

## **Liquid Liners** For Use in Totes and IBCs

*Disposable container liners*

*protect liquid products*

*during processing,*

*shipping and storage.*

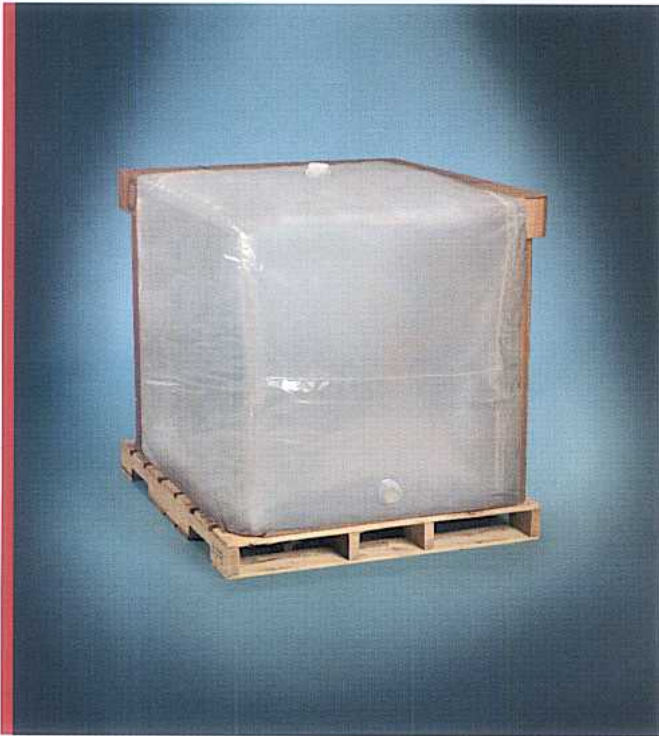
*For use in semi-bulk IBCs,*

*totes, tanks and containers.*



## Protect your materials from contamination with the Guardian Liquid Liner.

Eliminate costly and time consuming cleaning of totes and tanks.



Get better package performance while protecting your materials from contamination and leakage during storage and shipping with Guardian Liquid Liners. Residual waste is reduced because the liner dispenses more completely. Fill and dispense fitments quickly and securely attach to process equipment. Outer IBCs and tanks are instantly reusable with the simple addition of an affordable, disposable Guardian Liquid Liner. Made from a variety of flexible film materials in sizes from 225 gallons to 375 gallons to meet your protective requirements.

### INDUSTRY CERTIFICATES

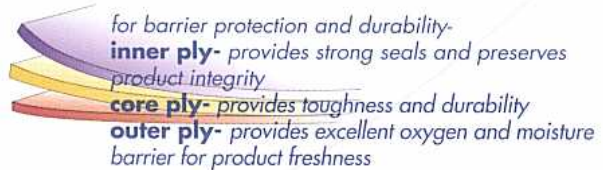
**FDA** Approved Material  
**IMS** Dairy Industry Approved  
**Aseptic** Irradiated Compatible  
**ISO**9001 Certified Manufacturing  
**Clean Room** Pillow Style Only

#### Markets

Dairy Products  
Liquid Egg  
Juices  
Fruit Concentrates  
Condiments  
Salad Dressings  
Spices  
Syrups  
Edible Oils  
Soaps  
Personal Care  
Paints & Coatings  
Inks  
Chemicals  
Lubricants  
Pharmaceuticals  
Adhesives

#### Features

- Up to 3-layer, multi-ply construction



- Standard and custom fitments
- Choice of films that offer protection factors suited to your application
- Thermal impulse seals

#### Benefits

- Liner allows you to get complete dispensing of materials, simply gather the liner and direct the flow towards the dispensing fitment
- No more costly and time consuming cleaning of the outer container
- Closed system provides the ultimate in sanitary product protection
- Easy disposal of the liner, less environmental waste



### **Custom Engineered**

Each Guardian Liquid Liner is custom engineered to your application.

Grayling's manufacturing versatility

gives you a better performing product. Each liner is manufactured to precisely fit your container. In addition to standard film materials, Grayling offers a variety of specialized films to meet your unique requirements.



### **Fill & Dispense Fitments**

Precisely attaches to your process and filling equipment to direct material flow into and out of the liner. Thermally sealed to the liner. Membrane fitments provide added protection and ease attachment of dispensing equipment. Available in 2" and 3" standard and 38mm. Specialized vents, valves and custom fitments are also available as an option.



The Guardian Liquid Liner is made with filling and dispensing fitments to precisely attach to your liquid process equipment. Plus, custom fitments are an option.



### **Thermal Impulse Sealing**

Guardian heat sealing equipment utilizes state-of-the-art thermal impulse technology. Thermal impulse is a five step heat-sealing process that results in airtight, strong and aesthetic seals. In the process, two patterns of flexible film are joined by

**1)** Arranging the precut forms flat and secure against a sealing platen.

**2)** A cold sealing die applies high pressure and flattens the materials together compressing all air tunnels out.

**3)** Heat is applied at a precise temperature and dwell time to optimally join the two components.

**4)** The seal is then cooled under pressure which eliminates shrinkage and maintains a consistent thickness of the joined materials.

**5)** Pressure is released after the seal has cured and is ready for handling.



Thermal Impulse Seals are significantly more durable and have greater integrity than constant-heat seals.

Guardian liners utilize this superior technology to give you the high performance you deserve in a limited use packaging product.



