

Chapter 15

Packaging for Export

Packaging for Export

- Introduction to Packaging
- Packaging for Each Mode of Transportation
- Security
- Hazardous Goods
- Refrigerated Goods
- Packaging as a Marketing Tool

Packaging Functions

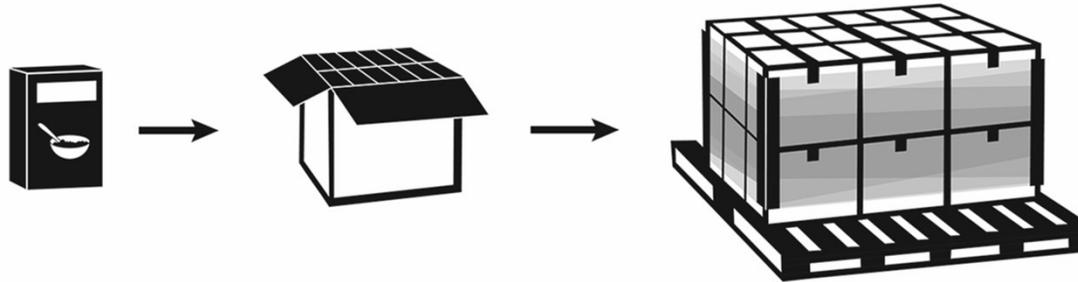
Packaging has three functions:

- It protects the goods during transport
- It allows the handling of goods without damage
- It is part of the customer service strategy of the firm: good packaging reflects positively on the exporter's firm.

Although the costs of packaging generally increase as the protection of the goods increases, it is important to remember that insurers will deny damage claims if they attribute it to improper packaging.

Packaging is always the responsibility of the exporter, regardless of the Incoterms® rule used in the transaction.

Packaging Terminology



- Primary packaging is what the final consumer sees.
- Secondary packaging is what the retailer/wholesaler handles.
- Tertiary packaging is what is used for transportation.

Packaging Objectives

There are three objectives of proper tertiary packaging:

- Protect the goods in transit from mechanical damage: breakage, crushes, nicks, and dents (these perils represent roughly 43 percent of all claims made by shippers to their insurance companies).
- Protect the goods from water damage: sea water, rain, floods, and container sweat (15 percent of claims made).
- Protect the goods from theft and pilferage (21 percent of claims made).

Ocean Cargo Packaging

Shipments that are small in size and weight can either be full-container-load (FCL) or less-than-container-load (LCL):

- An FCL shipment utilizes the entire capacity of a container, whether it is by weight or by volume.
- An LCL shipment utilizes less than the entire capacity, and is mixed with other goods, so that an entire container can be utilized. The other goods are from other shippers, and the remainder of the container is filled by a consolidator or a Non-Vessel-Operating Common Carrier.

Shipments of packaged goods that are not placed in a container are called “break-bulk” shipments.



FCL shipments should be unitized so the use of mechanical equipment is necessary to unload them. It reduces the risk of damage due to handling.

Source: Fedor Korolevskiy



Pallets that are poorly assembled (mismatched cartons, no stretch wrap, no corner protection) give a poor image of the exporter and lead to damaged goods.

Source: Imfoto



FCL palletized cargo should be prevented from moving in the container by using dunnage or blocking. Inflatable dunnage is always of the right size.

Source: Astrid Groeneveld



If the cargo does not fill the container completely, the goods should be centered in the container and solidly braced against the walls.

