

# The Essential Guide to Cargo Damage

Types, Reasons, Prevention & Handling

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# CARGO DAMAGE

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A cargo may be considered as damaged when it is received by the buyer in a condition worse than it was despatched by the seller

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# Preface

## Why did I write this guide?

Global trade involves the movement of cargo in ships from point to point across continents and the vast oceans.. Seaborne trade accounts for almost 90% of the global trade, and with such a volume, it is inevitable that cargo damage may occur from time to time..

There are several people who are in the business of trading, but do not know or understand the types of cargo damage, how it happens, why it happens, how it can be prevented and what needs to be done when faced with a cargo damage claim..

This guide has been written for those who are interested in understanding and learning about the types of cargo damages, the reason why it happens, the preventive measures to be followed to avoid cargo damage and how it should be handled..

## Who will benefit from this guide?

This guide is recommended for exporters and importers (whether first time or regular), traders, packing warehouses, shipping lines, transporters, cargo, freight claim handlers and freight forwarders..

If your niche is in

- Handling containerised cargo as an exporter, importer, carrier or agent
- Packing and/or of containerised cargo
- Loss control

then this guide is for you..

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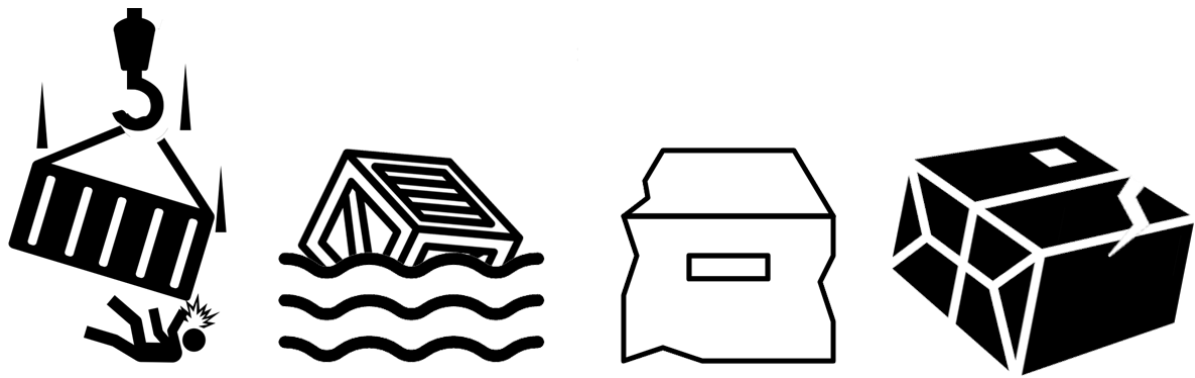
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## Chapter 1 - Introduction

Shipping, freight, and logistics are all part of the dynamic global transportation industry..

Whichever mode of transport you use, even the most meticulously planned shipment can go awry either due to natural disasters or man-made errors..

Cargo damage is one such disaster that not only gives rise to product and financial losses, but could also affect the relationship between customers and their service providers..



Cargo damage may happen at any stage in a shipment cycle.. It may happen

- while cargo is in the possession of the seller,
- while cargo is being packed into a container,
- while cargo is being loaded onto a truck,
- cargo is in transit by sea, road or rail,
- while cargo is being offloaded at delivery,
- while cargo is in the possession of the buyer
- etc etc etc

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In this guide, I explain

- The types of cargo damages
- The reasons for cargo damages
- The preventive measures you can take against these cargo damages
- How to handle a cargo damage situation

## Chapter 2 – Types of cargo damage

There are different types of cargo claims in terms of containerized cargo and as per **UK P&I Club**, below are the types of cargo claims that they face on a regular basis..

