Cargo transport by sea is by far the cheapest per kilogram per kilometre moved relative to the other major forms of transport used by other humanitarian agencies, and is convenient for bulky pre-planned consignments. Sea transport is unfortunately also one of the slowest methods of delivering cargo as well. Sea transport will likely not be used to service immediate needs in rapid on-set disasters, and is more appropriate for pre-positioning or to serve post disaster and longer term needs.

Common Terms in Sea Transport

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Container</td>
<td>A standard predefined set of containerized shipping units that are used throughout all sea shipments. Shipping containers come in many variations to meet the needs of different shipments. Containers also have unique container numbers that can be tracked, and when in movement containers will be sealed using industry standard container seals. The vast majority of containers come in 20 foot and 40 foot dimensions.</td>
</tr>
<tr>
<td>Full container load (FLC)</td>
<td>A volume of cargo capable of filling an entire shipping container.</td>
</tr>
<tr>
<td>Less than container load (LCL)</td>
<td>A volume of cargo not capable of filling an entire shipping container.</td>
</tr>
<tr>
<td>Twenty Equivalent Unit (TEU) / FEU</td>
<td>Short hand for identifying a container size and identifying slot space on a dock or a ship. One 20 foot container is equal 1 TEU. One 40 foot container is equal 1 FEU or 2 TEUs.</td>
</tr>
<tr>
<td>Port of Loading (POL)</td>
<td>The port at which a vessel is loaded and disembarks.</td>
</tr>
<tr>
<td>Port of Discharge (POD)</td>
<td>The port at which a vessel arrives and unloads cargo.</td>
</tr>
<tr>
<td>Direct Service</td>
<td>A container that leaves and arrives on the same ship.</td>
</tr>
<tr>
<td>Transhipment Service</td>
<td>A shipment where a container changes multiple ships throughout the transport.</td>
</tr>
<tr>
<td>Live Load / Unload</td>
<td>When a forwarder or transport company sends or drops a container at a shipper’s facility and waits for the container to be loaded / unloaded without leaving.</td>
</tr>
<tr>
<td>Drop and Pick</td>
<td>When a forwarder or transport company leaves a container at a shipper’s facility for one or more days without being present for the loading / unloading.</td>
</tr>
<tr>
<td>Stripping</td>
<td>Removing contents from a container, either at the port or consignee’s location. May or may not involve breaking the container seal; a container may be opened prior to delivery for a variety of reasons including inspection and breaking down of a consolidated consignment.</td>
</tr>
</tbody>
</table>
Loading a container for shipping, at port, consignees’ location or consolidation warehouse somewhere in the middle. Sealing the container may or may not occur at point of stuffing.

Storage and handling of cargo occurring at a port along side or near a sea transport vessel.

A designated location in a port where a vessel can park and moor, usually along the long edge of a ship to provide safe and easy offloading. Maritime vessels vary dramatically in size, both in length and depth under the water they may draft, so berthing space must be designated by a port captain or port official, and must match the needs of the vessel.

The placement of items and containers stored on the surface deck of a ship for the duration of the transport. On deck refers to anything above below deck storage with free access to the air above the boat, however on deck storage might still start below the upper rim of the vessel.

The placement of items below the main deck of a shipping vessel.

A vessel containing loose bulk cargo in a large central cargo hold. Bulk carriers are ideal for transport of grain or loose materials that may be removed with special equipment on the receiving end. Frequently, bulk carriers will require re-bagging on the receiving end of the shipment.

Cargo transported in large, unitized quantities not contained in a standard shipping container. Break bulk cargo may be items like large machine parts, construction materials or even vehicles, and can be stored in specialized below deck compartments.

Any vessel that has capacity for vehicles to “Roll on / Roll off.” Might include regular vehicle ferry service, but also many long haul ships may have this capability.

A dock worker engaged with loading, offloading and management of maritime shipping activities.

Sea Transport Arrangements

Very rarely are sea cargo vessels owned or wholly leased by single agencies that also solely utilize them for their own shipping purposes. The overall size, cost, time and general nature of sea freight necessitates that no single entity but those with massive and regular volumes of cargo could ever utilize an entire vessel at once. As a remedy to this, the vast majority of sea cargo is arranged through freight forwarders, and is negotiated based on the POL/POD, consignment size, type and special handling needs. Shippers sending any goods via sea should liaise with their forwarders to identify the correct modality of moving their cargo from one place to another.

In sea shipping, there are heavily trafficked and well-known routes that many vessels use known as “shipping lanes,” especially between high volume ports. Between these shipping lanes, there are also what is known as “shipping lines,” or fleets of shipping vessels privately owned and managed by a company or a consortium. In addition to shipping lines, there are also a variety of smaller merchant fleets and individual vessels who work on contract for cargo movement.

Due to the sheer number of individual shippers that may be sending cargo on a single vessel, it’s extremely unlikely any one vessel will be departing from and arriving at the exact destination specified by the shipper. Cargo shipped via sea faring vessel will frequently use using transshipment service, being offloaded and reloaded onto two or more vessels while en route, staying in a secure port in between loadings while waiting for the correct vessel heading the correct destination. The linkages of a transshipment service are worked out by brokers and forwarders on behalf of the shipper, and shippers usually don’t get involved with routing, only becoming involved with cargo at the final destination.

