



SAFE USE OF FLEXIBLE INTERMEDIATE BULK CONTAINERS



Photo EFIBCA

This publication was originally written by [The European Flexible Intermediate Bulk Container Association](#) and revised in consultation with The European Test House Advisory Group



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Warning

This document provides an introduction to Flexible Intermediate Bulk Containers (FIBCs). For detailed advice it is necessary to read this in conjunction with the relevant national and international legislation.

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**SAFE USE OF FLEXIBLE INTERMEDIATE BULK CONTAINERS
(FIBCs)**

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1. | INTRODUCTION

This booklet has been prepared to serve as a general guide to the safe use of Flexible Intermediate Bulk Containers manufactured from woven fabric, typical examples of which are illustrated in this document. It is not intended to be used as a guide for rigid IBCs manufactured from metal, fibreboard, moulded plastics, wood or composites.

1.1. General

Definition of a Flexible Intermediate Bulk Container (FIBC)

A flexible intermediate bulk container (FIBC), having the body made of flexible material such as woven fabric, plastics film or paper, designed to be in contact with the contents, either directly or through an inner liner, and collapsible when empty.

FIBCs:

- cannot be handled manually when filled
- are intended for distribution of solid material in powder, granule or paste form
- do not require further packaging
- are designed to be lifted from above by means of integral, permanently attached or detachable devices;
- are limited to a maximum capacity of three cubic metres.

1.2. Classification of FIBCs

Heavy duty re-usable FIBCs

These FIBCs are designed and intended to be used for multiple fillings and discharges, and are both factory and field repairable providing those repairs are done in such a way that the tensile strength across a repair is at least as great as that of the original.

Standard duty re-usable FIBCs

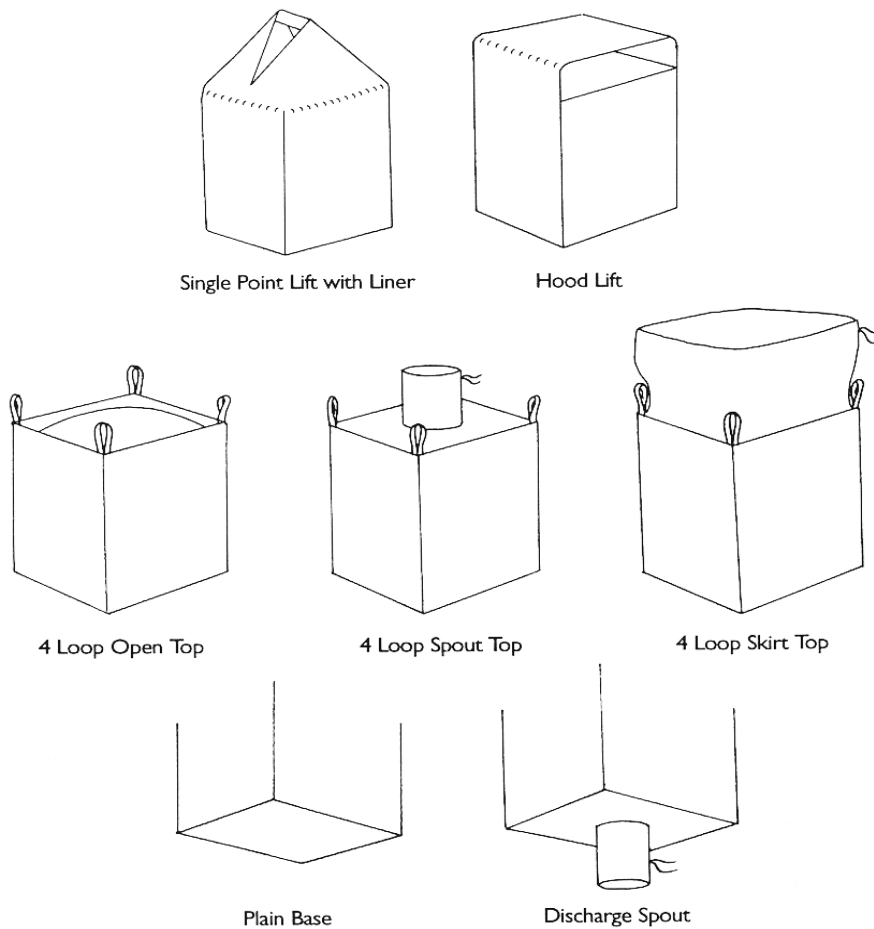
These FIBCs are designed and intended to be used for a limited number of fillings and discharges, where permitted by the national authorities. FIBCs of this class may not be re-used if damaged, i.e. they are not repairable. Replacement of an inner liner is not considered to be a repair.

Single-trip FIBCs

These FIBCs are designed and intended to be used for one filling only and may not be re-used. Neither replacement of an inner liner nor repair of the FIBC is relevant to this category.

1.3. Design features

The following diagrams illustrate the various design features of the most commonly used styles of FIBCs. Other designs or features may be encountered and it is not implied that these are in any way inferior to those illustrated.



1.4. Handling devices

These are illustrated in paragraph 1.3. It is important that where more than one loop or device is provided the load should be shared evenly by all loops or devices. Lifting apparatus should be free from any sharp edges or burrs that may cause damage to the lifting loop(s) or devices.

1.5. FIBC performance standards

In 2004 standards included:

- EFIBCA standard: 1985 – Specifications for flexible intermediate bulk containers (FIBCs) for non-dangerous goods designed to be lifted from above by integral devices.
- EN 1898:2001 – Specifications for flexible intermediate bulk containers (FIBCs) for non-dangerous goods.
- EN ISO 21898 – Specifications for flexible intermediate bulk containers (FIBCs) for non-dangerous goods. At the time of publication this ISO Standard is in its final stages before publication. Estimated date of publication autumn 2004.

- UN Recommendations on the transport of Dangerous Goods, “Orange Book” chapter 6.5.

At the time of publication (2004) a Standard for non-dangerous goods, EN 1898, had been published. An International Standard for dangerous goods (ISO) was in its final stage of completion. Both of these Standards were based on the EFIBCA standard 1985.