Source: Wathit Kettap

FCL Ocean Cargo

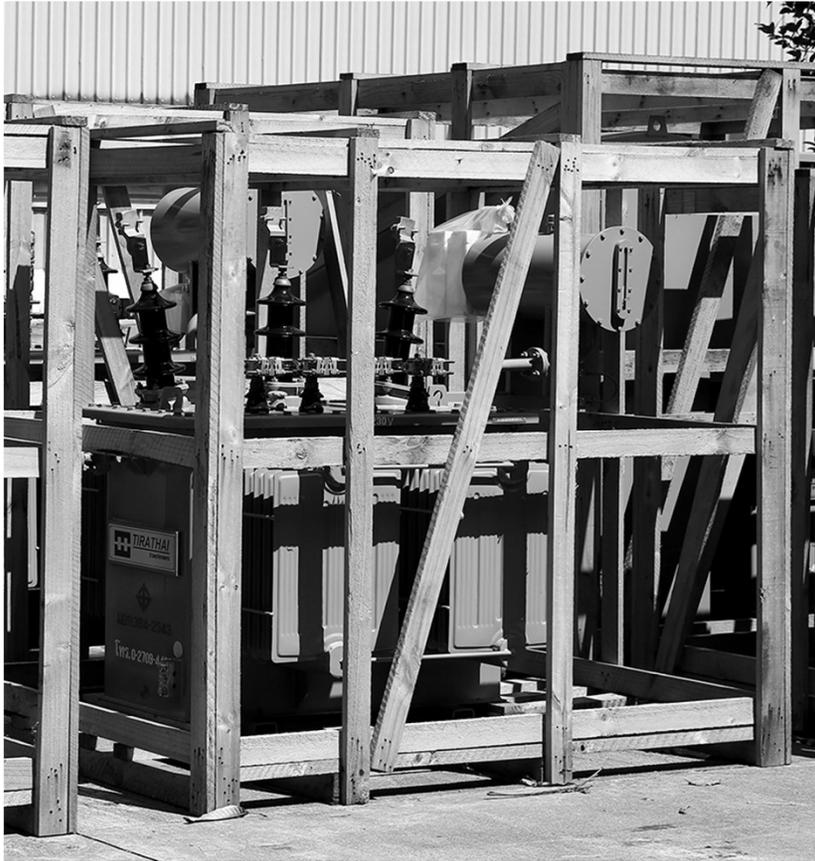
FCL cargo should be loaded according to the following rules:

- The center of gravity should be at the center of the container, front-to-back, and side-to-side.
- The heavier items should be at the bottom.
- The goods should be braced with blocking or dunnage.
- The goods should be placed on pallets or dunnage to raise them above the floor of the container (to protect them from water damage).
- A desiccant should be used to protect from ambient humidity.

LCL Ocean Cargo

LCL cargo should be even better protected than FCL cargo. The goods are likely to be handled more frequently and be placed near goods that may not have been well packaged.

LCL cargo should be boxed or crated with strong corners (in case another cargo is placed on top of it), protected from humidity with shrink wrap or stretch wrap, and well marked with handling instructions.



Crates (left) and boxes (right) are used for LCL shipments.

Source: Kanithar Aiumla-Or



Two means of recording whether an LCL shipment was mishandled.

Source: ShockWatch.



A solid construction helps in avoiding damaged cargo. The three-way corner is somewhat of a lost art.

Source: Daisy Krokos



LCL cargo can be placed in drums, either metal or plastic, and in totes (upper left).
Source: Noomckstic

Breakbulk Ocean Cargo

Breakbulk cargo (general cargo) is not placed in a container but is placed directly into the hold of a ship. It is generally too large or too heavy to be placed in a container.

