



***PUR-O-ZONE***

***Liner Use Basics***

**THE NATURE OF  
CLEANING SERIES**

# DEFINITIONS

- **Resin**  
The basic raw material from which can liners are made. There are 3 types of resins: Low Density, Linear Low Density and High Density Polyethylene.
- **Linear Low Density Polyethylene**  
This resin is highly puncture and tear resistant. These properties make this the best choice for applications where additional strength and stretch are required. Works well for waste with sharp or jagged edges.
- **High Density Polyethylene**  
Liners made from this resin are generally available in lower gauges, and are more temperature resistant.
- **Low Density Polyethylene**  
An older resin still used mainly in lower end utility liners. It has largely been replaced by Linear Low Density Polyethylene. Pitt Plastics does not use this resin in any of our can liners!

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# DEFINITIONS

- **Post**  
Consumer and Post-Industrial Polyethylene- This is made from recycled post-consumer plastics such as milk jugs and industrial scraps. These are reprocessed and blended with other types of resins to produce new high quality liners.
- **Gauge**  
A term used to describe the thickness of a liner. Low density liners are measured in mils, while High Density liners are generally measured in microns.
- **Mil**  
Measurement based on one hundred thousandths of an inch (.000). For example, a .55 mil bag would be 55 thousandths of an inch thick. Common low density liners range from .37 to 1.8 mil in thickness.
- **Micron**  
Based on thousandth of a Millimeter (.000000). High Density liners usually range from 6 to 22 microns in thickness.

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# ADVANTAGES OF LINEAR LOW DENSITY CAN LINERS

1. Maximum puncture and stretch resistance
2. Multi-purpose applications
3. Most prevalent type
4. Wide variety of colors
5. Compared to traditional low density film, linear low can be equal strength at lighter gauge

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# ADVANTAGES OF HIGH DENSITY CAN LINERS

1. About 3 times stronger than ordinary polyethylene liners of the same thickness
2. **Two-thirds less petroleum-based raw material**
3. About one-third the ordinary shipping cost
4. Substantial cost savings per liner
5. Rarely "zipper" when punctured (if properly made)
6. Extremely wide range of temperature resistance
7. **USDA and FDA approved** (natural colored)

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# STAR SEAL (OR X-SEAL)

The star seal has become the most common type of seal in the market today. Designed without gussets, the star seal eliminates gaps along the seal where leaks can occur. This unique design allows the bag to conform more easily to the shape of the container and distributes the weight of the refuse evenly around the bag. Star seal liners maximize the bag's carrying capacity and virtually eliminate leaks. Star Seal liners are designated in two dimensions, i.e., 40x46.



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Courtesy Pitt Plastics

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# GUSSETED SEAL

A flat style bag manufactured with both sides tucked in to form gussets. Where indented, the bag has to be sealed through four layers of film, while the middle of the bag has only two layers. This leads to an inherently weak bottom seal. Gusseted seal liners are designated in three dimensions, i.e., 23x17x46.



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Courtesy Pitt Plastics

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# FLAT SEAL

Just as the name infers, a flat seal is simply a two-dimensional bag with a bottom seal. Flat seal bags are generally leak-proof, but are very clumsy to handle. Also, they do not conform very well to the shape of most trash receptacles. Flat seal liners are designated in two dimensions, i.e., 40x46.



*Courtesy Pitt Plastics*

# *Liner Learning*

# LINER USE

Estimates from figures reported by Dunn and Bradstreet would indicate that in 2008, about **5 billion pounds of liners will be consumed in the United States.**

According to the U.S. Bureau of the Census, the resident population of the United States, projected to 10/10/08 is **305,378,468 persons.**

That means each year **16.4 pounds of liners are used for every person in the United States every year.**

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An aerial satellite-style view of the Earth, showing the Americas on the left and a large, swirling hurricane over the Atlantic Ocean on the right. The text is overlaid on the left side of the image.

**Every year,  
Americans are using one  
pound of liners  
for every person  
on the planet.**

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## LINER USE

The same petroleum used to make 14 plastic bags could power an average car for one mile, according to *Better Bags Colorado*.

One ton of plastic bags requires the energy equivalent of 11 barrels of oil according to *Don't Trash Nevada*.