1.6. Marking/labelling requirements

All FIBCs should be durably marked by means of a permanently attached and easily visible and readable label or durably printed on the body so that it is easily visible and readable after the FIBC has been filled. The Label or marking should include:

- a. name and address of the manufacturer;
- b. manufacturer’s reference; this should be unique to any one FIBC type;
- c. name and address of the supplier, if required;
- d. safe working load (SWL) in kilograms;
- e. safety factor (SF) i.e. 5:1, 6:1, or 8:1 as appropriate;
- f. reference to the appropriate Standard;
- g. class of FIBC, i.e. “heavy duty re-usable”, “standard duty re-usable” or “single trip”;
- h. type test certificate number (which should be unique to any one type) and the month and year in which the type test certificate was issued;
- i. name of the organisation issuing the certificate;
- j. date of manufacture of the FIBC, i.e. month and year;
- k. pictograms of the recommended handling methods
- l. details of any special treatments;
- m. where the FIBC is certified in relation to a specific product, the description of that product.

An example of the label format recommended by EFIBCA is given in the safety checks section below. This format has been adopted in the standards of CEN and ISO.

1.7. Certification

FIBC types should be certified by a laboratory accredited to ISO 17025 with a certificate based on successful tests.

The certificate should contain the data shown for the marking (a) to (i) and (m) together with:

- the name and address of the test laboratory together with the reference and date of the relevant certificate of conformity
- the material used as contents in the tests

For non-dangerous goods a certificate for FIBC types should be valid for a period of three years from the date of test.

FIBCs certified and marked as re-usable (heavy duty or standard duty) should only be re-used with the same type of contents as first used.

For dangerous goods, the period of validity is determined by the national competent authority that issued the certificate.

2. | Special considerations concerning the use of FIBCs for the transport of dangerous goods

The international transport of dangerous goods in IBCs is regulated by a number of international codes and agreements based on the United Nations Recommendations on the Transport of Dangerous Goods – commonly known as the “Orange Book”. Most of these international modal codes and agreements are administered by United Nations agencies. For example, the International Maritime Organization (IMO) publishes the International Maritime Dangerous Goods (IMDG) Code. Whilst these codes and agreements were developed to harmonise rules for the international movement of dangerous goods, many nations are now basing their own domestic requirements on the UN Recommendations.

The basic information in the “Orange Book” regarding IBCs is repeated in the various international modal codes. These include description of various UN types of IBCs and basic constructional details as well as the test requirements for each type of IBC. However, each of the codes and agreements lays down the way in which IBCs may be used, for example which substances may be carried in which type of UN-certificated. Although, over the past few years, great efforts have been made towards harmonisation of the codes, it must be recognised that differences will always exist because of differing modal safety considerations. Therefore, it must never be assumed that, because an IBC has a UN performance certificate, it can be used for any dangerous product and be transported by any mode. The best advice is to consult the international code, regulation or agreement appropriate to the mode of transport, always bearing in mind that more than one code may have to be consulted, if the total journey includes different modes of transport.

When used to contain dangerous goods the flexible IBCs described in this section should only be used for those product/packing groups covered by the UN performance certificate for the FIBC. These are normally dry, free flowing solids falling within packing groups II or III as defined in chapter 9 of the “Orange Book”.

Chapter 6.5 of the “Orange Book” divides IBCs into six categories:

- metal,
- flexible
- rigid plastics
- composite
- fibreboard
- wooden

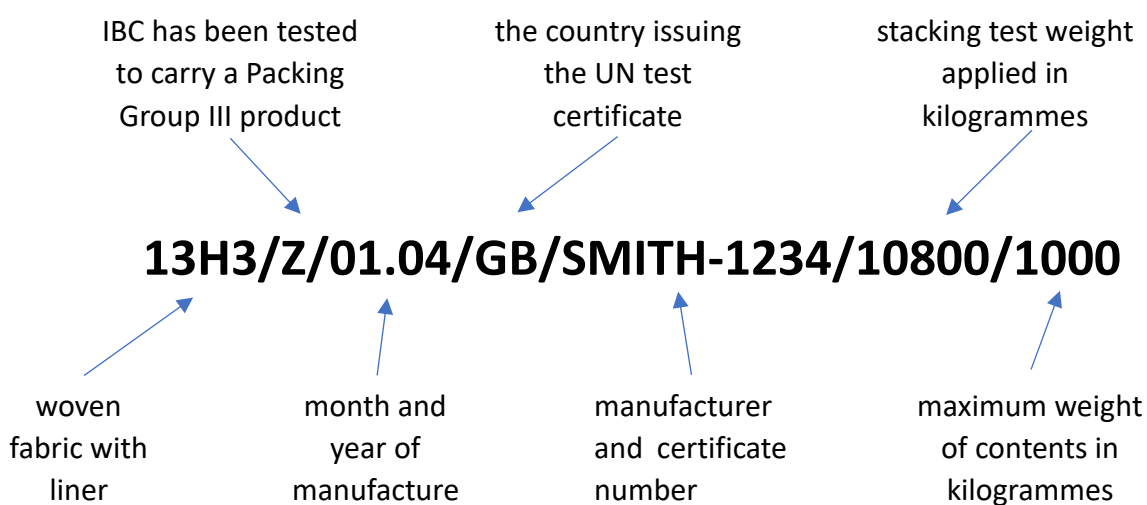
These six main categories are further divided into 37 types depending, for example, if the contents are liquid or solid and whether the contents are discharged under pressure or by gravity. Section 6.5.3.2 of the chapter deals specifically with flexible IBCs and describes eleven types of FIBCs. Of these, four are of the woven fabric type, four are textile, two are paper and

one is plastics film. The four woven fabric types, which constitute the great majority of FIBCs, are:

- woven plastics without coating or liner for solids
- woven plastics, coated for solids
- woven plastics with liner for solids
- woven plastics, coated and with liner for solids

These four types are given the UN IBC type packaging codes 13H1, 13H2, 13H3 and 13H4 respectively and this code forms part of the UN mark. Together with a UN symbol and other information this must be shown on every FIBC carrying dangerous goods.

An example of a UN mark:



The UN tests for all types of FIBCs are as follows:-

- Top lift test
- Tear test
- Stacking test
- Drop test
- Topple test
- Righting test

and are described in full in the “Orange Book”, the IMDG Code, the RID Regulations and the ADR Agreement.

The Test House authorised by the national government to carry out UN performance tests on its behalf and to issue National Test Certificates to UN standard by competent authorities will prepare a report which is the basis on which the certificate is issued. This report will describe in detail not only the specification of the IBC tested but also the test levels at which the IBC passed. The uses to which the IBC may be put will depend on this information. The certificate is unique to the type of IBC tested and may only be used to cover the carriage of products

within the limits of the UN test. Care must be taken to ensure that the IBC, although UN tested and certified, is suitable for the carriage of a particular product otherwise the certificate could be declared void and prosecutions might follow.