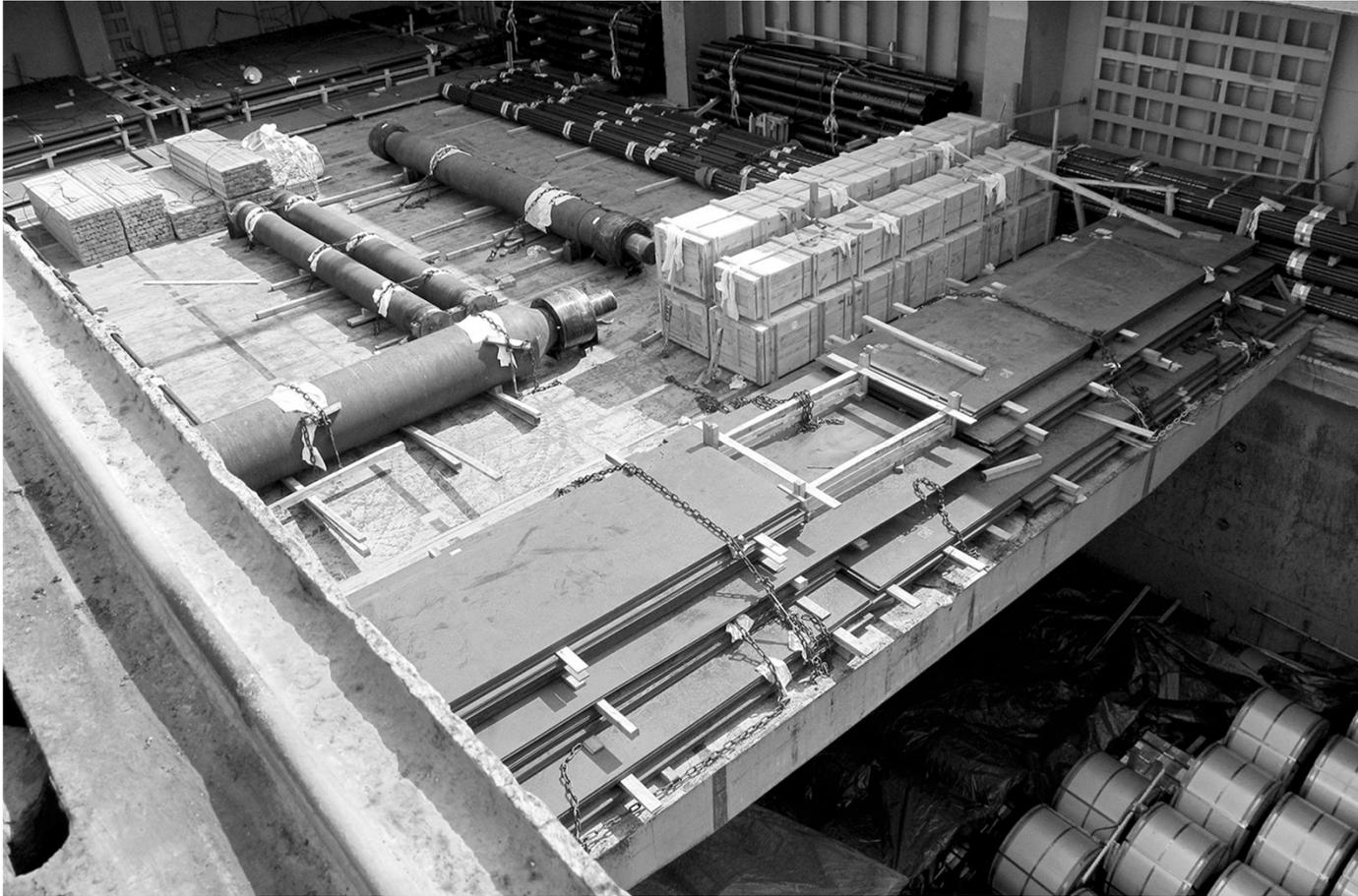
Breakbulk cargo must be packaged so that it can be handled at all steps of the voyage. Most of the time, it is placed in crates or boxes.

Some breakbulk cargo is placed on flat-top containers if it is small enough to be placed on top of a stack of containers.

Breakbulk Ocean Cargo

Breakbulk packaging alternatives includes unitized packages that can be handled by human labor, such as bags, bales, or drums, and those can be only be handled with mechanized equipment, such as flexible intermediate-bulk containers and rolls.

Some breakbulk cargo is actually not packaged at all and the goods are placed directly in the ship's hold.



Breakbulk goods are placed directly in the cargo hold of a breakbulk ship. Some are in boxes.

Source: Wathit Kettap



Cocoa bean bags placed directly in the holds of a ship.

Source: unknown



Cotton (photo) and wool are shipped in bales.

Source: unknown



Flexible Intermediate Bulk Containers (FIBC) filled with tapioca.

Source: Amarin Jitnathum



Paper is shipped in rolls that are placed in the holds of ship.

