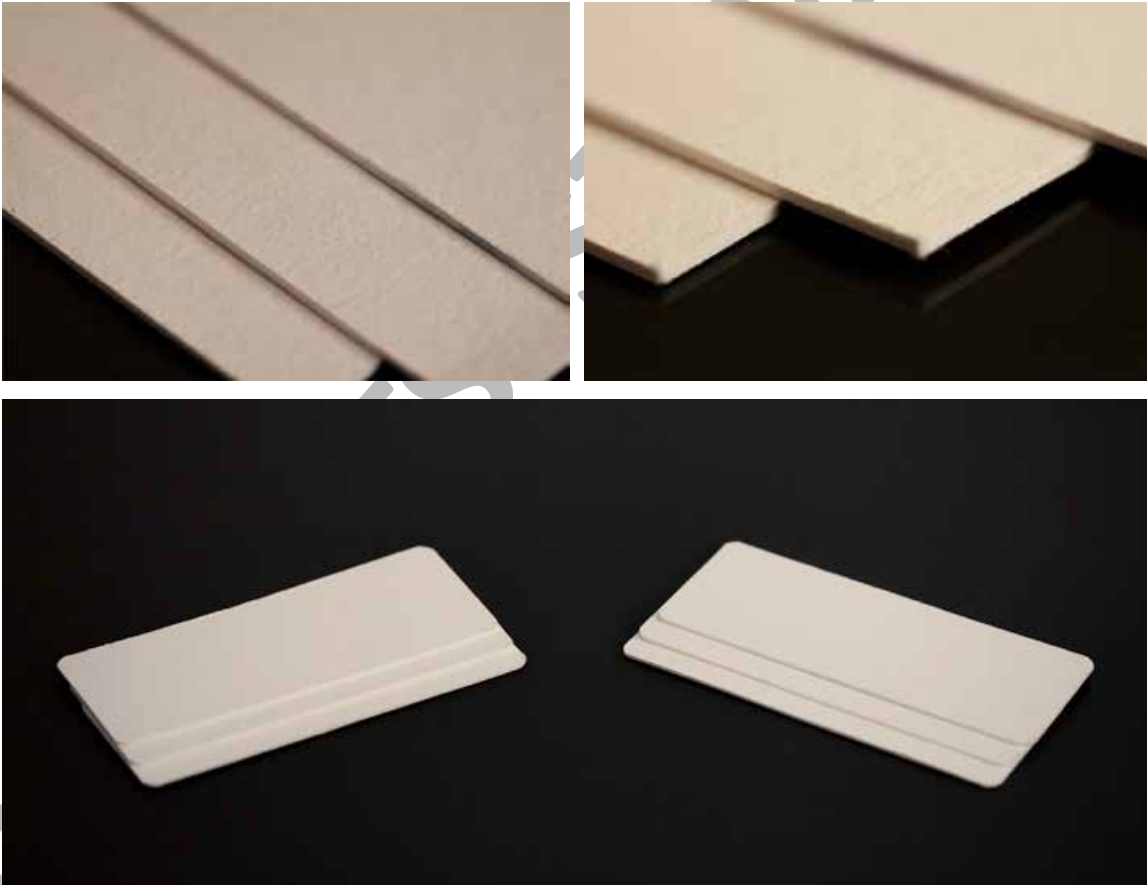
Before Adsorption



After Adsorption

Sorbent Papers

- Sorbent Paper features millions of adsorbent particles contained in a semi-rigid clean cellulose fiber matrix, enabling fast drying and has extraordinary versatility in package design.
- Silica gel desiccant paper can be produced to almost any shape or size whilst maintaining its rigidity and adsorptive capabilities.



Montmorillonite Clay



- Montmorillonite Clay is a naturally occurring porous adsorbent. The mined clay is activated for use as a desiccant through careful cleaning, sifting and drying.
- This clay will successfully regenerate for repeated use at very low temperatures without substantial deterioration or swelling.
- This property allows clay to act as a moisture buffer especially where regeneration cycles are desired.
- Clay is inexpensive and effective within normal temperature and relative humidity ranges

Humidity Indicators

Humidity Indicator Cards

- Humidity indicator cards are impregnated with a solution of cobalt chloride that has been carefully mixed to change color from blue through various shades of magenta - red, to a pink.
- Keep in mind that these cards will only **indicate** the relative humidity.



Humidity Indicator Plugs

- Indicating Desiccators are small refillable tubular desiccators designed primarily for the absorption of moisture in small containers.
- Each type of Indicating Desiccator incorporates a Humidity Indicator card.
- This indicator monitors the Relative Humidity (RH) of the container air as well as the condition of the desiccant itself.



Liquid Absorbers



- Superabsorbent LiquiSafe™ quickly absorb up to 300 times their own weight in aqueous solutions for efficient containment of spills.
- Easy to use and fast-acting
- Immobilizes a wide range of solutions
- Available in a variety of sizes to fit specific needs
- An efficient solution for emergency use
- In the presence of fluid, the specially formulated LiquiSafe™ packet quickly bursts open, releasing a superabsorbent polymer powder which quickly absorbs and immobilizes a wide range of solutions. The resulting gelatinous material is easily contained by an outer vessel, shipping container or some other device.