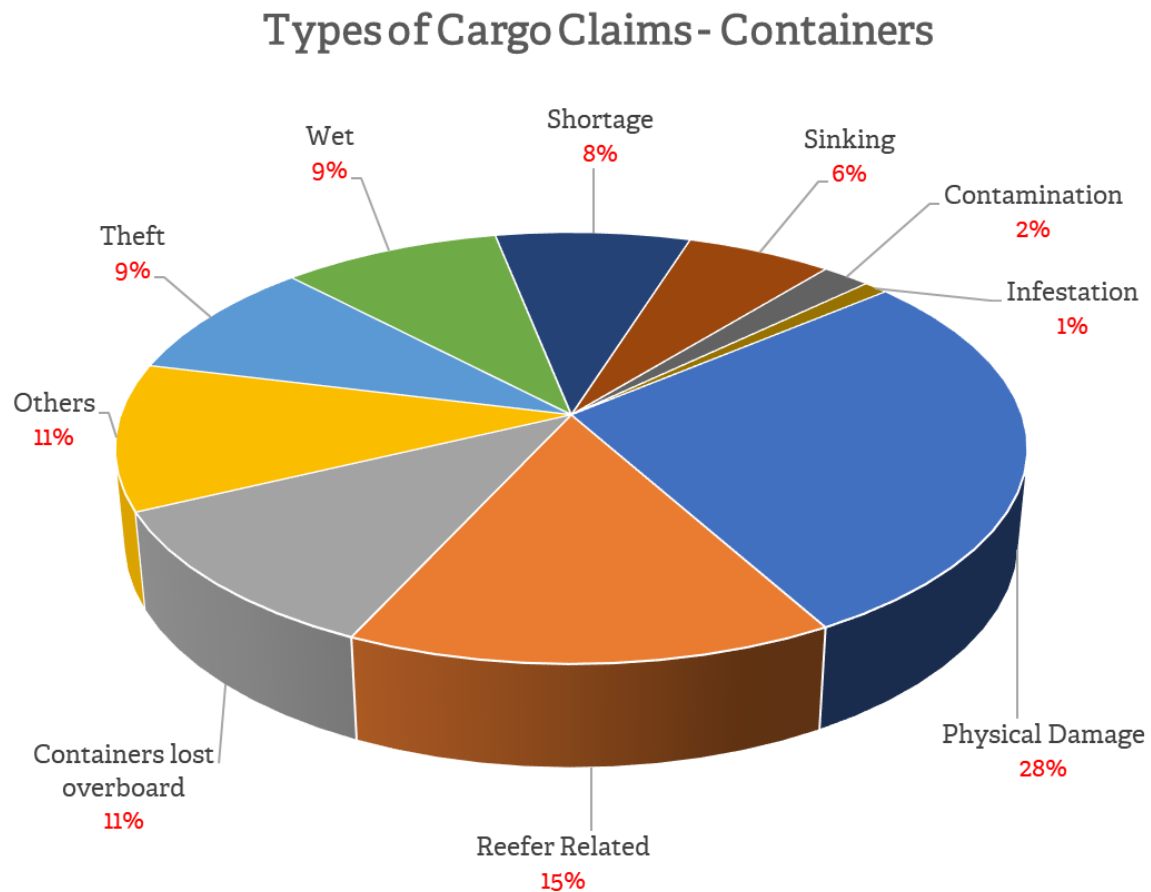


Image 1 - Data compiled from UK P&I Club information



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Out of these claim types, below maybe classified as cargo damage..

- 1) **Physical damage** – *where cargo is damaged due to dropping, breaking etc*
- 2) **Wet damage** – *where cargo is damaged due to water*
- 3) **Contamination damage** – *where cargo is damaged due to contamination*
- 4) **Reefer related damage** – *where cargo is damaged due to reefer equipment or mishandling*
- 5) **Infestation damage** – *where cargo is damaged due to infestation*

Some of the main reasons why cargo damage happens in containerised shipments may include but not limited to:

- Lack of proper packaging to protect the cargo on its long voyage
- Incorrect container type used
- Incorrect temperature and humidity settings in a temperature controlled or **reefer container**
- Overloading or improper weight distribution
- Incorrect labeling of **hazardous** container leading to incorrect stowage on board a ship

Now let us look at these cargo damage types in detail and identify reasons, the preventive methods and how to handle a cargo damage situation..

## 2.1 – Type of Damage: Physical

Physical damage is when the cargo is damaged physically or causes physical damage to other assets or property as shown in some examples below..

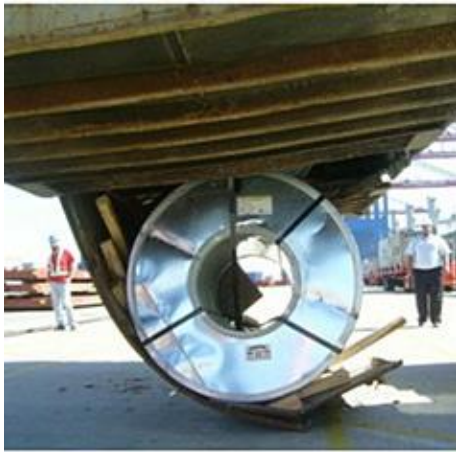


Image 2 - Source: Research Gate



Image 3 - Source: Shipping and Freight Resource



Image 4 - Source: Marine Surveyors



Image 5 - Source: Cargo from China

## 2.2 - Reasons for physical damage

Even though you are in shipping or in the business of exporting and importing it would be good for you to understand a bit about the laws of physics, the **connection between shipping and physics**, concepts like velocity, inertia and how it applies to the movement of the ocean, and the movement of cargo inside containers while it is in transit..

Cargoes packed inside a container can experience intense longitudinal and transverse forces during road, rail and sea transport and these forces could cause physical damage..

The worst movement a cargo undergoes maybe while it is at sea.. Unlike road and rail transport, while at sea, a ship can move in 6 different ways as shown here..

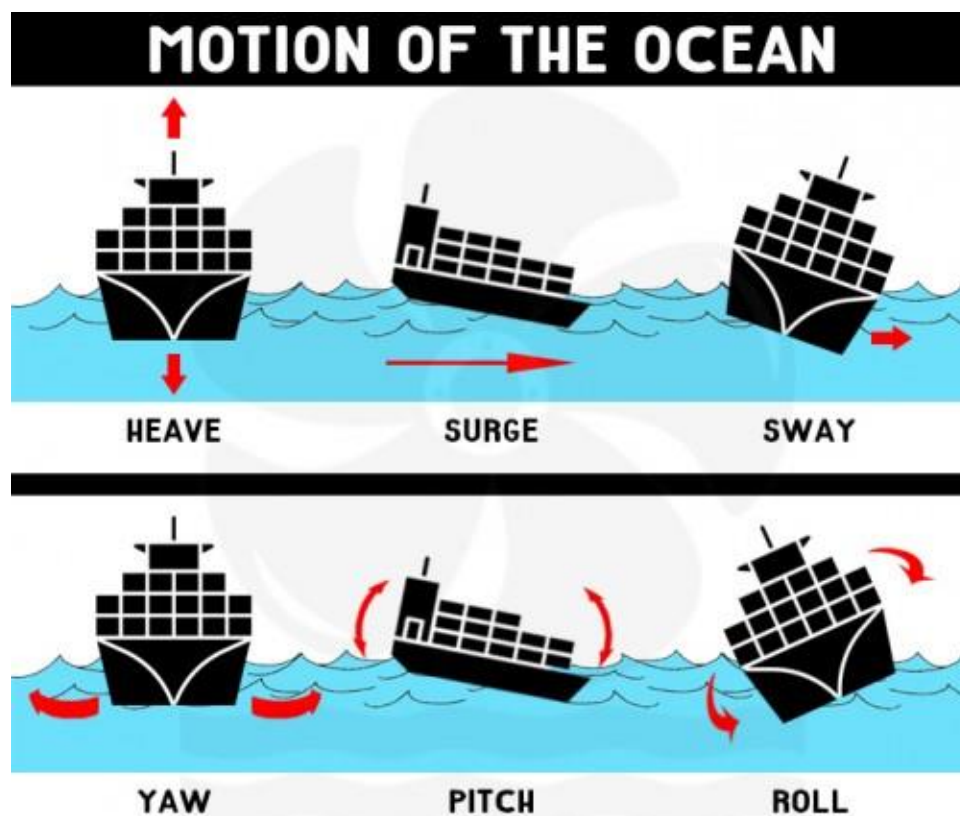


Image 6 – Source: Shipping and Freight Resource

Each of these movements causes a different kind of stress on the cargo packed inside the container and if there is movement of cargo inside the container, there is a greater chance of it damaging the container and even coming out of the container..