It should be noted that the “Orange Book” and the various Codes etc. based upon it, do not differentiate between single and standard duty IBCs. Also, the “reconditioning” of IBCs, as in the case of steel drums, is not addressed although “repair” is permitted. The difficulty facing the legislators is that of control of an IBC once its ownership has changed after first use. There is an understandable fear that, through ignorance or sharp practice, UN tested FIBCs might be used, after the first trip, for inappropriate products for which the FIBC has not been approved.

However, the reuse of an IBC under controlled circumstances of round trips between supplier and customer carrying the same or very similar products is permitted. This applies in general including FIBCs.

Finally, it should be noted that, at the moment, it is not permissible to transport IBCs or FIBCs carrying dangerous goods by air.

3. | Selection of FIBCs

Selection of any particular design should be a matter for assessment between the user and the manufacturer.

There are many different designs of FIBCs in common use. These may be divided into three main categories:

- heavy duty re-usable made, for example, of polyester fabric continuously coated on one or both sides with plastic material e.g. polyvinyl chloride
- standard duty re-usable made, for example, of woven polypropylene fabric, coated or uncoated with or without an inner liner of plastics film and used mainly in closed loop between filler and discharger of the FIBC
- single trip made, for example, of woven polypropylene or paper, coated or uncoated, with or without an inner liner of plastics film

Seaming or joining of the materials is usually by means of stitching, gluing or welding, although other means may be used.

When selecting FIBCs for use, consideration should be given to:

- the physical and chemical properties of the intended contents of the FIBC, such as:
 - a. weight of product to be contained
 - b. the required volume
 - c. bulk density
 - d. flow characteristics
 - e. degree of aeration
 - f. particle size and shape
 - g. compatibility with the materials used for the construction of the FIBC

- h. fill temperature
 - i. whether the intended contents are foodstuffs
 - j. whether the contents are classified as dangerous
- the methods to be used for filling, handling, transporting, storing and emptying the FIBC. Where methods of handling are known and can be controlled (such as in-house use) it may be possible to use a standard duty re-usable FIBC, although a heavy duty re-usable FIBC may be more appropriate where the handling methods are not known and cannot be controlled, (such as export to remote destinations)
 - the number of trips required the number of times the bag is lifted on each trip and the environmental conditions likely to be encountered
 - general environmental considerations
 - FIBCs that have been obtained second-hand and those not designed specifically for the product to be contained should not be used without reference to the manufacturer.

4. | Safety checks

4.1. Checks for all new FIBCs

First ensure that the FIBC to be used is the one designed for the job. Before putting any FIBC into service, manufacturer's approval of their suitability for the intended use should be obtained, and it should be checked that they show correct certification in or similar to the sample style below. The information may be printed directly onto the bag or be part of a label attached to each bag.

Users are strongly advised to obtain from the manufacturer a copy of the test certificate issued by the approved test authority and compare it with the FIBC type delivered.

In the case of FIBCs for dangerous goods a copy of the certificate of packaging performance can also be obtained from the manufacturer.

Name & Address of MANUFACTURER	
MANUFACTURER'S Reference	
S.W.L.	kg SAFETY FACTOR :1
Manufacturer's logo or Association logo	TEST CERTIFICATE No:
	TEST CERTIFICATE DATE:
	APPROVED LABORATORY:
	TEST STANDARD:
	FIBC CLASS:
	DATE FIBC MANUFACTURED:
	SPECIFIC TREATMENTS(if required)
CERTIFIED ONLY FOR (if required)	
Handling recommendations/Pictograms	
Supplier's name and address (if required)	

4.2. Safety checks on standard duty re-usable FIBCs

Before re-use of any FIBC

- a check should be undertaken to establish that it is of a re-usable class and that it shows correct certification
- consideration should be given to the possibility of contamination from previous contents. Standard duty re-usable FIBCs may only be used with the product for which they were originally certified.
- there should be a thorough examination for damage to stitching/gluing/welding, and for surface abrasion, cuts, tears, or any other damage to the bag. Attention should be paid to the lifting loops or devices and their attachments.

Examination of a FIBC for re-use should include but is not limited to looking for signs of:

- Abrasion

The effects of abrasion are variable, but some loss in strength is to be expected. In extreme cases, the fabric becomes so worn that the outer yarns of the weave are severed. On lifting loops or devices, localised areas of abrasion may be present caused

by handling equipment with sharp edges and these areas can result in a serious loss in strength.

- Cuts and contusions

Cuts, particularly in the lifting loops or devices, will result in a serious loss of strength.

- Ultraviolet degradation and/or chemical attack

These may be indicated by the softening of the material (sometimes with discolouration) so that the outer surface can be rubbed off or plucked off, and in extreme cases the outer surface may become powdered.

- Damage to coatings

Some FIBCs are manufactured from coated polyolefin fabric and the coating may be on the inside and/or outside of the bag. Consideration should be given to the possible contamination of the contents by an unacceptable level of coating fragments if an inside coating is damaged and to the increased possibility of moisture ingress (particularly if the contents are hygroscopic) when damage occurs to the inside and/or outside coatings.

When damage affecting the strength of the FIBC is discovered the FIBC should be taken out of service immediately.

4.3. Repair of heavy duty re-usable FIBCs

Before undertaking any repairs, the manufacturer or supplier should be consulted.

Repairs should be carried out so that the repaired FIBC is capable of meeting the requirements of new FIBCs, as marked on the bag or on the label.

The ability to carry out safe repairs will depend on several factors including the:

- materials of construction
- type and area of damage
- age of the FIBC
- conditions to which the FIBC has been subjected during service
- location of the damage

No attempt to repair single trip or standard duty re-usable FIBCs should be made.

5. | Filling and emptying

5.1. Filling

FIBCs are normally filled suspended using the lifting device(s) and with the base of the bag on or near the ground or a pallet. Other methods may be applicable in consultation with the manufacturer or supplier.

If the FIBC has a discharge spout or other discharging device this should be tied off or closed before filling.

Before filling with material at temperatures above 60 degrees C, the manufacturer or supplier should be consulted.

5.2. Stability

FIBCs should be filled so that the ratio of filling height to base is between 0.5 and 2.0 using as base dimensions:

- diameter of FIBCs with a circular cross-section
- length of the shorter side for FIBCs with a rectangular cross- section.

