Your Flexible Packaging Partner
We are the world leader in Flexible Industrial Packaging. The business is a joint venture between Greif, the global leader in industrial packaging and the Dabbagh Group. Greif Flexible Products & Services provides FIBCs, container liners, and other flexible packaging for chemicals, foods, pharmaceuticals, agriculture, and many other sectors.

For over a century, the world’s most important products have traveled safely around the world in Greif industrial packaging. We are committed to being your productivity partner by bringing efficiency to your supply chain through a comprehensive and innovative product portfolio. An extensive and integrated global manufacturing and distribution network provides technical expertise and local customer service.

Services provided

- Consultancy
- Research and development
- Local stock keeping
- Just in time deliveries
- Global services
- Reconditioning

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Your flexible packaging partner
Industry: Understanding your industry and it's specific needs

Agriculture

Food

Minerals & Metals

Pharma

4-Loop FIBCs are designed and intended for a single fill / use. They can be handled multiple times but not re-filled or re-used. Single trip FIBCs are tested to a 5:1 safety factor.

Multi Trip (Standard duty reusable) FIBCs that are designed and intended to be used for a limited number of trips. It is critical that all used FIBCs are re-inspected prior to re-filling to ensure that no damage has occurred during use. These FIBCs cannot be structurally repaired. The replacement of a removable inner liner is allowed. Multi trip FIBCs are tested to a 6:1 safety factor.

UN Dangerous Goods FIBCs that are designed to ensure the safe transportation of UN classified hazardous materials (see pages 16-17).

Safe Working Load FIBCs can be designed to safely carry loads ranging from 250 to 3000 kg. All our FIBCs are UV stabilized.

Corner Loop

Tailored and sized to suit your specific requirement. Optimize efficiency. Suitable for most handling applications.

Cross-Corner Loop

The classic design for Circular Woven FIBCs without corner seam. Promotes quick handling and container shipping optimization.

Tunnel Loop

Flat woven fabric: Excellent choice for a variety of products. It is a very popular design for dense products.


High variety of standard fabric colors and thicknesses is available. Tailored options are possible for your specific requirements.

Chemicals

Safe packaging solutions for semi-bulk applications

Our extensive range of 4-Loop FIBCs serves a wide variety of dry bulk handling applications, providing you with safe and sturdy semi-bulk packaging solutions for handling powder, granular, or flake products. Greif 4-Loop FIBCs provide product containment and protect against hazards such as moisture and electrostatics.

Corner Loop Cross Corner Loop Tunnel Loop

Lifting Loops are critically important to ensure the correct filling, handling and discharging of FIBCs. Greif will advise you to make the right choice.

Corn Loop: Tailored and sized to suit your specific requirement. Optimize efficiency. Suitable for most handling applications.

Cross-Corner Loop: The classic design for Circular Woven FIBCs without corner seam. Promotes quick handling and container shipping optimization.

Tunnel Loop: Flat woven fabric: Excellent choice for a variety of products. It is a very popular design for dense products.


High variety of standard fabric colors and thicknesses is available. Tailored options are possible for your specific requirements.

Safety Factor (SF) according to ISO 21898:2004

Single Trip FIBCs that are designed and intended for a single fill / use. They can be handled multiple times but not re-filled or re-used. Single trip FIBCs are tested to a 5:1 safety factor.

Multi Trip (Standard duty reusable) FIBCs that are designed and intended to be used for a limited number of trips. It is critical that all used FIBCs are re-inspected prior to re-filling to ensure that no damage has occurred during use. These FIBCs cannot be structurally repaired. The replacement of a removable inner liner is allowed. Multi trip FIBCs are tested to a 6:1 safety factor.

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Safe Working Load FIBCs can be designed to safely carry loads ranging from 250 to 3000 kg. All our FIBCs are UV stabilized.
Formstable FIBCs

Stability and optimal utilization of space

The unique but simple FIBC construction helps to prevent deformation of the bag and ensure that the FIBC retains its square or rectangular shape during transportation and storage. There are a number of significant benefits to using this design of package, including:

- Optimized transport loading
- Improved space utilization during warehouse storage
- Enhanced stability during stacking, transportation and handling, thereby enhancing the safety within the immediate environment of the FIBC
- Lower freight costs, less pallets, and fewer FIBCs

Standard Baffle

Woven polypropylene panels with strategically located windows to allow the free flow of product during the fill and discharge.

Net Baffle

The Net Baffle Format, consists of a continuous polypropylene yarn. This design allows an increased flow of product.