Let me give you an example that a lot of us can relate to.. You are in the back seat of a car and you are not wearing your seat belt and the driver hits a speed bump at 80 km an hour..

Most likely you will be thrown up from your seat and hit the roof of the car causing possible injury/damage and definite pain..

Now imagine the **coils in Image 2 and 4** and the **granite blocks in Image 3** above, moving inside the container when the ship is undergoing a heaving motion (similar to hitting a speed bump in a fast car) on the rough seas..

In terms of rolling, **ships have been recorded with rolling movements of up to 40 degrees**, so you can visualise those coils and granite blocks moving inside the container 40 degrees from side to side hitting the side walls with force.. Some of those coils and blocks could be 5 tons and upwards each..

When you visualize these movements, you can imagine the stresses that the cargo inside the container goes through especially if it is not packed and secured properly and allowed to move around inside the container..

For a better understanding of the stresses that a cargo inside the container goes through during transit, I recommend you watch this highly informative video **“Any Fool Can Stuff a Container”** by UK P&I Club..

In case you are unable to view the embedded video, here is the link (<https://youtu.be/L6zUT55bnJ8>)..



Bad stowage inside the container is the biggest cause of physical damage resulting in damages as per examples shown below..

Bad stowage inside the container relates to

- incorrect, improper and insufficient lashing and securing of cargo like not using enough dunnage, chocking, lashing materials
- incorrect weight distribution like piling cargo in one area inside the container instead of spreading it evenly
- improper loading of cargo like loading heavy crates/pallets on top of lighter crates/pallets which will affect the stability of the cargo

Bad stowage may be a result of

- negligence on the part of the shipper or the packing warehouse not taking proper precautions in packing the cargo properly for transit
- lack of knowledge in handling certain types of cargoes like steel coils, granite blocks and other heavy and special type of cargoes
- the parties involved taking short cuts to save cost without realizing and understanding the above-mentioned impact and influence of physics in cargo movement



## Examples of physical damage due to bad stowage



Image 7 - Source: UK P&I Club



Image 8 - Source: UK P&I Club



Image 9 – Source: UK P&I Club



Image 10 – Source: Cargo from China



Image 11 -Source: UK P&I Club



Image 12 - Source: Unknown



Image 13 – Source: Transport Information Service (TIS)



Image 14 - Source: Transport Information Service (TIS)



Image 15 - Source: Southwest Passage Marine Surveys



Image 16 – Source: Marine Surveyors South Africa



## 2.3 – Type of Damage: Wet

Wet damage, as the name suggests, is damage to cargo due to water and wet conditions..

Some examples of wet damage are as shown below



Image 17 - Source: Gard



Image 18 - Source: Capricorni Marine Services

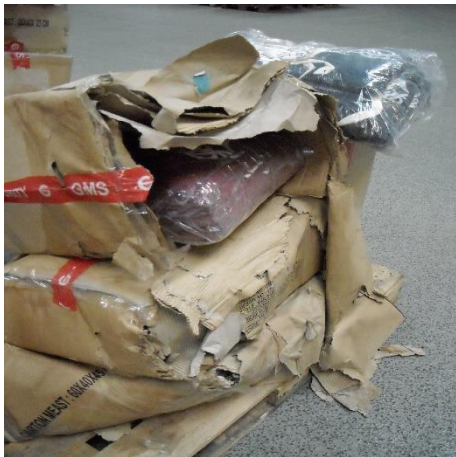


Image 19 - Source: Anker Olesen Surveyors



Image 20 - Source: Anker Olesen Surveyors



## 2.4 - Reasons for wet damage

Wet damage could be related to moisture, condensation, rain, seawater ingress into the container..

Moisture and condensation in containers is usually caused due to changes in climatic conditions during transit through various climatic zones ranging from hot and humid to cold and freezing to wet and rainy..

Condensation can also happen when an incorrect type of container is used like using a normal container instead of a ventilated container..

**Trade Risk Guaranty (TRG)** estimates that 10% of all container shipments discarded are due to moisture-related damage.. Moisture forms inside a container due to condensation (also known as Container Rain)..

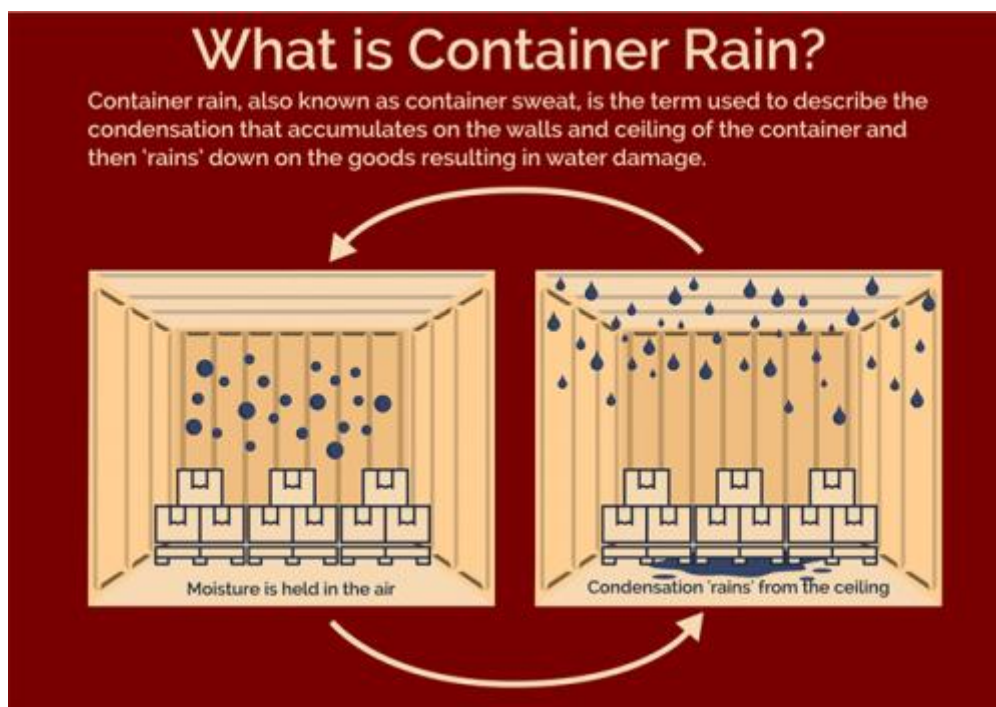


Image 21 - Source: <https://traderiskguaranty.com/trgpeak/water-damaged-goods-inside-container/>

Wet damage could also happen due to water ingress into containers due to holes in the container or the door sealing gaskets, not in good working condition or ships hold being flooded..

