Can Liners 101

YOUR GUIDE TO CAN LINERS

Choosing the right can liner for the right application can make your company operations more efficient, saving time and money while reducing plastic consumption. By taking a few minutes to correctly identify the type and weight of waste content, how the waste will be transported and the size of the receptacles used, you can easily select the optimal can liner to fit your needs.

Identify Can Size

The Heritage Sizing Tape Measure is an excellent tool used to identify the gallon size of all cans in the industry.

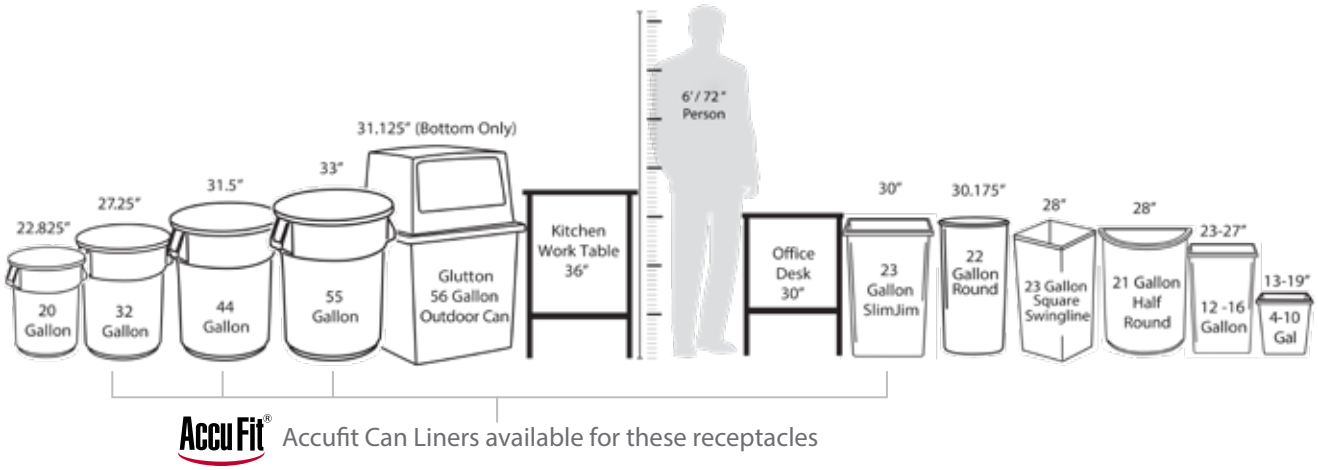
Step 1:

Step 2:

- Starting at the beginning of the tape, wrap the tape measure around the top and just below the lip of the receptacle.
- Extend the rest of the tape measure straight down the side.
- The bottom of the receptacle will fall within markers on the tape measure that specify the suggested size to use.
- Use your QuickPick brochure to select the liner size accordingly!

Common Can Sizes

Heritage Sizing Guide and QuickPicks have complete lists of the common cans and matching bag sizes in both High Density and Linear Low Density.



AccuFit® Accufit Can Liners available for these receptacles

Application

The type of trash and how it is transported determines the application of the bag.

A Smooth & Non-Sharp Materials -

- Cans without sharp edges, food without sharp edges
- Grass, rags, smooth heavy objects
- Paper-plates, cups, towels, office

Use *High Density Polyethylene (HDPE)*

B Rough & Sharp Materials -

- Plastic eating utensils, food with rough edges
- Sticks, rough yard trimmings, or glass
- Items with sharp edges

Use *Linear Low Density Polyethylene (LLDPE)*

Gauge Recommendations

HDPE Static Weight Performance

Strength	Gauge	Weight
Light	6.00 - 9.00 Mic	15 - 25 lbs
Medium	10.00 - 12.00 Mic	26 - 50 lbs
Heavy	13.00 - 14.00 Mic	51 - 60 lbs
Extra Heavy	15.00 - 17.00 Mic	61 - 70 lbs
XX Heavy	18.00 - 20.00 Mic	71 - 80 lbs
XXX Heavy	21.00 - 22.00 Mic	81 - 90 lbs

LLDPE Static Weight Performance

Strength	Gauge	Weight
Light	0.30 - 0.49 Mil	10 - 20 lbs
Medium	0.50 - 0.60 Mil	21 - 30 lbs
Heavy	0.61 - 0.74 Mil	31 - 40 lbs
Extra Heavy	0.75 - 0.80 Mil	41 - 50 lbs
Super Tuf	0.81 - 1.00 Mil	51 - 60 lbs
Super Heavy	1.10 - 1.20 Mil	61 - 65 lbs
XX Heavy	1.30 - 1.90 Mil	66 - 70 lbs
XXX Heavy	2.00 - 3.00 Mil	71 - 75 lbs