Note 1: Other major factors that affect the stability of filled FIBCs are the flow characteristics of the contents, free space and air entrapment.

Note 2: Stability may often be improved by vibration during or after filling to remove entrapped air and cause compaction.

5.3. Emptying

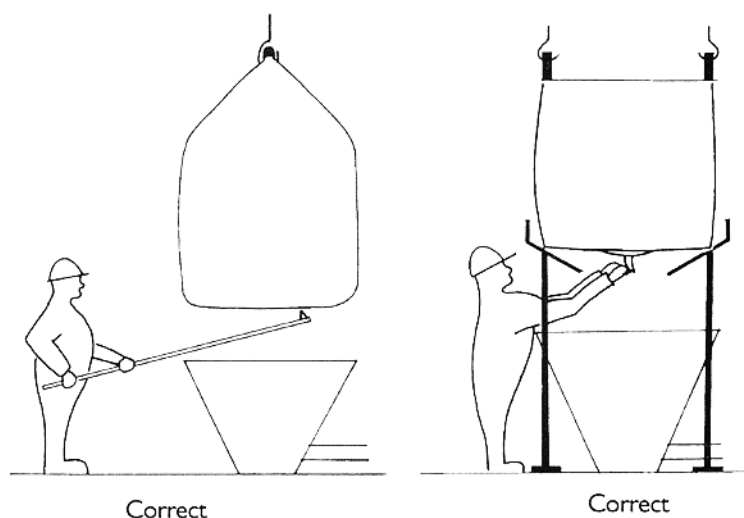
FIBCs are usually emptied by gravity, but can also be emptied by suction or, in certain types of units, by blowing. The flow characteristics of the contents and the cost of ancillary equipment will generally dictate which method is chosen.

When emptying by gravity through a bottom discharge tube, the rate of discharge can be controlled by restricting the width of the aperture. Discharge flow may be stopped completely by lowering the FIBC on to the discharged load.

Some single-trip FIBCs are emptied by simply cutting the base of the container. The flow, in this case, can be stopped by lowering the FIBC on to the discharged load.

5.4. General Safety

To empty single-trip FIBCs the base should be cut using a suitable long handled cutting device. Where a discharge spout is provided this should only be released when the FIBC is suspended over a safety support that will prevent injury to the operator in the event of failure of lifting apparatus. Under no circumstances should personnel stand underneath a suspended FIBC or place their arm beneath an unsupported FIBC.



Suitable dust control measures should be taken to control any dust that may be generated during filling and emptying operations.

The possibility of hazards caused by the build-up of static electricity should also be considered and, where necessary, precautions taken.

FIBCs should not be used for products other than that for which they were originally intended.

6. | Transport of FIBCs

6.1. Lifting FIBCs

Before any FIBC is lifted it should be checked that it is safe to do so. Personnel should be aware that although FIBCs may have been dispatched in a safe condition, it could be that some units have sustained damage in transit.

When a filled FIBC is raised by its top lifting device, the resultant forces may be:

- absorbed by the body and the base of the unit, where the body fabric is extended to form the lifting loops or where other devices are attached to the upper part of the body
- partially absorbed by separate or integral lifting devices which pass under the body of the container as a form of support

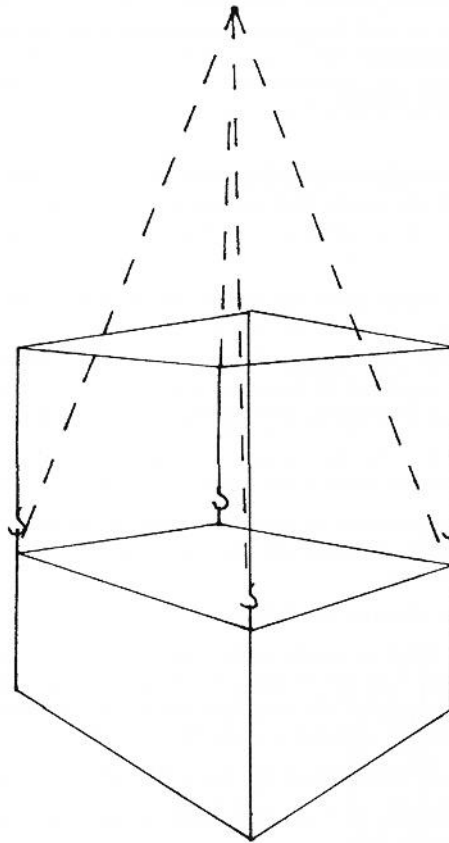
In either case FIBCs should be raised and lowered smoothly avoiding sudden jerks. Cranes and hoists are the most common cause of shock load damage to FIBCs.

6.2. Handling with cranes or hoists

6.2.1 FIBCs should be lifted according to the manufacturer's instructions as shown on the label. The use of safety hooks with integrated latch to avoid accidental slipping of the loop from the hook is essential, particularly when several FIBCs are lifted together.

The condition and correct size of the hook should be checked:

- hooks should have a sufficiently large radius to avoid squeezing the loop
- hooks should not have any burrs or sharp edges which may cut into the loops



NOTE: All hooks should face out

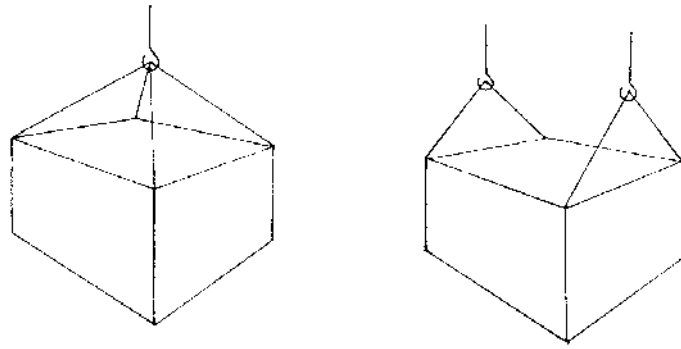
When the FIBC is suspended the loops should be vertical without any twists or knots. If a suitable spreader is not available a four-legged sling should be used. Each leg should measure at least 2 metres.

Other lifting methods should only be used if the manufacturer's instructions, as shown on the label, indicate that it is safe to do so.