If you are wondering how a ship's hold can get flooded when the ship itself is fine, have a look at this image which shows a flooded cargo hold..



Image 22 - Container ship hold flooded – Source: UK P&I Club

Flooding of cargo holds most commonly occurs during ballast operations.. The impact of such flooding can be best understood from below info I am quoting from one of the readers of [my blog](#) who trades in grain on bulk vessels..

I am quoting this here as this example is highly relevant to this specific type of damage..

"Vessel got out of Houston about a week or so before Hurricane Harvey landed and made her way to Durban and arrived this weekend, About a month's voyage.

Captain says he bypassed 2 hurricanes after leaving USA passing the Caribbean, encountered rough seas & sailing counterflow to the current around 8 knots adding to the transit time.

**Grain Cargo all intact!**

This stresses the need for pre-shipment vessel inspections by first class surveyors to ensure holds are watertight."

## 2.5 – Type of Damage: Contamination

Damage due to contamination is when the cargo has been made impure through pollution, poisoning etc which renders it unusable for human consumption or other industrial uses..

Contamination can occur in both liquid and solid cargoes whether cargo is loaded in an ISO tank container or in a standard ISO container..

Contamination has been identified as the primary cause of ISO tank container claims by the TT Club..

Contamination of cargo due to odour is a common occurrence with dry cargo in a standard ISO container.. Adjacency risk is a real risk that could affect containers due to odour transferred from one container to another while being stacked adjacent to each other..

A real-life example of damage due to contamination was conveyed to me recently by Albert, one of the readers of [my blog](#)..

"I shipped 1 x 40ft of our corrugated IBCs from Kaohsiung , Taiwan into Manila to be used for coconut oil.

We did all the checks of the container before loading our goods.

On arrival and upon opening, the container found to be some kind fishy smell and thus migrated into our IBCs. There is no physical damage to the container and the foul smell just migrated into our IBCs during the voyage.

Of course, our customer rejected this container and we have to send a replacement."

IBC is an abbreviation for Intermediate Bulk Container. This reader ships “Paper IBCs” to be used in the transport of liquid cargoes, in this case it was destined to carry Coconut Oil..

These IBCs were stacked, shrink-wrapped and packed into a freight container.. But in a typical case of adjacency damage, odour from some of the adjacent containers transferred to these IBCs and this odour was seemingly so strong that the receiver could not use the same IBCs to carry Coconut Oil..

## 2.6 - Reasons for contamination

Delicate cargo such as clothing, food products, shoes or commodities such as coffee, tea, tobacco, cotton etc are highly susceptible to contamination due to odours..

For example, say you receive a cargo of clothing in a container and the cargo has an odour to it..

If you backtrack the container, you may find that the container used for packing this clothing was previously used to carry some product such as chemicals or animal hides which has an odour as an inherent vice..

The shipping line may have just released a structurally good and sound condition empty container to the shipper or the packing warehouse who then packed the clothing without checking for any odours etc and exported it..

Odour transfer could also be a cause of contamination and the above example is proof of such damage..

## 2.7 - Type of Damage: Reefer related

Cargo damage in reefer container is also quite a common occurrence.. Reefer cargo damage including decay, thawing, freeze damage, over-ripening, bruising, off-size and/or discoloration may look like below..



Image 23 - Source: Baltik Kontor Klaipeda



Image 24 - Source: UK P&I Club



Image 25 - Source: UK P&I Club



Image 26 - Source: UK P&I Club

## 2.8 - Reasons for reefer-related damage

Apart from the obvious factors such as malfunctioning of reefer equipment, power failure, etc, reefer cargo damage could occur due to

- Cargo not harvested at the right time but packed for export
- Improper setting of temperature (set as chilled instead of frozen and vice versa)
- Unintentional human error such as forgetting the -ve (minus) sign before the cargo set temperature which makes the temperature +ve (plus) (Example: temperature is set at +5°C instead of -5°C)
- Improper stowage of the reefer cargo in the container preventing proper air circulation
- Improper dunnaging of the cargo which allows the cargo to move inside the container causing crushing
- Poor quality of the packaging material used
- Contamination/taint damage such as oil from the forklifts or other machinery used
- Lack of proper pre-cooling

## 2.9 - Type of Damage: Infestation damage

Infestation is defined as the presence of a large number of insects or animals (rodents) in a place, typically causing damage to cargo or diseases..

Infestation can lead to contamination of cargo (which is another type of cargo damage as seen above) and it may also result in delays while port health authorities inspect the cargo..

Infestation is generally seen in the shipment of agricultural products..

## 2.10 - Reasons for infestation related damage

Infestation in containerized cargo could happen through

- Transfer of pests from an infested warehouse where the cargo was stored
- Insects moving into one container from other containers or cargo (also adjacency risk)
- Insects present in the **floorboard of containers** from a previous cargo



## Chapter 3 - Action and Reaction

Shipping can be quite an emotional industry and whenever there is cargo damage, often a blame game follows..

The first natural reaction of many customers would be to blame the shipping line for the cargo damage and place them on notice..

After all, the shipping line carried the cargo and they are the ones responsible for it right..??

Not necessarily..!!

Most of the cargo damages as discussed above are caused either due to

- Negligence by the shipper or packing warehouse in packing the cargo properly
- Shipper or packing warehouse trying to take shortcuts to save lashing and dunnage cost especially in terms of packing heavy items such as steel coils, granite blocks etc
- Lack of knowledge of the characteristics of the cargo which could lead to incorrect containers being used, such as non-heavy tested containers used for heavy cargo, or non-ventilated containers used for cargoes that require ventilation
- Lack of checkpoints at the time of packing such as an uncargoworthy container (container with holes, or container with damaged door gaskets accepted for packing)

So, if there are no obvious external damage to the container, but the cargo inside is damaged, the shipping line will repudiate the claim because the container is packed under the shipper's responsibility..