HDPE Gauge Equivalents and Recommendations

Small Cans	Mid-Size Cans	Larger Cans
Light: 6.00 - 9.00 Mic	Medium: 10.00 - 12.00 Mic	Extra Heavy: 15.00 - 17.00 Mic
-	Heavy: 13.00 - 14.00 Mic	XXHeavy: 18.00 - 22.00 Mic

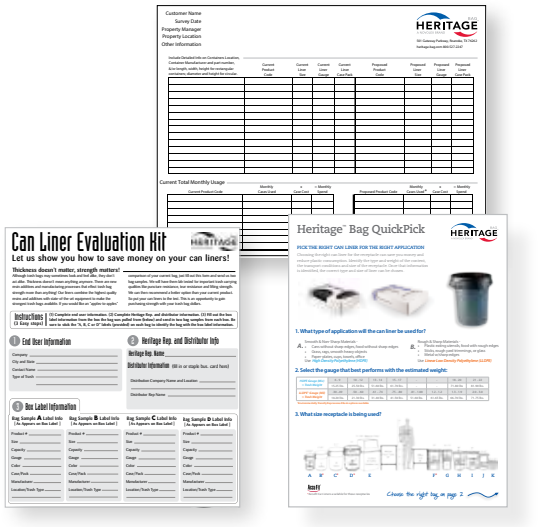
LLDPE Gauge Equivalents and Recommendations

Small Cans	Mid-Size Cans	Larger Cans
Light: 0.30 - 0.49 Mil	Heavy: 0.61 - .74 Mil	Super Heavy: 1.10 - 1.20 Mil
Medium: 0.50 - 0.60 Mil	Extra Heavy: 0.75 - 0.80 Mil	XXHeavy: 1.30 - 1.90 Mil
-	Super Tuf: 0.30 - 0.49 Mil	XXXHeavy: 2.00 - 3.00 Mil

Sales and Training Tools

Sell with confidence and demonstrate to customers how they can save money and gain efficiency in their operations with the right can liner. Identify bags that are too large and thick for their intended use to show the savings in dollars and pounds on an annual basis. Fill out the Heritage Savings Spreadsheet as a leave behind.

- *"QuickPick" Sales Brochure-* The brochure matches your specific liners to the most common cans in the industry, eliminating guesswork!
- *Competitive Evaluation Kit-* Heritage Bag's Laboratories are ready to thoroughly test any competitor's samples.
- *Site Survey-* Identify ways to save money and offer the right bag to the end-users based on their true trash disposal needs. Evaluate and survey your facility to better understand!
- *Custom Advertising-* Custom Sales materials for specialty products and custom advertising through print ads and the Internet.



Types of Can Liner Seals

GUSSET SEAL

- Rarely used in the industry
- Flat-style bag design
- Both sides tucked in to form gussets
- Sealed through four layers of film (the middle of the bag has only two sealed layers)
- A potentially weak bottom seal
- Sized in three dimensions, EX: 23 x 17 x 46

HIGH PERFORMANCE STAR SEAL

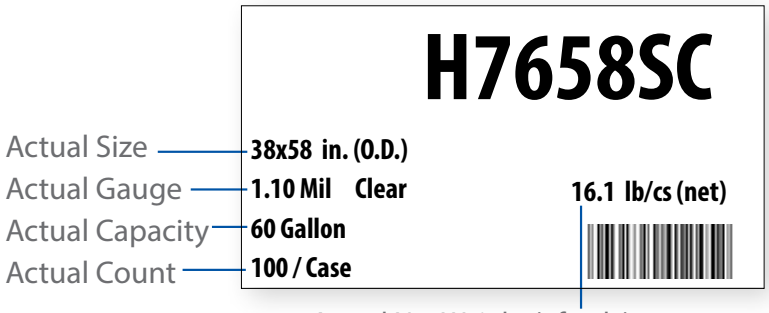
- Most common type of seal
- Designed without gussets
- Conforms to the shape of the container
- Distributes weight evenly
- Maximizes carrying capacity
- Sized in two dimensions, EX: 40 x 46

FLAT SEAL

- Two-dimensional bag (much like a pillow case)
- Strong, but has the potential to leak wet trash from the corners
- Does not conform as well to the shape of can
- Sized in two dimensions, EX: 40 x 46

Case Labeling with NIST* Standards

NIST* (National Institute of Standards and Technology)



Listed terms such as "Equivalent To", "EQ" and "Nominal" are not accepted as a product specification.