Extruded Net Baffle*

The extruded net format, promotes increased flow of product and can be incorporated into an inner liner.

Transportation Optimization

Formstable FIBCs are produced for various pallet sizes

Most utilized pallet sizes:

- CP 1: 100 x 120 cm
- CP 9: 114 x 114 cm
- EURO: 80 x 120 cm

Optimized transport loading with up to 30% more volume for your product. Can be packed in an ISO container or truck to avoid valuable lost load space.
Filling and Discharging

**Filling options**

- **Open Top**
  - For ease of filling particularly bulky products

- **Top Skirt**
  - Offers full width of fill with additional protection

- **Filling Spout**
  - For standard filling applications

- **Box Top**
  - For high-repose or aerated product

- **Iris Closure**
  - For additional protection after filling

- **Star Closure**
  - Additional protection with flap cover

- **Conical Top**
  - For products with a high filling cone

- **Conical Filling Spout**
  - For enhanced flow of product

**Discharging options**

- **Flat Bottom**
  - Emptying by star cut of the base
  - For standard discharging applications

- **Discharge Spout**
  - For products which may bridge or cake
  - Additional protection of the discharge spout

- **Conical Bottom**
  - Discharge Spout with Iris Closure

- **Discharge Spout with Star Closure**
  - To avoid bulging of the discharge spout
  - For dust free discharging

- **Double Discharge Spout**
  - Bottom Flap
  - Additional full base protection

- **Open Bottom System with Iris Closure**
  - Total opening of the bottom
Closures & Accessories

FIBC spouts can be closed with a variety of folding methods and closure materials

With ties
With b-lock
With Velcro band
Remote discharge spout release

Stitching

Greif offers an extensive range of seam types to ensure best compatibility with your product application

Overlock with safety stitch
Compatible with most FIBC types, combines high strength, adaptability and durability.

Double chain stitch
Twin-Needle alternative, utilized in specific FIBC design types & manufacturing processes.

Single needle overlock stitch
Simple Seam format where inner safety stitch is not required.

Single Needle Lock Stitch
Utilized for FIBC accessories on the body of the bag.

Single Needle Chain
Utilized for dustproof seams, circular spouts and top seam.

Dustproof options

Product containment is a critical requirement during FIBC handling

Fine powders and free-flowing materials often require specific seam enhancements to prevent leakage and loss of contents.

Circular dust proof cord
Flat dust proof tape
Felt to be wrapped around seam

Single Dustproof
Dust proof material inserted to seam.

Double Dustproof
Dust proof material stitched to both outer surfaces.

Triple Dustproof
Dust proof material stitched to both outer surfaces and into the seam.

Double Felt – Double Dustproof
Dust proof material stitched to both outer surfaces, with wrap around felt.
The filling temperature of the bulk material should not exceed 80°C when filled into FIBCs with LDPE and other co-extruded and laminated inner liners. PP-LDPE Copolymer inner liners are suitable for a filling temperature of up to 100°C.

**FIBCs with Liners**

Greif provides FIBCs with customized Inner Liners to enable additional containment of products.

**LDPE based liners**
- Low oxygen/Medium moisture barrier
- Food or specialty chemicals
- Can be used as inner liner or outer hygienic cover to protect the FIBC from external contaminants

**EVOH based liners**
- High barrier function, prolonging the shelf life of your product
- Milk powder, nutritional products, infant formula

**Aluminium based liners**
- Superior barrier function, maximum oxygen and moisture protection
- Most suited for hygroscopic products and aroma control

**Antistatic Liners**
- Suitable for Type B, C and D FIBCs
- Temporary antistatic – achieved by using an antistatic additive migrating by nature. Limited shelf life, and not recommended for sensitive food applications
- Permanent antistatic – achieved by using a permanent antistatic additive, non-migrating nature. Preferred solution for food applications

**Conductive liners**
- Suitable for Type C FIBCs, safely removes the electrostatic charge through grounding the FIBCs

**FIBCs with square or rectangular shaped Form-stable Inner Liners provide the best utilization of space, storage and transportation.**

**Should your product application require electrostatic protection, Greif provides a complete portfolio of liner materials.** Whether you are using Type B, C or D FIBC we have a liner to match.
FIBCs with Liners for Food and Pharmaceutical applications

Securing your most sensitive products

Whether you are packaging baby formula or pharmaceutical ingredient, we understand the extra requirements and can offer solutions for the most sensitive needs.