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# Liner Learning

## **LINER USE**

Combining this information indicates **27.5 million barrels of oil are used for trash liners each year.**

**At \$75 per barrel, that is 2.06 billion dollars.**

Other figures reported by Dunn and Bradstreet state that **institutional and industrial liners constitute over 60 percent of consumption.**

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- Paper sacks generate 70 percent more air and 50 times more water pollutants than plastic bags.
- Paper bags are made from trees, which are a renewable resource. Most plastic bags are made from polyethylene, which is made from crude oil and natural gas non-renewable resources.

**PUR-O-ZONE**

Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- 2000 plastic bags weigh 30 pounds, 2000 paper bags weigh 280 pounds. The latter takes up a lot more landfill space.
- It takes 91 percent less energy to recycle a pound of plastic than it takes to recycle a pound of paper. It takes more than four times as much energy to manufacture a paper bag as it does to manufacture a plastic bag.

**PUR-O-ZONE**

Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- Paper is accepted in most recycling programs, while the recycling rate for plastic bags is very low. Research from 2000 shows 20 percent of paper bags were recycled, while one percent of plastic bags were recycled.

**PUR-O-ZONE**

Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- Current research demonstrates that paper in today's landfills does not degrade or break down at a substantially faster rate than plastic does. In fact, nothing completely degrades in modern landfills due to the lack of water, light, oxygen, and other important elements that are necessary for the degradation process to be completed.

**PUR-O-ZONE**

Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- Incineration can decrease the quantity of plastic and paper bags. However, incineration causes air pollution and creates ash that must be buried in a landfill.

**PUR-O-ZONE**

Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

# PAPER OR PLASTIC?

## BOTH HAVE “ISSUES”

- In New York City alone, one less grocery bag per person per year would reduce waste by five million pounds and save \$250,000 in disposal costs.
- When one ton of paper bags is reused or recycled, three cubic meters of landfill space is saved and 13-17 trees are spared! In 1997, 955,000 tons of paper bags were used in the United States.

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Courtesy “Don’t Trash Nevada”

# *Sustainability Basics*

An aerial photograph showing a coastal landscape. A large body of water, possibly a bay or estuary, is visible on the right side, with a blue-green hue. The land is a mix of brown, tan, and dark green, indicating different types of terrain and vegetation. A prominent feature is a large, light-colored, irregularly shaped area that looks like a dry lake bed or a large sandbar. The overall scene is captured from a high angle, providing a wide view of the coastal region.

*It makes both economic  
and “green” sense  
to reduce  
liner use.*

**PUR-O-ZONE**

- Eliminate liner waste
- Reduce the potential for damage caused by liners that may leak, tear or puncture
- Consolidate multiple liners that are used for the same purpose



*Purchasing with federally appropriated funds? Look for liners that meet EPA guidelines for recycled content - a minimum of 30% post consumer waste.*

We help you select the right liner for the job

Liner tip...

Band small wastebasket liners. Dump waste into larger garbage cans. Lower liner costs and saves time too!



Coreless rolls offer the most dispensing options!



Over-sized liners waste money

Is this liner too thick, or is it too thin?

Is this liner made from the right material for the job?

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# Conserve Liners

Courtesy Hillyard

# REDUCE LINER USE WITH PUR-O-ZONE'S WET & PAPER/PAPER & DRY METHOD

Place Wet or Paper in Regular Containers with Liner.

Place Dry or Paper in Wire Baskets or Color Coded Regular Containers Without Liner



WET & PAPER  
(LINERED)

PAPER & DRY  
(NO LINER)



*Separate Wet and Dry*

# OTHER OPTIONS TO REDUCE LINER USE AND TO RECYCLE

Sort Wet from Dry at Every Desk Location. Place wet only in liner on collection.

Sort Cans/Plastic/Glass from Paper and two other options in units at central locations.



*Recycle While Separating*

A man in a blue shirt and tie stands at the front of a meeting room, pointing towards a whiteboard. Several people are seated at long tables around the room, facing him. The room has a whiteboard, a corkboard with three small posters, and a poster titled 'PUR-O-ZONE'. The scene is framed by a circular, lens-like effect.

**THANK YOU  
FOR YOUR  
ATTENTION**

**800-727-7876**