For instance:

- Four lifting loops attached to a single hook
- Two lifting loops attached to a single hook, two by two

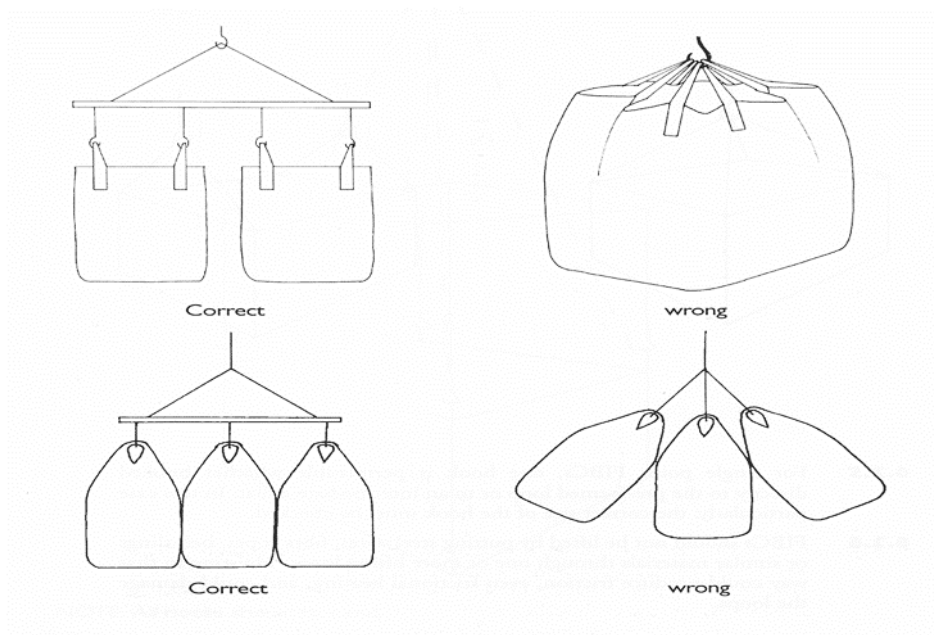
For single point FIBCs, one hook is permissible whether hooked directly to the pre-formed loop or to an intermediate collar. In this case particularly, the correct size of the hook should be checked.



FIBCs should not be lifted using steel wires, fibre ropes, belt slings or similar material through one or more lifting loops. Hoisting in that way may produce friction, and damage the loops.

Several FIBCs may be lifted together if it is safe to do so. Where multiple lifting is permitted then vertical lifting at the loops is essential.

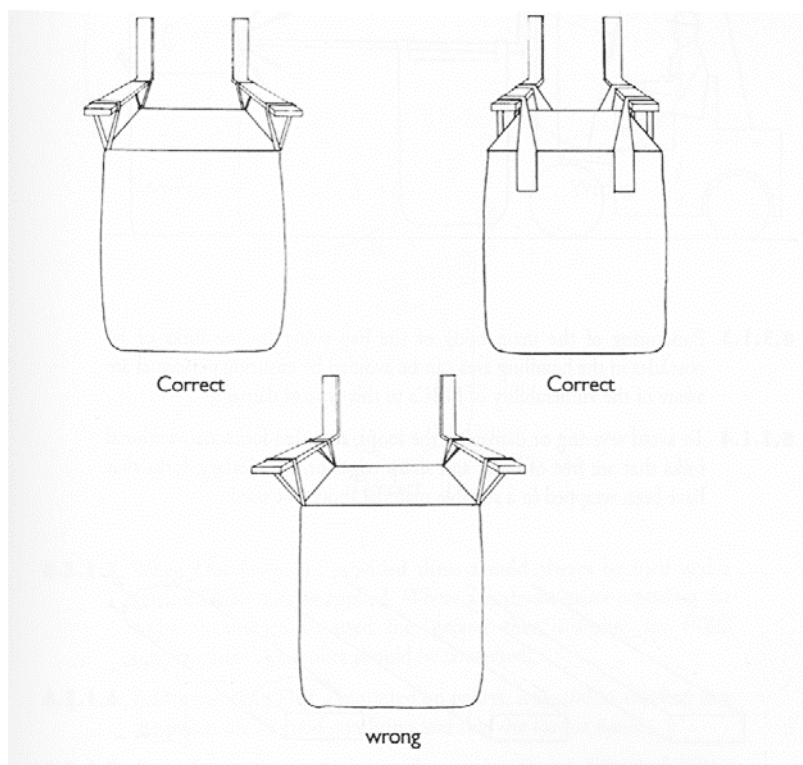
Any pendular motion or sideways pulling of the FIBC during lifting should be avoided.



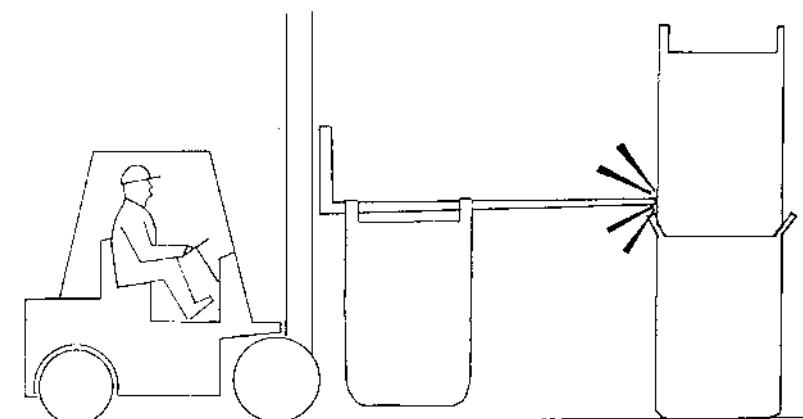
6.3. Handling with forklift trucks

Lifting

Care should be taken to ensure that forks are spaced correctly. FIBCs should be suspended from forks in such a manner that no lateral forces can be created in the FIBC as a result. It should be ensured that lifting loops are not twisted.