Image 27 - Source: Mateus Dias Gomes - Noun Project



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When it comes to containerized **FCL cargo**, the shipping line does not

- See the cargo packed inside the container
- Know the condition of what has been packed
- Know how much has been packed
- Know how it has been packed

Remember [shippers load, stow, and count](#)..

Therefore, unless you have some specific evidence proving that the cargo inside the container was damaged due to willful negligence, mishandling or due to the action of the shipping line, don't hold your breath about your claim to shipping line..

For example, say there is a case of wet damage which has been proven to be due to holes in the container..

While the exporter might place the shipping line on notice for supplying an uncargoworthy container, the shipping line could argue that it is also the shipper's responsibility to check the condition of the empty containers before they pack the cargo..

So, what then are the preventive steps to be taken against cargo damage and what are the steps to be taken when faced with a cargo damage situation..??

## Chapter 4 - Preventive measures

There is a saying “Mistakes are the best lessons and Experience is the best teacher”..

The first step of prevention is to **know and understand the characteristics and distinctiveness of your cargo** and what type of damage the cargo may suffer or cause..

Only once you know the vulnerabilities of your cargo, you can identify which type of damage your cargo may be susceptible to or cause and take preventive measures to avoid that damage..

For example, if you are shipping movement sensitive cargo like glass, certain machinery, artwork, vehicles etc then you need to know what type of damages can occur due to the movement of the sea, truck etc and take suitable precautions to protect your cargo against such damages..

### 4.1 - Preventive measures against physical damage

1. Use the correct type of container.. For example, when packing heavy cargo, you need to ensure that the container used can carry the weight of the cargo..

This is easily identified by checking and following the **markings on a container**, one of which is the weight allowance displayed on the CSC plate on the container..

2. Make sure that the lashing and dunnage material and methods are sufficient to restrict the movement of the cargo within the container..

If you are unsure, employ the services of a cargo surveyor who can recommend the best practice to be employed for the securing of your cargo..

3. Ensure that you follow the **SOLAS VGM** requirements at all times when packing, transporting and loading containers..
4. **APL** suggests the use of timber bracing (shown in the image below) to be constructed inside the container in order to prevent the movement of the granite block during transit (like in Image 28)..



Image 28 – Granite block bursting out through the doors of a container

## Bracing Build Process - Single Block

Front and side bracings must be constructed before marble block is loaded into the container.

1.

See Fig. 1.1  
Front-end bracings must be anchored inside the strong vertical corner post slots.

2.

Bracings along the sides must be nailed onto the container floor (thickness of container floorboard is 28mm).

Marble block must be flushed against the side bracings and pushed in until contact is made against the front bracing.

3.

Voids on other side must be filled by inserting additional timbers to ensure no sideways movement of the marble block is possible.

4.

5.

See Fig. 1.2

Door-end bracing must be inserted into the door corner post shoring slots (width 60mm x depth 40mm).

All bracings on floor must be nailed down securely where possible.

### General requirements

- Plywood lining of thickness  $\frac{1}{2}$ " or more must be nailed onto the container floor before loading the marble blocks to avoid damages to container floor
- Marble blocks must be placed as close to the centre of the container as possible, blocked and braced on all sides to prevent sliding and tipping
- Marble blocks must be stowed with the widest end on the floor to reduce the tipping fulcrum
- Hard wood timber should be used for the bracings with cross sections of 4" x 2", 6" x 2", 2" x 2"
- Nails must be of sufficient length to penetrate the 28mm thick container floor



A freight container is designed to protect your cargo and has several options as below to secure your goods..

Wooden container floor	For anchoring with wedges and timber connectors
Internal walls	To support lightweight goods
Bull rings (eyelets) and lashing bars	Attaching points for lashing ropes, wires, chains, steel strapping, span-sets, etc
Corrugated steel walls in open-top containers	Crossbeams may be anchored in the corrugation
Wooden beams and planks	For shoring and relieving pressure vertically and horizontally
Intermediate decks and walls	For loading at different levels and for separation
Bars or rods movable vertically or horizontally	For securing the load in sections
Nets	To secure fragile cargoes
Air bags (inflatable dunnage)	To absorb sudden impacts and to prevent the load from shifting
Timber connectors	To secure pallets, skids and cases to the container floor
Rope, wire, steel-strips, terylene straps, span-sets	To fix the load to bull rings or lashing bars
Blocks of styropor, corrugated paper, used tires, empty pallets	To block off empty spaces
Corner posts	Suitable for securing by bracing

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A few other important factors to consider when packing your cargo is to

- plan the stowage of the cargo in the container
- ensure that all container weight limitations of the container are met as per the **markings on the container** as there are **consequences of weight misdeclaration**
- distribute the weight equally inside the container taking care not to exceed permissible weight concentrations per square foot of deck
- avoid concentrating heavy weights at one side or one end
- stow heaviest items on the bottom for stability
- box, crate or place on cradle the heavy items
- ensure that incompatible cargo is not mixed in the container (like mixing clothing with chemicals)
- ensure that cargo that is susceptible to leakage or spillage is not stowed on the top of other cargo
- observe hazardous packing guidelines

What has been mentioned above is just a small example of the types of damage that could happen if you do not pack your container properly..

If you have any doubts on the best practices to pack your container, I would strongly recommend you use a professional packing warehouse or packing company to do this job and ensure that your cargo withstands all of the above and reaches its destination safely..

Given below are links to some very useful guides you can use to pack your container properly..

This will be very useful especially for packing depots, warehouses and exporters who have their own warehouses doing the packing..