Highest quality raw materials prevent harmful migration from packaging into your product:
• Approved for use in food contact, in accordance with relevant regulations for plastic materials (EU 10/2011, FDA 21 CFR 177.1520)
• United States Pharmacopoeia 88 Class VI

Solutions for products sensitive to oxygen and/or humidity
• Special sterilized bag or Ecoliner fabric with barrier properties for extra protection from oxygen and moisture, extending shelf life of your product
• Gas flush/vacuum systems to remove residual oxygen from the FIBC
• Protection against electrostatic hazards during FIBC handling

Hygienic outer liners shield the inner liner and FIBC from contamination by:
• Protecting the filled FIBC during transportation to end user
• Minimizing micro-contamination risk during storage of filled FIBC
• Gas flush/vacuum valves to remove residual oxygen from the FIBC
• Protection against electrostatic hazards during FIBC handling

Clean-room production minimizes external contamination sources
• Air filtration and overpressure
• Experienced and highly trained production teams
• Hygiene mindset and awareness to end-user application
• Fully automated clean-room production with options to fully seal the top and bottom of the liners

Available options Pharma
• Pharma LDPE / Conductive Pharma LDPE
• Pharma Alu / Conductive Alu Pharma

Available options Food Ingredients
• LDPE / Conductive LDPE / Permanent Antistatic LDPE
• EVOH / Permanent Antistatic EVOH
• Alu / Conductive Alu
Greif UN FIBCs
Safe handling and transportation for hazardous goods

The transportation of hazardous products is regulated within a framework established by the United Nations (UN) Subcommittee of Experts on the Transport of Dangerous Goods. It provides consistent international guidelines to prevent accidents and damage to people, property, and the environment. When you work with Greif Flexible Products & Services, you're leveraging a team that ensures your FIBCs have been designed, tested, and manufactured within full adherence to these UN regulations.

Greif’s UN Test Laboratories are certified independently to conduct tests in accordance with the UN dangerous goods regulations.

Drop and Topple test Heights:
- Packaging group I: Substances presenting high danger 1.8 m
- Packaging group II: Substances presenting medium danger 1.2 m
- Packaging group III: Substances presenting low danger 0.8 m

UN Marking
All FIBCs carrying dangerous goods must be labeled in accordance with the UN regulations.

<table>
<thead>
<tr>
<th>FIBC type codes</th>
<th>UN Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 H1</td>
<td>Uncoated Fabric</td>
</tr>
<tr>
<td>13 H2</td>
<td>Coated Fabric</td>
</tr>
<tr>
<td>13 H3</td>
<td>Uncoated Fabric + Inner Liner</td>
</tr>
<tr>
<td>13 H4</td>
<td>Coated Fabric + Inner Liner</td>
</tr>
</tbody>
</table>

Capital letters designating the packaging group(s):
(i) X for packaging groups I, II and III (FIBCs for solids only)
(ii) Y for packaging groups II and III
(iii) Z for packaging group I

Top Lift, Drop, Topple, Righting, Stacking and Tear Test.
Some FIBC applications occur in potentially hazardous explosive atmospheres. Filling and discharging creates static electricity. Fine powders and liquids can contribute combustible dust clouds. Ensure that all conductive objects, including personnel, are properly earthed. All Flammable IEC 61340-4-4 Type D FIBCs are designed to exclude incendiary discharges from the fabric surface during their intended use. Source: IEC 61340-4-4 Table 4 – Use of different types of FIBC

Liner classification in IEC 61340-4-4

Type B – Liners made from materials with surface resistivity no less than 1,0×10^7Ω with breakdown voltage of less than 4 kV /L1

Type D – Liners made from materials with surface resistivity of less than 1,0×10^7Ω with breakdown voltage shall be less than 4 kV/L2

Combination of FIBC & Inner Liners

FIBC Type | Qualified Liner
--- | ---
Type B | L2, L3
Type C | L2, L3
Type D | L2

Source IEC 61340-4-4 Table 4 – Liners made from materials with surface resistivity greater than 1,0×10^7Ω with breakdown voltage shall be less than 4 kV /L3
Quality

Highest quality standard in FIBC industry

When ordering packaging for your product, you expect an FIBC which meets all relevant industry and regulatory requirements and consistently performs to specification. Greif has a robust Quality Program to accomplish this.

- Production processes are monitored under strict controls and integrated with a stringent Quality Management System
- Inhouse testing laboratories validate compliance of material properties with international standards
- Internal and external audits and certifications
- End-to-end supply chain management and control
- Traceability of products and components
- Continuous improvement of products and people

Food Safety & Hygiene

With continuously evolving regulations, food safety is in the spotlight. Industrial packaging plays a vital role due to its direct contact with the product. A dedicated and knowledgeable team ensures the industry regulations and compliance are effectively managed.