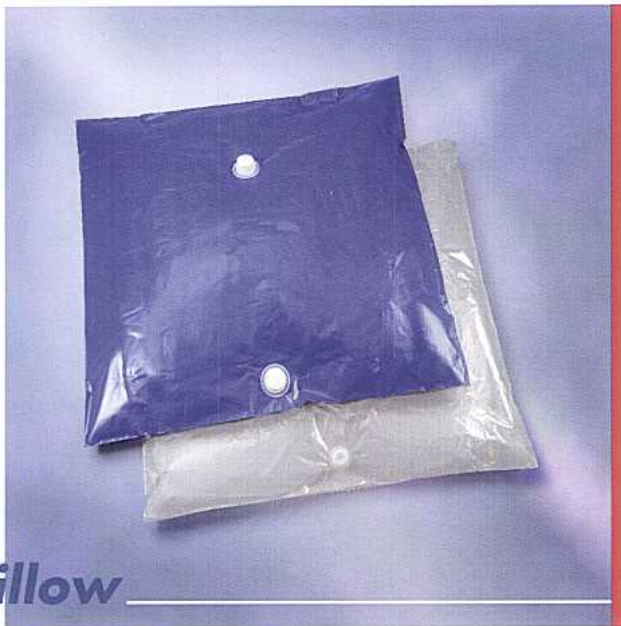
# Guardian<sup>TM</sup>



*Guardian Liquid Liners create more protective packages for these containers*



*Guardian makes liners for these popular totes-  
ARCA, ARENA, BONAR, BUCKHORN, LONGVIEW FIBER, MILAN BOX, SPACEKRAFT and others*



**Pillow**



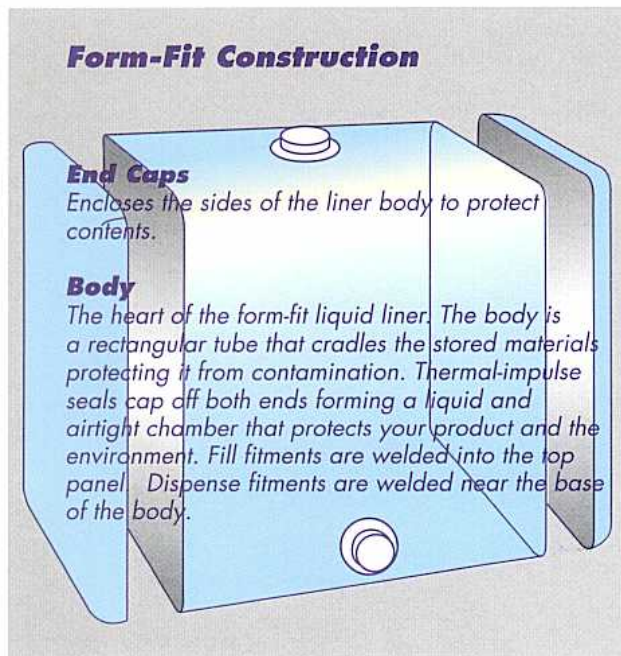
**Form-Fit**

The Guardian Liquid Liner is carefully engineered to take the shape of the outer container when inserted. Our manufacturing capabilities can custom fit the liner to just about any outer container.

**Pillow or Form-Fit Construction**

The Guardian Liquid Liner is available in two configurations; pillow or form-fit. Pillow is a flattened tube sealed on the ends with fitments welded in, it is the most economical liquid liner. Form-fit is a cube shaped liner that conforms to the shape of your outer package, it offers greater ease in set-up and discharge, plus it dispenses more completely due to the elimination of traps and folds. Both styles of liners are multi-layer films that protect the contents from contamination and leakage. Specialized film materials are layered and combined to meet your protective requirements; moisture, oxygen, vapor or chemical resistance. Thermal-impulse seals form a liquid and airtight chamber that protects your product and the environment. This closed system provides the ultimate in sanitary protection of your product. Available to fit standard containers from 225 gallons to 375 gallons.

**Form-Fit Construction**





### **State of the Art Manufacturing**

Founded in 1986 in Atlanta, Georgia, USA., Grayling Industries manufactures the Avail Glovebag and Control Chemicals for asbestos abatement, and the Guardian line of intermediate bulk container liners. Grayling's products have become the leader and industry standard in the markets the company serves. The company holds over 20 patents related to the unique design and manufacture of its products.



Grayling manufactures in a modern 60,000 square foot facility in Juarez, Mexico. The plant utilizes over 40 very specialized heat-sealing machines to create its uniquely shaped and formed polyethylene products. The company employs over 200 highly trained workers. The company's products are sold worldwide. Grayling utilizes stocking warehouses in Atlanta, Georgia, Los Angeles, California, and

### **ISO9001 Certified**

Grayling's plant operates under ISO9001 certification standards. ISO9001 is the highest grade of ISO certification attainable, covering all elements of the manufacturing process, including design, procurement and production. The ISO9001 and Q9001-2000 quality standards are used to determine an organization's ability to enhance customer satisfaction and meet customer, industry and the organization's own quality requirements. Achieving ISO9001 and Q2001 - 2000 certification confirms that the processes, procedures, and metrics are in place to extend a leadership position in product quality. Grayling Industries, Inc. certification exemplifies the long running commitment to quality processes, continuous improvement and customer satisfaction.

Grayling's customer list includes many industry leaders-

- **JM Smuckers**
- **Starbucks**
- **Naturally Fresh**
- **Cargill**
- **ADM**
- **Nestle**
- **BASF**
- **DOW**



**Grayling**

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