1. [IMO/ILO/UNECE – Code of Practice for Packing of Cargo Transport Units \(CTU Code\) – January 2014](#)
2. [International Labour Organization – Safety in the supply chain in relation to packing of containers](#)
3. [Container Matters by UK P&I Club](#)
4. [Cargo securing in containers – Transport Information Services from Cargo Loss prevention information from German Marine Insurers](#)
5. [Container Transportation – More Than a Coloured Box](#)
6. [A Basic packing guide](#)
7. [How to pack a marine container](#)

## 4.2 - Preventive measures against wet damage

1. As mentioned above, it is imperative that you are aware not just of the vulnerability of your cargo, but also the physical route that the cargo takes from origin to destination..
2. For example, if you are loading cargo in cartons, or iron/steel cargo, or cotton or other cargo that is susceptible to wet damage, it may be prudent for you to take cognizance of the route of the cargo and take proper precautions..
3. Climatic conditions (temperature and humidity) can affect the cargo inside containers especially if the ship is moving from one hemisphere to the other..
4. Corrosion and oxidation affect metal products specifically while condensation can have a negative effect on all cargoes..
5. While you might not be able to do much about the route the cargo takes, or how long it takes, or the weather conditions along the route, what you

can do is take appropriate mitigation steps to avoid condensation and moisture inside the container..

These steps could include using anti-humidity materials or you could use “ventilated containers” with side vents (as shown in the picture here)..

6. One should also ensure that the doors of the containers seal properly and the rubber seal gaskets are present and in good condition..



Image 29 - Side vents in the container -  
Shipping and Freight Resource



## 4.3 - Preventive measures against contamination damage

### Liquid Bulk

1. If you are loading liquid bulk cargo in an ISO tank container, you should insist on a “tank cleaning certificate” from the tank operator which tells you the last date of the cleaning, what type of cleaning etc..
2. Once you have this information, you can satisfy yourself whether this specific tank will be suitable for your cargo or not. You can identify whether your cargo may or may not get contaminated when using this tank container..
3. It is also recommended to have a professional liquid bulk cargo surveyor to inspect the tank or be present during loading operations to ensure that there are no issues..
4. Tank operators keep their food grade tank fleet separate to their other tanks like chemical and gas tanks.. All food tanks might not be compatible with your specific food cargo and similarly, not all chemical tanks may be compatible with or be suitable for your specific chemical cargo..

Therefore it is imperative that you provide ALL information about your cargo (Generally the **MSDS** is the best option that provides all information related to the cargo) to the ISO tank operator so they may release the most suitable tank for your cargo..

5. Cargo to be loaded may react with previous cargo or cargo in adjacent compartment through substance mixture or temperature impact, even if the equipment is stated to be clean and ready to serve..
6. Such mixture may damage the product and equipment, or cause severe reactive incident due to contamination..

7. Therefore, it is important that you do a compatibility check to prevent any reactive incident..

## Solid Bulk

8. You may be loading solid cargo that is susceptible to odour and rust contamination – like nuts, tobacco, clothing, fabrics etc in a normal ISO container..
9. In such cases, you need to request the shipping line for a food grade or A grade container which is “prepared” specifically for the carriage of your cargo, usually at a cost..
10. An F grade or A grade container will have specifications as per container grading guidelines below..

Description	F (for Food) Grade	A Grade
Structural Condition	Must be IICL5 or CW with Valid CSC Plate. New, As New and Refurbished containers fall into this category.	Must be IICL5 or CW with Valid CSC Plate. As New, Refurbished and Used containers fall into this category.
Interior Paintwork	Must be between 95% and completely mark free.	Must be 90 - 95% mark free.
Floor	Must be clean with no transferable marks or stains, scratches must not exceed 2mm in depth.	Must be clean with minimal non-transferable oil or stain marks, scratches must not exceed 2mm in depth.
Exterior Panels	Minimal surface rust, negligible denting.	Minimal surface rust, negligible denting.

Credit : [Boxman New Zealand](#)

## 4.4 - Preventive measures against reefer cargo damage

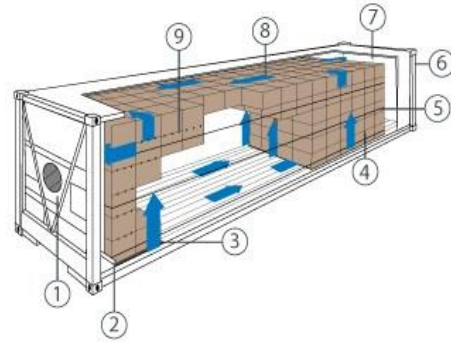
There are a few special precautions to be taken and processes to be followed in order to avoid reefer cargo damage..

1. Ensure that the reefer container you receive has a valid **Pre-Trip Inspection** (PTI) certificate.. PTI is an inspection conducted on an empty reefer container BEFORE RELEASE, to ensure the correct functioning of the cooling unit, temperature control, and recording devices..
2. PTI also includes checking the container for structural damage and ensuring that the inside of the container is clean and ready in all respects to receive cargo..
3. Pre-Cool is **NOT** an alternative to PTI.. Pre-cooling relates to the cargo and not to the container whereas PTI is related to the container..
4. Pre-Cool is a process whereby the products, are pre-cooled to the required set temperature for carriage before being packed into the container.. This will happen at the cold-storage facility.. The longer the cargo is pre-cooled, the better it is with regard to the shelf life of the cargo..
5. Reefer containers and trailers should never be left running while cargo is being loaded.. This is to avoid possible icing and transfer of unwanted hot or cold ambient air and exhaust fumes into the cargo space..
6. Loading reefer containers in a hot humid and open environment should be avoided and refrigerated loading docks with cold tunnels should be considered..
7. Temperature Management is the key for the shipment of all types of reefer cargoes and to ensure that the temperature is managed and maintained, a few issues must be taken care of..