Oxygen Absorbers and Indicators



Oxygen Absorbers

- Oxygen absorbers reduce O₂ to parts per billion.
- Our absorbers are perfectly suited for long-term storage.
- Offer advantages such as:
- Keeping food fresher for longer.
- Preventing Mold

<http://www.sorbentsystems.com/o2absorbers.html>

Oxygen Indicating Tablets

When exposed to oxygen, the Tell-Tab turns blue or purple, then returns to its original pink color as the oxygen in the container is reduced.



Before Exposure to O₂ → After Exposure to O₂

<http://www.sorbentsystems.com/tell-tab.html>

Sealers



There is no point creating your package if you are unable to seal it securely.
We offer a range of sealers to suit your packaging needs.

Please visit our sealer info website:
www.sorbentsystems.com/sealers_overview.html

Impulse vs. Constant Heat

Impulse

- They run a timed impulse of electricity through a heat element which fuses and seals the bag.
- Generally only one bag can be sealed at a time.
- Pedal Sealers may also come equipped with dual seal elements when the product to be sealed is especially thick, or when the material needs very high temperatures to seal.
- Seals tend to be fairly thin (2-5 mm).

Constant Heat

- Offer a great-looking, extra wide seal that is perfect for food products and other applications that require extra secure sealing.
- Temperature can be adjusted.
- Seal time is not controlled by the machine.

Hot Jaw Sealer



- Portable Heat Sealers are ideal for sealing polyethylene and laminated foils. Applications include sealing around oddly shaped products such as drum or box liners or sealing around large objects such as furniture.
- Each sealer is lightweight and portable. The operator simply squeezes the handles to open the jaws and clamps on the film being sealed.

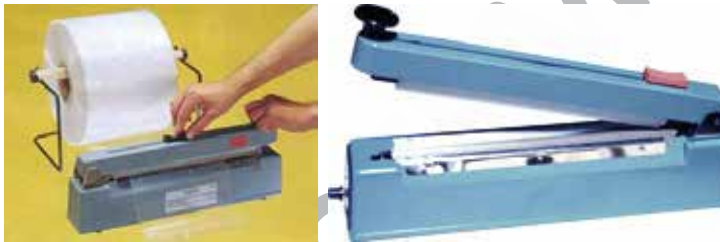
Foot Pedal Sealers



- Foot Pedal Sealers are ideal for sealing large heavy bags.
- By having a foot to control the seal, the hands are free to feed the machine.
- 5mm Element produces strong seals.
- Available in :
 - Single Impulse: general everyday sealing requirements.
 - Double Impulse: heavy duty operations, will seal Vinyl!
 - Constant Heat: Aluminum Foil and Gusseted Bags.



Impulse Sealer



- This system gives you the most for your packaging dollar.
- EXCELLENT for all types of plastic bags providing a wider (5mm vs 2mm) and STRONGER seal - these units will seal FOIL bags.
- With a simple turn of the dial your impulse hand sealer accurately seals a wide variety of thermal plastics - every time.
- You can have the peace of mind knowing these machines meet stringent electrical safety standards.

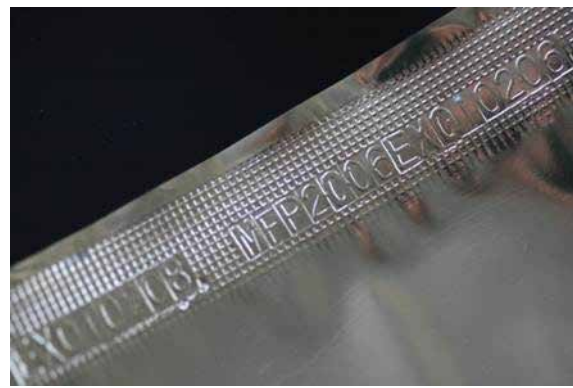
<http://www.sorbentsystems.com/impulsesealers.html>

Rapid Sealer™

- Rapid sealers may be the most efficient, versatile semi-automatic sealing equipment machines available in the market place today.
- Seal large bag quantities quickly and uniformly.
- Can seal bags of all types.
- Vertical Configuration – for powders, grains
- Horizontal Configuration – for products that can be laid on their side.



They can also be fitted with imprinting and embossing wheels – you can record date of manufacture or Best Before Date:



Nozzle Vacuum Sealers

- The **VS280 laboratory vacuum sealer** combines the benefits of compact design and efficiency.
- This is the **ONLY** low cost vacuum sealer that does **not** require the use of special bags.

<http://www.sorbentsystems.com/sinbosealer.html>



Retractable Nozzle Sealer

- These machines are very easy to use as a Vacuum/Gas-Flush Packaging unit.
- Whether your product is an Electronics item, medical device or a food product, this is a great model to handle your needs.
- You are not restricted to Chamber Size!

<http://www.sorbentsystems.com/airz.html>

Chamber Sealers

Perfect for vacuum sealing powders and/or liquids.