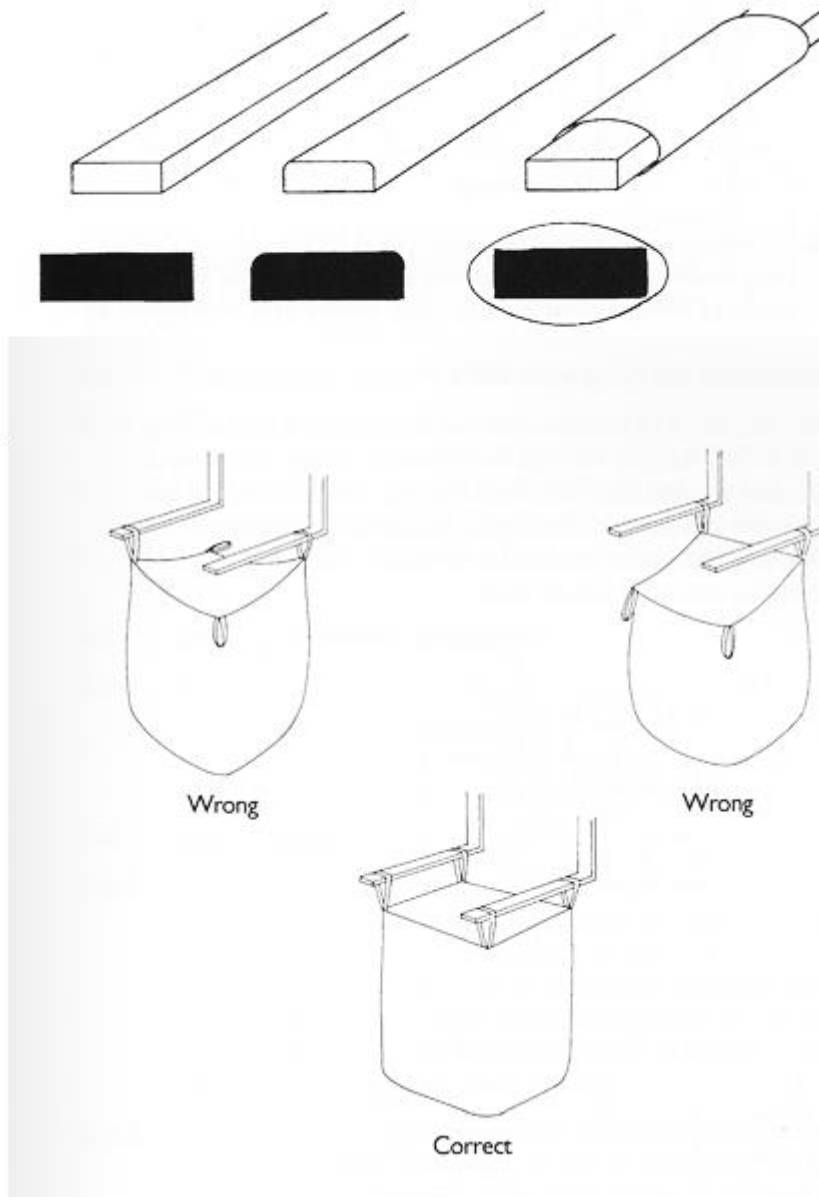


It is recommended that the projection of forklift tines beyond the FIBC being handled be kept to a minimum. This will reduce the possibility of accidental damage particularly to other stacked FIBCs. It should be achieved by the use of forklift tines of the appropriate length and NOT by carrying the FIBC away from the mast of the lift truck.



Puncturing of the main body of the bag either by the forks or by obstacles in the handling area can be avoided by ensuring personnel are aware of the vulnerability of FIBCs to this type of damage.

To avoid severing or damaging the loops, rounded forks, conventional forks that are free from burrs and sharp edges or, if necessary, forks that have been wrapped in a suitable material should be used.



When four loops are provided all loops should always be used and a vertical lift applied. Where any doubt exists regarding the width of tine to be used (i.e. greater than 150mm) the FIBC manufacturer or supplier should be consulted.

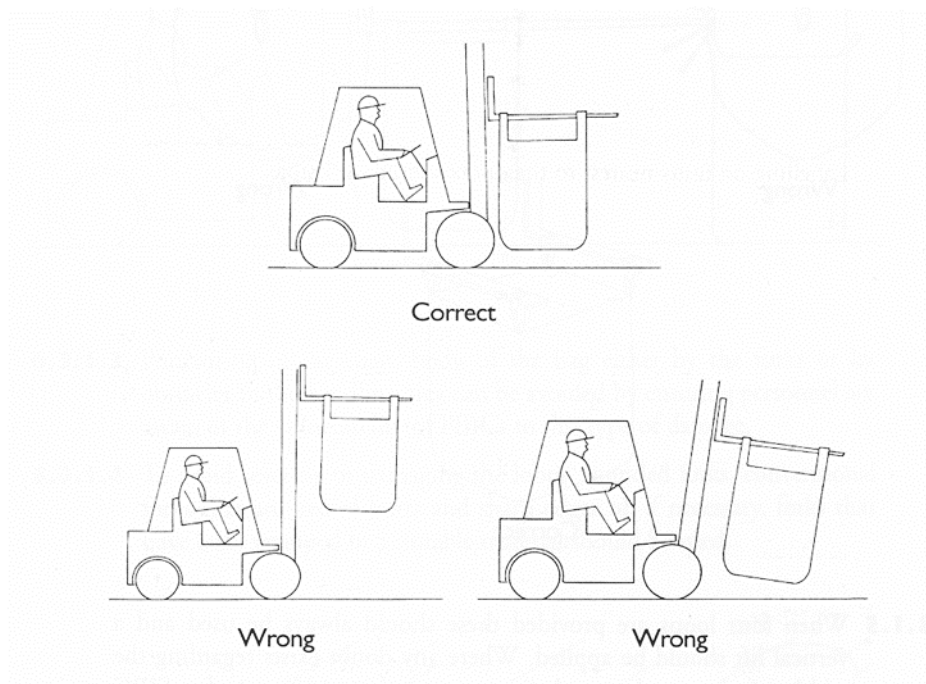
Before handling FIBCs mounted on pallets, it should be checked that the pallets are in good condition and that the load is stable.

Apart from occasions when pallets are employed, lifting of FIBCs should always be by the lifting arrangements provided; no other method of lifting should be attempted (i.e. using bale

clamps, lifting by the filling or emptying spouts, putting slings or strops around the body of the bag, etc.)

6.4. 6.3.2 Horizontal carrying with forklift trucks

The truck should be suitable for the load to be carried. When travelling with a FIBC hanging from the forks there is a danger of the truck becoming unstable. The FIBC should be held close to the mast, as low as possible with the mast tilted slightly backwards, making sure that the wheels of the truck do not damage the FIBC body. The load should not restrict the view of the driver.