- a. The reefer container must be set to the correct temperature and humidity settings..
  - b. Special attention must be given to details such as – and + so that a cargo is not set at -5°C instead of +5°C..
8. Correct stowage of cargo is extremely important in the carriage of containerized reefer cargo..
9. Some general tips on stowage of reefer cargo:
  - Cargo should not be stuffed beyond the end of the T-floor
  - Cargo should not be stuffed above the red load line
  - Cargo must be stable on the floor and tightly wedged so it doesn't shift during passage
  - Unit must always be set at the proper carrying temperature and this set temperature will vary according to the cargo being loaded
  - Dehumidification controls must be checked
  - If pre-cooling is required, it must be the cargo that is pre-cooled and not the container, unless the container is loaded in an air-locked cold tunnel in the cold storage
  - Ventilation setting is of utmost importance and must be set at the correct level
  - As air will follow the path of least resistance, there should not be any restrictions on air flow and any gaps between the pallets and the doors must be closed using cardboard or even wood. This will then force the air to circulate correctly and reduce the potential for heat sinks (warm air continuously circulating) near the doors

10. Below image shows the cargo stowage principles that need to be followed when packing a reefer container.

1. Refrigeration unit
2. Boxes do not extend beyond pallet
3. Deck board spacing allows vertical airflow
4. Boxes vented for vertical airflow
5. Pallet load is secured
6. Rear doors
7. Airspace above cargo
8. Airflow
9. Box vents aligned



11. The ideal stowage pattern should permit free movement of delivery air whilst restraining any movement of the cargo.. For example

- a. in the case of chilled cargo, air must flow through the cargo always so that heat and gases are removed, therefore the cartons used should have ventilation..

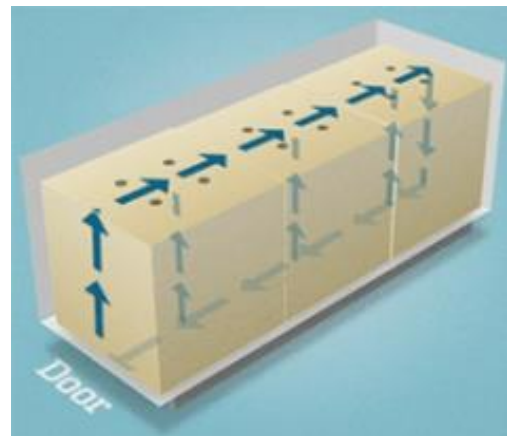


Image 30 - Airflow pattern for chilled cargo –  
Image from <http://maersklinereef.com> website

- b. in the case of frozen cargo, air must flow around the cargo so there should be no gaps between the cargo and the walls and the cargo itself, so the cargo must be block stowed

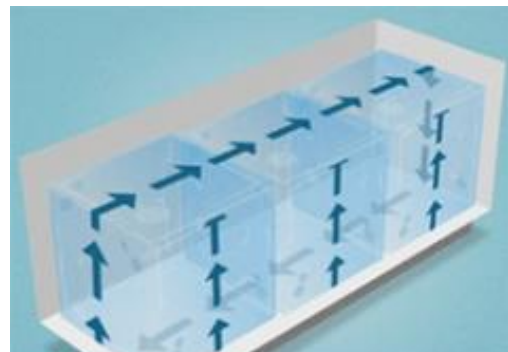


Image 31 - Airflow pattern for frozen cargo –  
Image from <http://maersklinereef.com> website

12. The pulp temperatures of chilled fruit/vegetable cargoes and the core temperatures of frozen cargo must always be measured where possible before a reefer unit is stuffed..
13. Fruit and vegetables should also be checked for pre-cooling damage, mold, wilt, dehydration, shrivel, discoloration, soft spots, skin break and slip, bruising, chill damage and odour.
14. Frozen cargoes should be checked for dehydration, desiccation, fluid migration, odours, black spot, color and flavor changes, and should also be examined for signs of any upward temperature deviation and subsequent re-freezing..
15. Cartons, trays and other packaging should be scrutinized in respect of their suitability to protect the cargo during a long sea transit..

You can read more about these precautions [here](#)..

#### 4.5 - Preventive measures against infestation damage

1. Advise shipping line “specifically” about the type of cargo being shipped and if it is food cargo, then you must request for a food grade container for packing
2. Ensure that the warehouse that your cargo is stored in is clean and free of pests and rodents that may cause infestation
3. Dunnage made from raw and unprocessed wood may present a high risk of introduction/spread of quarantine pests and therefore many countries require wooden dunnage and pallets to be fumigated before it can be exported..

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## Chapter 5 – Handling cargo damage situation

### 5.1 - How to handle a cargo damage situation

The business of shipping and freight is a very dynamic one and there are many factors to be considered in choosing the best course of action in a cargo damage situation..

Below are the general steps to be taken when confronted with a damage situation in containerized cargo..

1. Get proof of damage
2. Notify concerned parties (note the time bar for notification)
3. Arrange joint survey
4. Identify cause of damage
5. Mitigate/Minimise loss
6. Secure documentary evidence
7. Provide documentary evidence
8. Submit priced claim

**Proof of Damage** is an important aspect when dealing with cargo damage.. In order to place a claim successfully and be reimbursed for the claim, it is important for you to secure the proof of damage as soon as it happens and you receive the notification of such damage..

In the case of physical damage, visual proof usually helps a lot in understanding the type of damage, the extent of damage and in some cases the cause and reason for damage..

In the case of reefer cargo damage, you may require to download data from the data recorder in the reefer equipment..

It is also important to **notify the parties concerned** with the shipment about the damage..



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Immediately upon receipt of notification of damage and the proof of damage has been secured, notification of the damage must be sent to

- 1) Your **cargo insurance** company
- 2) Shipping line or other entity who was in possession of the cargo before you received it
- 3) Your shipper or the person that you bought the cargo from.. Yes, there is a **difference between shipper and exporter**
- 4) Any other entity involved in the shipment

This notification is of utmost importance as damage claims have a time frame within which the claim must be lodged..

Usually, when a damage occurs, it must be notified to the concerned parties **within 72 hours of it happening** for them to take action from their side..

Your notification of damage to the concerned parties must include your intention to claim for the damage once the value of the damage claim has been ascertained..

If notification of cargo damage is given later, it may be **time-barred** and you may not receive any compensation..

This notification is also required for you to be able to **arrange a joint survey** with the shipping line or other entities involved so that the reason, cause, nature and estimated cost of the damage claim may be ascertained..

The survey will have to be arranged through your insurance or their recommended surveyor.. Usually, the results of a joint survey are shared between the parties involved so they all share the same information..

It is advisable for you not to start unpacking until after the joint survey..

Through this joint survey, you can usually identify the reason and cause of damage.. This also gives you the opportunity to identify who the claim must be directed to..