NIST

NIST Requirements:

- Size
- Gauge
- Capacity
- Case Pack
- Case Weight

Glossary

Can Liner Term used for garbage, trash or waste bags. Used in industrial, institutional and medical applications.

Colors Can liners come in standard colors: clear, black, white, gray, red, blue and yellow. (Other colors available.)

Food and Utility Bags Small clear bags designed to hold a variety of small objects (e.g., bread, vegetables, nuts and bolts, etc.)

Film Strength Refers to the physical strength of the can liner. Some resins have a higher film strength than others. Our can liners are made from the highest quality resins, giving them the highest quality film in the market place.

- **Dart Drop Test** ASTM test used to determine the resistance of a bag to local failure or puncturing of the film.
- **Elmendorf Tear Test** ASTM test used to measure the resistance to tearing.
- **Wet Load Capacity** Measurement of how much wet weight a can liner will hold.
- **Dry Load Capacity** Measurement of how much dry weight a can liner will hold.

Gauge Term used to describe thickness. LDPE and LLDPE can liners are measured by mil thickness and HMW-HDPE can liners are measured by micron thickness.

- **Mil** (One thousandth of an inch) Term used in the measurement of LDPE and LLDPE can liners. One mil is .001 inch. Can liners range between .35 to 4.0 mil.
- **Mic** Term used in the measurement of HMW-HD can liners. 25.4 microns equals .001 inch. 1,000 microns (M) = 1mm. HMW-HDPE can liners are 6 to 24 microns.

Resin Short term for Polyethylene resin. The three types of PE resin are LDPE, LLDPE and HMW-HDPE (see below). Other plastic resins include vinyl, polypropylene, styrene and nylon.

- **LLDPE** (Linear Low Density Polyethylene) This is the primary type of resin used in modern can liner manufacturing technology. Bags made from LLDPE film provide excellent combination of film strength, puncture resistance and tear resistance.
- **HDPE** (High Density Polyethylene) Bags made from HMW-HDPE resin provide excellent film strength and puncture resistance, but less tear resistance than LLDPE.
- **Butene** A type of LLDPE resin. Butene has weaker film-strength properties than hexene or octene.
- **Hexene** A type of LLDPE resin. We use Higher Alpha Olefin (High Grade Hexene) in the manufacturing of can liners. Properties include high film strength and increased tear resistance.
- **Octene** A type of LLDPE resin. We use Higher Alpha Olefin (High Grade Octene) in the manufacturing of can liners. Used in other applications because of its excellent physical properties.
- **Prime Resin** Refers to the usage of high-quality, "fresh from the reactor" resin. We use prime resins in many of the products we produce.
- **Blended Resin** Refers to the combination of two or more types of resin.
- **Reprocessed Resin** (Repro) Refers to resin that has been used at least once before. Can be post-industrial (scrap) or post-consumer (recycling). The strength properties (of resin) are decreased each time it is reused.
- **Post Consumer Recycled Resin** Refers to resin that contains a percentage of recycled plastic that was once used by a consumer.

Seal Term used to describe bottom of a can liner. The three types of seals are flat, gusseted and star. (See Bottom Seal section.)

- **Flat Seal** Straight seal along bottom of a can liner (looks like a pillow case). Though Flat Seals are strong, they may have a tendency to leak wet trash from the corners.
- **Gusset Seals** A flat-style bag manufactured with both sides tucked in to form gussets. Has a tendency to leak wet trash from the center at gusset points where four layers of film meet two.
- **Star Seal** Designed without gussets, the Star Seal eliminates gaps along the seal where leaks can occur. The bottom of the bag is folded over several times and sealed. Trash rests on the material instead of the seals. This leak-resistant seal holds wet trash better than the other two types of seals.

Individually Folded Can liners are separately folded, then stacked on top of one another. This allows the end-user to pull liners out of the box with much more ease vs. bulk-folded bags.

Cored Rolls Can liners are rolled together on cardboard cylinders (looks similar to a roll of paper towels). Can liners come inside a special box that dispenses with ease.

Coreless Rolls Can liners are rolled together without an internal core. This allows for thinner rolls and prevents excess waste. Rolls are perforated or are interleaved.