Greif ensures hygienic packaging and containment of your products by providing:

- best possible product design
- robust quality and compliance
- end-to-end supply chain control
- state-of-the-art manufacturing facilities

Our Certifications

At Greif, we take necessary steps to ensure products supplied meet mandatory industry and legal requirements. For more information about requirements specific to your industry or region, please contact us.

Our Testing Laboratories

Our in-house state-of-the-art laboratories ensure compliance and conformity to agreed specifications covering the entire production process – from incoming raw materials to finished products.

A few examples of our testing capabilities:
- Incominng materials and semi-finished products: melt flow index (MFI), mechanical properties (e.g., strength, elongation, etc.), UV resistance, surface resistance, breakdown voltage, MVTR
- Electrostatic: Type C compliance and Type D ignition test according to IEC 61340-4-4 standard
- UN test for Dangerous Goods: top lift, drop, righing, topple, tear, and stacking tests
- Supported by the dedicated R&D team

The Strict Quality Control plan is in place for every step of production. Engagement and training sessions are driving our quality culture and continuous improvement.

BRC IoP
Serious about Sustainability

Our business strategy and operations, follow our core values and The Greif Way. We are ethical, strong through diversity, serious about sustainability and committed to continuous improvement in all aspects of our work.

Our Environmental, Health and Safety (EHS) activities are built upon three pillars: skilled people, management systems, and design and technology.

We have a rich history as we focus on our future. We use financial, natural and human resources wisely without compromising the ability of future generations to meet their needs.

Improving Safety
Our first and highest priority is safety. We are diligent in protecting our own safety as well as the safety of our co-workers, our customers and neighbors worldwide.

Enhancing Livelihoods through Innovation
As environmental, social and economic challenges in our world grow rapidly, we see this as an opportunity to innovate and create products that benefit our customers and the environment and deliver positive social change.

For more details on our sustainability initiatives, please visit: http://www.greif.com/people--planet

Achievements and Recognition

Greif employees work hard to make a difference in their communities and around the globe. We are honored when communities and organizations around the world recognize us for our innovation, business practices and people.

EcoVadis.

We are ethical, strong through diversity, serious about sustainability and committed to continuous improvement in all aspects of our work.

Reducing Environmental Impact
We have an ongoing commitment to minimize the impact our business has on the environment. Since 2006, we have been working to eliminate waste in all areas through process innovation and by making our processes more efficient and consuming less.

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Safety

Greif FIBCs are UV stabilized in accordance with the ISO 21898:2004 Standard

Due to the sensitivity of woven polypropylene fabric against UV light, we advise you to protect the FIBCs from rain and/or prolonged sunlight.

How to use FIBCs for non-dangerous goods

**Do**
- select the right FIBC for the job in consultation with the manufacturer or supplier
- read the instruction label on the FIBC
- inspect reusable FIBCs before refilling
- check that discharge spout is closed off before filling
- ensure that the filled FIBC is stable
- adjust the distance between forklift arms to the correct width for the FIBC being handled
- tilt the mast of the forklift truck rearwards to an appropriate angle
- ensure that crane hooks, bars or forklift arms used for lifting are of adequate size and are rounded to at least the thickness of the sling, belt or rope suspension, with a minimum radius of 5 mm
- follow specific manufacturer’s guidelines with regard to load control
- consider the possibility of static electricity hazards
- protect the FIBCs from rain and/or prolonged sunlight
- ensure the FIBC is adequately secured in transportation

**Don’t**
- choose FIBCs without consulting the manufacturer or supplier
- exceed the SRL in any circumstances
- fill the FIBCs unevenly
- stop or start suddenly during transporting
- subject FIBCs to snatchlift and/or jerk stops
- drag FIBCs
- allow personnel under suspended FIBCs
- allow FIBCs to project over the side of a vehicle or pallet
- withdraw the forklift arms prior to relieving all the load
- subject FIBCs to snatchlift and/or jerk stops
- allow personnel under suspended FIBCs
- allow FIBCs to project over the side of a vehicle or pallet
- withdraw the fork lift arms prior to relieving all the load
- consider the possibility of static electricity hazards
- allow FIBCs in new conditions without consulting the manufacturer or supplier
- repair heavy-duty reusable FIBCs unless the as-new requirements can be met
- don’t repair heavily reusable FIBCs unless the as-new requirements can be met
- repair heavily reusable FIBCs unless the as-new requirements can be met