FIBCs should not be dragged. Trucks should be brought to a standstill before FIBCs are raised or lowered. FIBCs suspended from forklift tines during transit can be subjected to severe stresses. These occur when excessive speed is used while cornering or driving over uneven surfaces. The following should therefore be avoided:

- harsh acceleration and braking
- excessive speed while cornering
- excessive speed over uneven surfaces

6.5. 6.4 Transport on trailers and trucks

When FIBCs are carried on trucks and trailers, attention should be paid to the stability of the load which should be securely lashed and sheeted. Attention should also be given to the load carrying capacity of the vehicle. The FIBCs should be evenly distributed, stowed compactly and should not be allowed to project over the side of the trailer.

6.6. Stowage in freight containers

When FIBCs are packed into freight containers, care should be taken to ensure that the load is evenly distributed and properly secured. Spaces between FIBCs should be taken up by air bags or other suitable means. Labelling on units nearest to the doors should be visible.

6.7. Ship loading

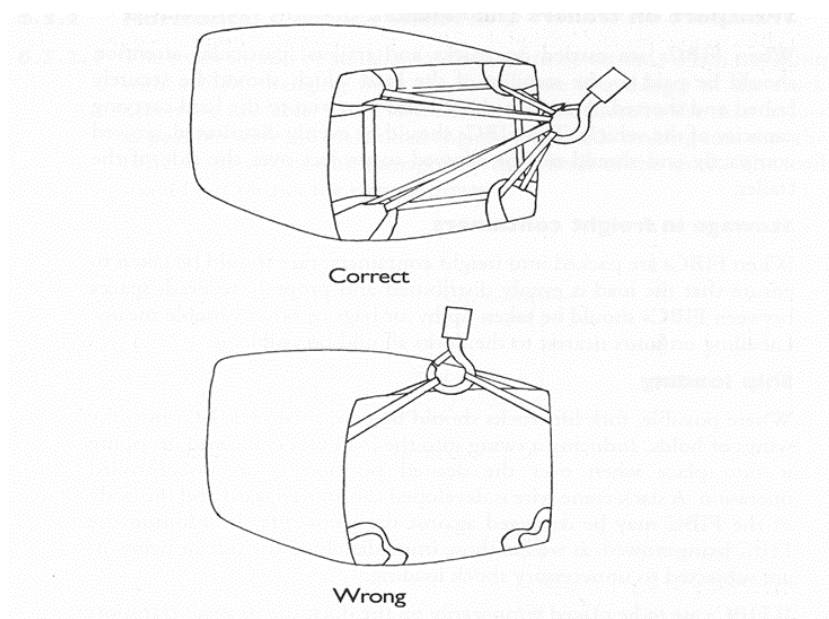
Where practicable, a fork lift truck or other appropriate handling devices should be used to stow FIBCs into the wings of holds. Attempts to induce a swing into the load of a crane and dropping it into place when over the desired position is an uncontrolled operation. A slack crane wire is developed causing a hazard and the body of the FIBC may be damaged against the ship's side. In addition the FIBC being stowed, as well as those immediately to the side or below it, are subjected to unnecessary shock loading.

If FIBCs are to be placed temporarily on the dockside to await transport, the area should be cleared of obstacles such as stones, pieces of wood, scrap metal etc. to avoid damage to the base of the containers.

FIBCs should be stowed away from cargoes with sharp edges, sharp edged packing or abrasive surfaces. Care should be taken with the use of dunnage in the vicinity to avoid damaging FIBCs.

6.8. Fallen FIBCs

To raise an FIBC that has fallen on its side, an endless fabric sling wound through all the loops should be used. Any attempt to lift using fewer loops than those provided may result in loops being torn off.



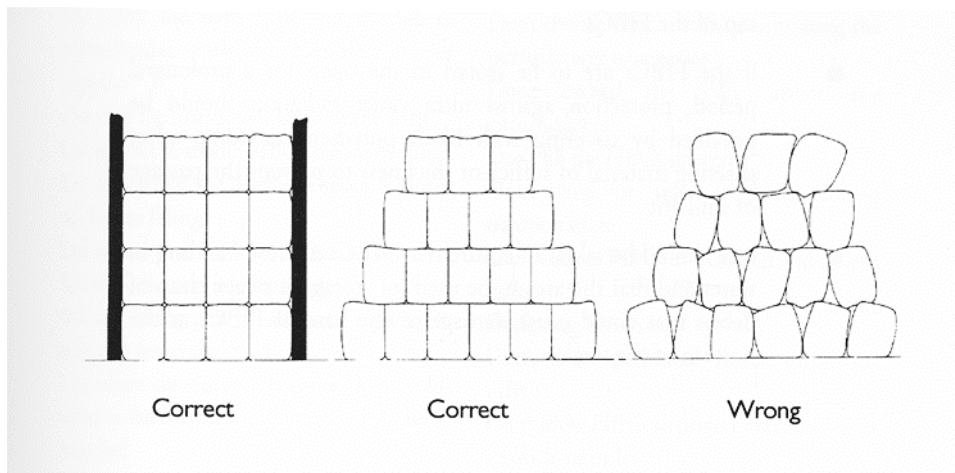
recovering a fallen FIBC using all loops

6.9. Stacking and storage of filled FIBCs

Stacking

When stacking filled FIBCs, every effort should be made to ensure that the stack is stable. Where possible the stack should be formed against at least 2 retaining walls, preferably 3, to achieve maximum stability; generally the higher the stack the greater the number of retaining walls required. Where only free stacking is possible, a pyramid method should be used.

FIBCs should not be pushed into a stack as this can lead to damage of FIBCs to the side and behind the FIBC being stowed. This practice can cause abrasion to webbing lifting loops.



Stacking height

Consideration should be given to whether the FIBCs in the lower levels are able to withstand the loads exerted by the FIBCs stacked above. Consideration should also be given to the location and manner in which the FIBCs are stacked. If in doubt the manufacturer/supplier should be consulted.

Storage

Some filled FIBCs are not suitable for outdoor storage. It is important that manufacturers' recommendations are followed to obtain the maximum possible life and performance from the FIBC and to avoid damage to the FIBC and its contents.

Storage of filled FIBCs at temperatures above 50°C should be avoided except with the approval of the manufacturer or supplier.

It is important that stocks of unfilled FIBCs should be rotated on a regular basis in order to avoid the damage and deterioration which may ensue from long-term storage.