Source: Weyerhaeuser



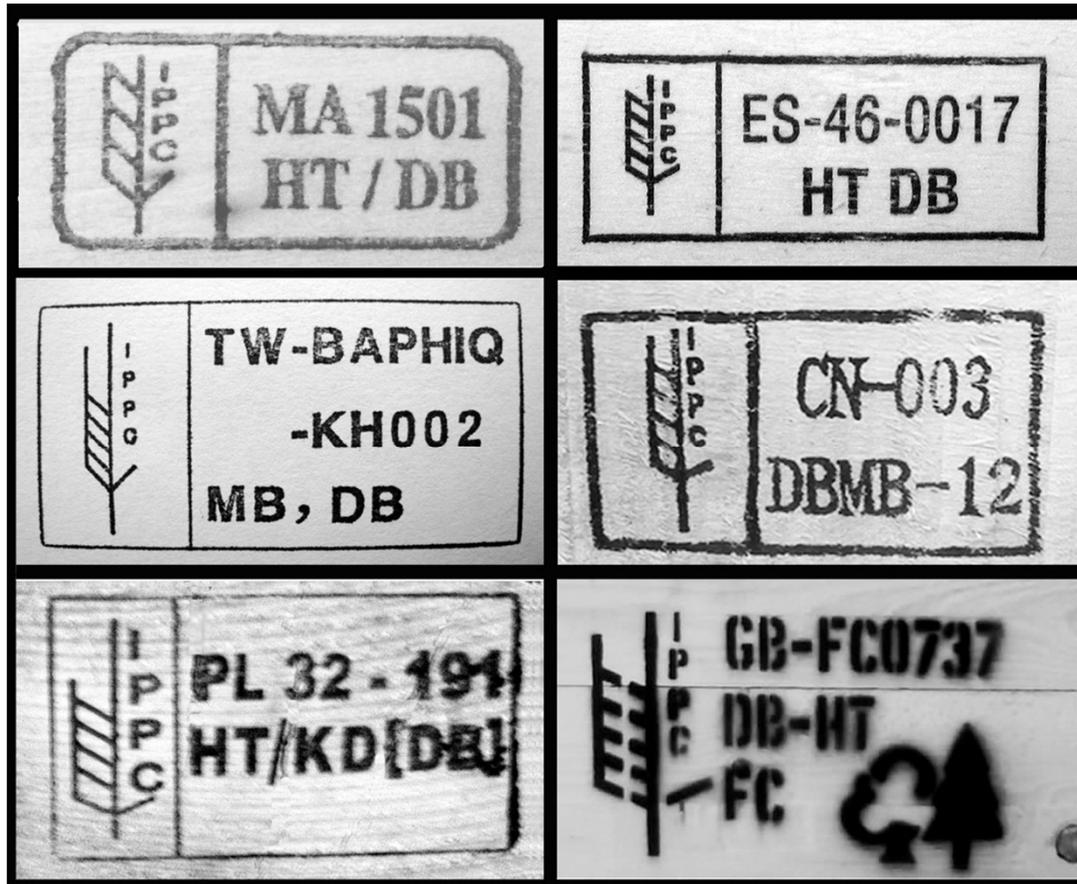
Blocks of granite in the Port of Sète, France, and on their way to a finishing plant.

Source: Pierre David

Breakbulk Cargo Markings

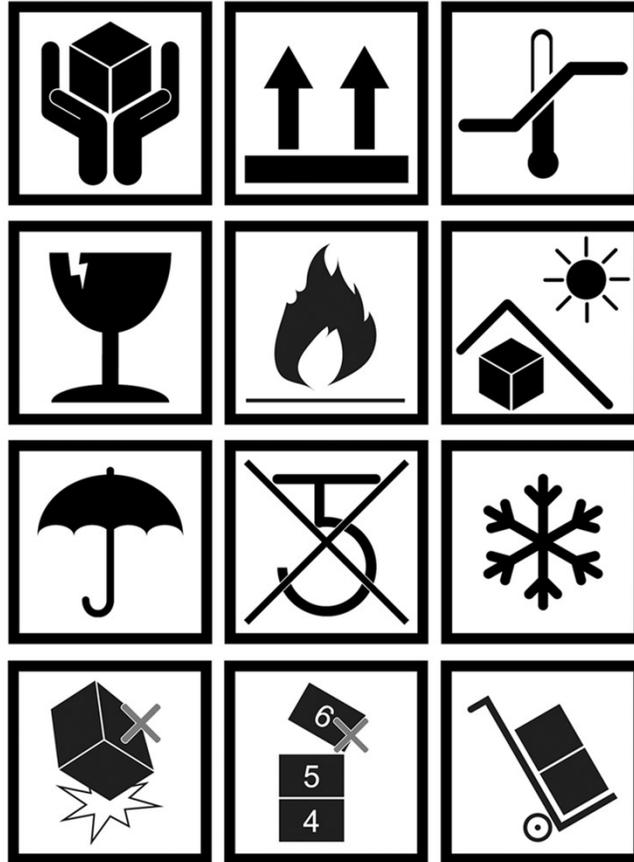
The International Plant Protection Convention (IPPC) mandates that wood used for packing or dunnage be treated with chemicals to prevent insect infestations.

Marking international shipments with international handling pictorials help protect them from poor handling (they are not language specific), as well as from theft and pilferage.



The IPPC Convention markings for wood treated before it is used in international commerce.

Source: Pierre David



Marking international shipments with international handling pictorials helps protect them from poor handling, as well as from theft and pilferage.

Source: Daisy Krokos

Bulk Cargo

Bulk cargo (dry or wet bulk) is cargo that is placed directly in the holds of the ship, without packaging of any kind.

Containerized cargoes and breakbulk cargoes are loaded and unloaded using cranes, one unit at a time.