FEATURES:

- Removable sealing bar
- Transparent Lid
- Stainless steel housing
- BUSCH vacuum pump



Specialized Equipment



- The PIK N PAK™ System is capable of opening and sealing most types of printed or unprinted pre-made pouches.
- At a rate of up to 20 bags per minute, this machine will increase production and lower labor costs, paying for itself.
- Units can be customized to meet specific applications for different products. Some customizations include filling modifications to package liquid, powder, or solid products.

How to Choose the Right Packaging:

1. Select the material for your application.
2. Choose the style of pouch you would like (Flat, SUP, Spout, Finseal)
3. Choose the Seal – Zip/No Zip, Tamper evident.
4. Choose the special features you wish to include.
5. Determine the Dimensions for your pouch
6. Search the website for stock items
7. You can order samples –
<http://www.sorbentsystems.com/samplerequest.html>
8. You can request a quote -
<http://www.sorbentsystems.com/quoterequest.html>
9. Custom Print – contact the sales department:
sales@sorbentsystems.com
10. Select the correct desiccant -
https://www.sorbentsystems.com/desiccant_overview.html
or contact: matsales@sorbentsystems.com
11. Select the correct sealer -
http://www.sorbentsystems.com/sealers_overview.html or
contact: techsupport@sorbentsystems.com
12. Place your order online for stock items – contact the sales department for Custom Items.

If you need further assistance call : 310 715 6600

Other Services

- IMPAK Corporation also offers the following services:
 - In-House Graphic Design Artist
 - Label Application
 - Fulfilment
 - Private labelling
 - Re-packaging
 - Drop-Ship services.

If you are interested in any of these additional services – please contact our sales department at: sales@sorbentsystems.com or via telephone: 310 715 6600

Graphic Design

- **Submitting External Artwork**
 - Follow the Graphics Submission Guidelines.
 - We do not proof for Spelling, punctuation or grammar.
 - Dieline Graphics are available for \$75.00. This amount will be deducted from the final order once it has been placed.
- **In-House Graphic Designer:**
 - Rate: \$65.00/hour
 - Artwork review
 - Recommendation and adjustment of existing artwork
 - Creation of new artwork.
 - Outline text and create necessary layers.
 - Place artwork in custom packaging dielines.

For further information regarding Graphic Design Services please contact: prepressinfo@sorbentsystems.com

Fulfillment

- IMPAK offer a range of fulfillment services.
- This service depends on the type of product that is being packaged.
- Testing will need to be carried out to ensure machines are calibrated and can operate within the stated tolerances.
- If you are interested in our fulfillment services, please contact
- sales@sorbentsystems.com for more information.

SORBENTSYSTEMS.COM

Projects: Wasp Trap

From printed film to completed product – IMPAK can do it all.



This product has an inner pouch with a cone fitment alongside a liquid filled pouch which are then placed inside an outer finseal bag, ready for retail. There are 2 different styles of hang hole utilized in this project – round, with a grommet for added strength, and sombrero.

Label Application



Requirements:

Core: Must be 3.0" diameter

Label Unwind: Bottom off first. Labels wound out.

Space between Labels: 1/8" between labels

Pricing:

- One Side: \$50.00/K
- Two Sides: \$95.00/K

Frequently Asked Questions (FAQ)

- **Do you print labels?**

No, but we can apply printed labels to your pouches.

- **Do you do short runs?**

Yes. We pride ourselves on our ability to produce items on small runs.

- **What is the lead time on a custom bag?**

Once the order has been processed lead time is approximately 2-3 weeks. NB: this is custom dimension only, not printed.

- **What is the lead time on custom printed bag?**

Once the artwork has been approved and the order processed. Lead time is 7-9 weeks.

- **Is there a way to expedite this process?**

Rapid Turn Around Fees will apply and will vary depending on the size and material being purchased. Product will be made available in 4-5 weeks depending on production scheduling and available weekend production time.

- **Is there a minimum order quantity (MOQ) for custom bags?**

This will depend on the size of the bag you wish to have made – please contact our sales team for more information regarding MOQ.

- **Is there a minimum order quantity for stock items?**

We sell by the case. All stock items are online and minimum quantities are specified.

- **What is the thickest material you have?**

PAKDRY7500 – MylarFoil is 7.5mils thick.

- **What is the difference between Mylar and MylarFoil?**

-Mylar is name given to Biaxially-Oriented Polyethylene terephthalate (BoPET) it is normally transparent and is often associated with Helium Balloons.

-MylarFoil contains a layer of aluminium which gives the material superior barrier properties and a silver appearance.

- **How long does it take for me to receive my product?**

-Orders are usually input into our system within 48 hours, and shipped within another 48 hours, which means 2-4 days before the product leaves our facilities this applies to in-stock items.

-NB: This is for Stock Items only – times vary for custom orders.

- **Is there a way to expedite this process?**

Absolutely, for a minimum fee of \$25 dollars, we can have your product shipped out the same day if ordered before 1:30 PM. This fee does not include special shipping instructions such as overnight shipping.