- attention should be paid to the top closure and its method of tying off
- if stored in the open the stack should be sheeted over to prevent water collecting on top of the FIBCs

- if the FIBCs are to be stored in the open for a prolonged period, protection against ultra violet radiation should be provided by covering the FIBCs with sheeting material of sufficient characteristics to prevent the passage of sunlight
- care should be taken to ensure that FIBCs are not standing in water and that the area to be used for storage is swept clean of debris that could cause damage to the base of the FIBCs at the bottom of the stack.

Appendix 1 - How to use FIBCs

✓	select the right FIBC for the job in consultation with the manufacturer or supplier
✓	keep within Safe Working load limits
✓	fill the bag evenly
✓	use controlled, fluid stops and starts during transportation – avoid sudden stop starts
✓	use controlled, fluid lifts – avoid snatch lifts and/or jerk stops
✓	lift and move, do not drag FIBCs
✓	ensure that personnel are never under a suspended load
✓	keep FIBCs within the sides of a vehicle or edges of a pallet – avoid FIBCs projecting outside of the means of handling
✓	only stack FIBCs in stable configurations as identified by a competent person
✓	use single-trip FIBCs once only
✓	stay within the appropriate speed limit when carrying suspended FIBCs – limits may be different for different conditions such as: corners, slopes, ice, wet, high winds and uneven surfaces
✓	repair heavy duty re-usable FIBCs only if the 'as-new' requirements can be met
✓	read the instruction label on the FIBC
✓	inspect re-usable FIBCs before re-filling
✓	check that the discharge spout is closed off before filling
✓	ensure that the filled FIBC is stable
✓	close the top inlet correctly
✓	use lifting gear of sufficient capacity to take the suspended load
✓	adjust the distance between the fork lift tines to the correct width for the FIBCs being handled
✓	tilt the mast of the fork lift truck rearwards to an appropriate angle ensure that the mast is not tilted forward

✓	only withdraw forklift tines when there is no further load on the lifting devices
✓	drive slowly over
✓	ensure that crane hooks, bars or fork lift tines used for lifting are of adequate size and well rounded
✓	take appropriate measures to control dust
✓	consider the possibility of static electricity hazards
✓	protect the FIBCs from rain and/or prolonged sunlight
✓	use FIBCs only for their manufacturer's intended use
✓	ensure that FIBCs are adequately secured during transportation

IF IN ANY DOUBT REFER TO THE MANUFACTURER OR SUPPLIER

About The Authors

ICHCA International Ltd expresses its gratitude to the European Flexible Intermediate Bulk Container Association and its Test House Advisory Group for updating this publication in 2004. At the time, the following information was available about the organisation. This may well have been updated since.

The European Flexible Intermediate Bulk Container Association (EFIBCA)

EFIBCA is the European trade Association of manufacturers and distributors of flexible intermediate bulk containers. Its members are the major suppliers of FIBCs – leading the field on quality, safety, product development and service.

Founded in 1983, the Association has been and remains instrumental in setting manufacturing, technical and safety standards in the industry.

In 1985 the Association published the EFIBCA Standard – widely used throughout the world – which remains, well over two decades later, as popular as ever with users of FIBCs.

EFIBCA has collaborated with the seven European national test authorities to form an accredited list of test houses guaranteeing uniformity of testing procedures for FIBCs.

EFIBCA has close contacts with FIBC Associations in, for example, the USA, Japan and Australia to protect users' interests in these days of globalisation and the increasing inter-continental shipping of goods in FIBCs.

With FIBCs, hundreds of industrial and consumer products can be transported and stored quickly, efficiently and cost effectively, for instance;

- An FIBC can carry up to 1000 times its own weight
- Each FIBC has integrated lifting loops, thereby eliminating the need to use pallets
- Reusable FIBCs fold flat to take up minimal space when returned for refilling
- Colour printing turns the FIBC into a mobile advertising board promoting company and brand, or displaying vital product and handling information
- FIBCs can have an integral document pocket to take shipping documents, statutory product information or special handling or storage instructions
- FIBCs give the user massive savings in meeting his obligations under international packaging waste regulations – no pallets or secondary packaging and the lowest packaging weight per tonne shipped
- FIBCs are environmentally friendly – most are reusable and all are easily recycled

FIBCs are well established in a wide and varied range of industries. All the major players in the chemical sector are frequent users, joined by others as diverse as minerals, foodstuffs, cement, pharmaceuticals, agricultural products, plastics, fertilisers and many more including the, ubiquitous, builders' bag.

FIBCs perform a highly significant role in transporting hazardous materials in accordance with the UN Recommendations on the transport of Dangerous Goods Model Regulations (the "Orange Book").

- EFIBCA members benefit from EFIBCA's regular liaison with Test Houses, Port Authorities, Government/UN agencies and Research Organisations, ensuring that their models meet all the latest needs.
- EFIBCA members have all their FIBC designs certificated by independent test houses as conforming to industry standards and regulations, giving the user the safest FIBCs on the market.
- EFIBCA members obtain membership only after their manufacturing and quality control processes have been audited by an independent expert to ensure they meet EFIBCA's demanding quality and safety standards.
- EFIBCA members have access to collaborative studies coordinated by the EFIBCA Technical Committee, keeping them ahead of the competition.
- EFIBCA members display the EFIBCA Registered logo on their FIBCs, the badge of high quality, safety and good practice, which is the proof that you have discharged your duty of care to the customer and employees when you select these FIBCs.
- EFIBCA members label their FIBCs with crystal clarity using the layout designed by EFIBCA to ensure both that vital information is clearly visible down the transport chain and in the receiver's workplace and that no information specified in the relevant Standard is omitted.
- EFIBCA members regard quality and safety as mandatory.
- EFIBCA members have their manufacturing facilities in 14 European countries.

International Cargo Handling Coordination Association

Established in 1952, ICHCA International is an independent, not-for-profit organisation dedicated to improving the safety, productivity and efficiency of cargo handling and movement worldwide. ICHCA's privileged NGO status enables it to represent its members, and the cargo handling industry at large, in front of national and international agencies and regulatory bodies, while its Technical Panel provides best practice advice and develops publications on a wide range of practical cargo handling issues. Operating through a series of national and regional chapters, including ICHCA Australia, ICHCA Japan and Correspondence and Working Groups, ICHCA provides a focal point for informing, educating, lobbying and networking to improve knowledge and best practice across the cargo handling chain.

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Further Advice and Information

ICHCA International also offers a technical advisory service, with input from ICHCA Technical Panel, to answer member regulatory and operational cargo handling queries. For more information contact secretariat@ichca.com or visit www.ichca.com