In contrast, bulk cargo is loaded and unloaded with continuous methods such as vacuum pumps, conveyor belts, pipes, augers, ...and so on.



Grain is loaded directly into the holds of ships using conveyor belts and chutes.

Source: unknown



Alumina being unloaded using a vacuum pump.

Source: Patrick VanRuymbeke



The holds of oil tankers are heated to facilitate the unloading of oil, which can be too viscous when cold.

Source: Vallehr

Air Transport

Air transport is less hazardous to cargo than ocean transport: nevertheless, cargo should be well protected for air transport.

Secondary packaging is not appropriate for air shipment because it does not sufficiently protect goods during the flight and airport handling operations, and the commercial markings of the packaging make the goods a tempting target for thieves.

Air cargo containers are designed to facilitate the loading and unloading of aircraft, and not to act as intermodal containers used in other means of transportation.



Air cargo is containerized in boxes that are often specific to the aircraft being used.

Source: Eugene Berman

Road and Rail Transport

Goods will generally travel by road for a portion of their international voyage, but the main international carriage can be by ocean, air, or rail. Packaging needs are dictated by the main mode of transportation.

Rail transportation requires the same level of packaging as ocean transportation; goods are subjected to sudden accelerations and decelerations, as well as exposure to bad weather and changing temperatures.

Rail companies provide packaging guidelines for shippers.



Container cargo traveling by rail should be as carefully braced as it is for ocean transportation.

Source: Robert Cralle

Security

Packaging security issues center around pilferage and theft.

Good packaging security practices include:

- Tamper-proof seals on all FCL shipments.
- Measures designed to hide the nature of the goods being shipped (making secondary packaging “anonymous”).
- Measures designed to keep shipment information confidential.



Container seals: the top one is a bolt seal, the bottom one is a wire seal.
Bolt seals are required for international shipments.

Source: Pierre David

Dangerous Goods

Hazardous cargo can be shipped by ocean and by air, but most dangerous goods (flammable, explosive, or toxic goods) are shipped by ocean.

If they are containerized, they are shipped “above deck” rather than “under deck.” The containers are marked with placards that must withstand six months of seawater immersion.

The shipment of dangerous goods by sea is regulated by the International Maritime Organization.

The shipment of dangerous goods by air is regulated by the International Air Transport Association (IATA).



A shipment of uranium hexafluoride, a radioactive acid that is dangerous to the environment, duly labeled for international transport by ocean.

Source: National Cargo Bureau

Refrigerated Goods

Goods requiring refrigeration make up another category of cargo that demands particular care and specialized packaging services.

Refrigerated goods usually require very specific handling, and therefore, most refrigerated goods travel “alone,” and are not mixed with other refrigerated goods.

Goods requiring refrigeration are placed in refrigerated containers that are self-powered or powered through the ship’s electrical system. They can also be placed in refrigerated holds in the ship.



A reefer container, with shelves to facilitate the circulation of the cooled air.
Source: unknown



Refrigerated cargo can travel by refrigerated ship; a ship designed to transport fruit juice.
Source: Fleetmon

Retail Packaging Issues (I)

Consumer packages (primary packaging) may need to be different from country to country to accommodate consumer preferences.

- Packaging Size

Consumer preferences dictate packaging sizes: products are smaller in countries in which retail shopping is done frequently, and larger in those in which consumers shop at greater intervals.

- Packaging Design

The customary design of the package for a type of product may be different. The color preferences may be different. The shape or materials of the package may be different.

Retail Packaging Issues (II)

Consumer packages (primary packaging) may need to be different from country to country to accommodate legal and environmental requirements.

- Legal requirements

Legal requirements influence the sizes of packages; some countries require multiples of simple metric units (one kg or one liter).

- Storage and Transportation Environment

There are a number of environmental factors, such as high humidity, heat, or cold, that influence the design and materials used in primary packaging.

Retail Packaging Issues (III)

Secondary packaging may need to be different from country to country to accommodate trade requirements.

- Legal requirements

Laws may restrict the size of secondary packaging. For example weight must be kept below a threshold, so that it can be handled by hand.

- Storage and Transportation Requirements

There may be a standard pallet size that dictates how large a secondary packaging unit must be.

Packaging as a Marketing Tool

A benefit of a good packaging policy is the goodwill that it generates with the importer, and the marketing benefits that can be derived from it.

Importers welcome shipments that arrive packaged carefully enough that they do not have to worry about having to challenge invoices or ask for the replacement for damaged goods.

Good packing enhances the relationship between exporter and importer, and builds trust.