Physical damage does not necessarily mean that the cargo in the container has been damaged totally.. If you are the claimant, you are obligated to try and **mitigate/minimise cargo loss** as much as possible..

There may be cases wherein only part of the cargo has been damaged and it may be possible to segregate and salvage the cargo that is still in sellable/usable condition..

Some damaged cargo may also be sold in salvage markets and in most cases the costs involved in mitigation of loss may be claimed back from the insurance..

The next step after the joint survey and after taking efforts to mitigate and minimise cargo loss would be to **secure the documentary evidence** relating to the damage and the value of the damage..

This documentary evidence may include photos of the cargo after it was packed at origin and any surveyor's report in case cargo was packed in the presence of one..

Once the documentary evidence has been secured, a **priced claim or quantified claim** must be sent to the party that could be responsible for the damage..

Due care must be taken to ensure that the priced claim is sent to the correct parties (shipping line, shipper or any other entity that handled the cargo) along with the required documents within the allowed time frame..

A claim could be directed to

- the shipping line, where it has been proven that the shipping line was at fault due to any reason (like releasing a damaged or uncargoworthy condition container)
- the shipper or exporter, where it has been proven that they did not take the necessary precautions or follow the required guidelines for the proper packing of the cargo (like packing steel coils without following the proper packing guidelines)

- 
- your transporter, in case it has been proven that they did not take the necessary precaution for the safe movement of the cargo (example a container falling off a truck due to improper securing on the truck/trailer)
  - any other entity that may have caused the damage in the process of moving the cargo from A to B..

## CARGO DAMAGE CLAIM PROCESS

Process	Info/Docs Received From	Info/Docs Send to/Notify
Notification of Damage	Wherever the damage took place and the point where cargo is kept	The customer involved (could be shipper or consignee)
Get proof of damage	Wherever the damage took place and the point where cargo is kept	The customer involved (could be shipper or consignee)
Notify concerned parties		Shipping line, shipper or consignee, surveyor, insurance company, transporter
Joint Survey		Invite shipping line, customer's representative, surveyor, insurance company
Identify cause of damage and party to claim from	Surveyor	Shipping line, shipper or consignee, insurance company
Mitigate/Minimise loss	Shipper can pass on info related to price of the goods	Insurance, surveyor, customer to try and salvage as much as possible from the damage
Secure documentary evidence	Party claiming for the damage	Party responsible to pay the claim or their agent
Provide documentary evidence	Party claiming for the damage	Party responsible to pay the claim or their agent
Submit quantified claim	Party claiming for the damage	Party responsible to pay the claim or their agent
Follow up on the quantified claim	Party claiming for the damage	Party responsible to pay the claim or their agent

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## 5.2 – Time Bar and its importance

It is advisable to secure a receipt for the priced claim as that would be the final proof against a time bar if it comes up at any stage..

AN IMPORTANT POINT TO BEAR IN MIND is that a claim has a time bar or expiry period based on the statute of limitations depending on the jurisdiction, country, company etc..

A statute of limitation is the period of time within which a claimant, after submission of a quantified claim, may be expected to commence legal proceedings for the recuperation of the claim..

This period may be something that is imposed by statutes of that country/jurisdiction, maybe something that is mutually agreed between the two parties, or forms part of the Civil Code of the country and jurisdiction..

As different types of claims have different types of limitation periods in different countries/jurisdictions, it is advisable that the claimant is in close contact with their insurance company and legal team to ascertain these periods..

Where required, the claimant may request extensions on the limitation periods through mutual agreement or through the courts..

The statute of limitation for cargo claims seems to be 1 year in general from the date on which the goods were delivered or should have been delivered..

It is the claimant's responsibility to follow up on the claim and ensure that it is resolved within the year failing which they must take legal action within the year or communicate the intention to seek legal redress or request an extension of the statute of limitation to take legal action..

If you are **importing for the first time**, there are several steps that you need to take to ensure that all your import processes and requirements are carried out before you start the import..

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There are some special cases of damage which may involve **General Average**.. General Average affects you differently whether your cargo has been damaged or not..

How to handle cargo damage claims that result in General Average is a whole different animal by itself that needs to be tackled separately, one that is outside the scope of this guide..

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## Conclusion

In conclusion, cargo damage is something that can happen at any time, anywhere, to any type of cargo..

A lot of cargo damage occurs due to negligence, lack of knowledge, lack of will and people employing shortcuts to save costs..

Ensuring that the shipment destined to a location arrives in a good, safe and sound condition means that all parties involved in the shipment must exercise due diligence and follow best practices in terms of packing, stowage, movement and documentation of the cargo..

When confronted with a cargo damage situation

- a. Do a thorough analysis and understand the type of cargo damage and ask the vital questions of “**Why, When, What, Who & How**”
- b. Understand and know EVERYTHING about the cargo, how it was packed, the method of packing, the route the cargo took, etc
- c. Understand where the risk passed from your supplier to yourself
- d. Know the various entities involved in the movement of your shipment and at which stage the cargo/container was handed over to the different people involved, to fix liability
- e. Identify the steps to be taken for the loss to be mitigated
- f. Ensure that the correct party is held liable for the damage
- g. Ensure that the claim is placed in the correct manner following the prescribed principles

I trust that this guide has been helpful in giving you some basic information on the types of cargo damages, the causes, reasons, preventive measures and how to handle cargo damage situation..

I will be releasing some other guides such as this, so please make sure that you [subscribe to my blog](#) (for free) so that you can receive the notifications..

**All the best in your endeavors to SEEK – LEARN – KNOW – GROW**



## About the author

Hello, all, I am Hariesh Manaadiar the author of this guide.

I have been in the dynamic shipping and freight industry for over a quarter of a century and worked in several sectors of the industry like clearing & forwarding, vessel operations, stowage planning, equipment control, sales and marketing, and management, in various countries..

Knowing that the shipping and freight business is a hard enough business to understand and cope, even for seasoned veterans, I started a blog called [Shipping and Freight Resource](#) to make it easy and less scary (trust me, I know the feeling) for people who are new to the industry or want to join the industry..



You can also engage with me on these social media platforms [Twitter](#) [LinkedIn](#) [Facebook](#) [Instagram](#)..

**Hariesh Manaadiar**

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