Containerization / Loose Item – The preferred method of shipping via sea is the use of containerization units. Shipping containers, through their standardized construction, fit onto a wide variety of sea faring freight vessels. Containers are usually sealed at the POL, and as such can switch between multiple vessels and ports while en route with minimal risk of tampering or theft. Generally, shippers should seek to maximize their shipments by trying to reach a whole number of either 20 foot (TEU) or 40 foot (FEU) container or containers. Loads smaller than a full container load (FCL) might have to wait until a full container load is available, otherwise shippers might have to rely on what is known as "consolidation," or sharing of one container with one or more other shippers. Consolidation might require waiting to find another shipper or shippers going to the same final destination as you. Consolidation also does allow for fully unopened containers to be delivered to a consignee’s facility as the cargo will need to be broken down and separated at the port, which increases the chances of loss or theft.

Specialty items such as generators, vehicles that cannot fit into a container, or special handling containers like refrigerated containers (reefers) may also be transshipped using two or more vessels. For oversize or bulky items, they may also be shipped by the piece, however there may be fewer of available vessels with the right stowage space heading to the correct locations, which might drive up costs and slow down the entire process of shipping.

Dedicated Charters – Occasionally an agency or organization will need to take full possession of a vessel for a single voyage or for an extended period of time. These vessel specific charters are governed by a contracting structure known as a “charterparty.” In a charterparty arrangement, the ship owner provides the vessel as a dedicated resource along with crew, and usually provides for the cost of fuel and maintenance, though the specifics of the arrangement are identified in the contract. Examples of dedicated charters in humanitarian aid might include:

- Leasing an entire bulk carrier vessel for the movement of loose grain from one location to another
- Long term leasing a cargo vessel to provide regular cargo service to locations not serviced by the commercial market
- Long term leasing of passenger vessels for special purposes (hospital boats, rescue boats, etc)

Unique Concepts to Sea Transportation
Port demurrage – Sea cargo in a port accrues demurrage at a different rate than airports or border crossings. Due to the size and complexity of port operations, containers and bulk cargo items are typically given two weeks of free storage before demurrage accrues. This port demurrage rate is variable however, and can change based on the agreement of the shipping line companies, the ports and the local governments.

Flag carrying vessel – The majority of the surface area of the world’s oceans are considered international waters, and vessels themselves may spend the majority of their time in non-incorporated international water. By binding international maritime law, all vessels must still be registered as a “flag carrier” for some country on earth. A vessel carrying the flag of a certain country does not mean the vessel was manufactured there, nor does it mean the crew or anything about the operation is connected to that country, it only means that’s the country the vessel is registered in. By regulation, vessels must spend at least some portion of the year docked in the country through which they are registered. Regulation also states that the country to which the vessel is registered has the ultimate authority and responsibility to enforce safety and pollution standards, and prosecute any violators under local law.

Port operations – Sea ports can be enormous compared to other ports of entry, such as an airport or a border crossing. Sea ports must be large enough to accommodate vessels of various sizes, but also can have an extremely large storage and holding capacity. The largest container ports in the world process tens of millions of TEU containers each in a single year. Large ports can be extremely busy, with dozens of ships being loaded and offloaded with specialized cranes and MHE at any given time. Ports also tend to be highly secured and scrutinized – due to the high volume of goods, illegal smuggling and human trafficking have become large concerns for many countries. Based on the sheer size of the operations, vessels may not be able to berth or off load for days or even weeks, instead having to moor off coast waiting for berthing space to open up. It’s also very common for cargo to be delayed while being offloaded and moved around a port, especially in chaotic post emergency periods. Limitations such as the number of operating cranes, the number of available truck drivers or the available hands to move cargo may lead to significant port congestion.

Example Port Operation Overview:

Vessel Limitations – Modern shipping vessels are becoming larger and more sophisticated, however it is extremely difficult - and at times impossible – to update sea ports to accommodate these ships for a number of reasons. Additionally, many vessels might require additional specialized MHE that isn’t always available in every port, especially under developed or neglected ports in countries prone to natural disasters and conflicts. Limitations vessels might face include:

- Hull draft – Some vessels have drafts too deep for some harbors, which are limited by the natural topography of the ocean floor.
- Offloading – Smaller and unimproved sea ports may lack the offloading equipment to move containers and bulky items. Vessels moving these items may need deck mounted cranes to move items themselves.
- Size – Vessels that are too long may not be able to adequately berth to offload cargo.
- Flag carrying vessels – Some vessels may be banned from entry to harbors due to their source origin or registered flag.

Sending Goods by Sea

Sea Transport Documentation

The overall requirements for and types of documentation used for sea transport remain consistent with most shipments (waybill, packing list, proforma, etc). There are documents specific to sea shipping however. These might include:

Bills of Lading (BOL) - The BOL – sometimes referred to as a “seaway bill” - is the transport waybill for a sea freight consignment. BOLs are conceptually one of the oldest mutually recognized forms of consignment tracking; traditionally seaborne trade was one of the few ways countries conducted official trade. Modern BOLs are highly standardized, and BOLs generated by different shipping lines will look almost identical in layout. Many shipping companies will require BOLs even if the vessel is not moving between two different countries – the BOL also represents a contract between the vessel owner and the owner of the good being shipped.

BOLs are usually issued in a set of three originals and several non-negotiable copies. The BOL is signed on behalf of the ship owner by the person in command of a ship or the shipping agent, acknowledging the receipt on board the ship of certain specified goods for carriage. It stipulates the payment of freight and the delivery of goods at a designated place to the consignee therein named.

The BOL is the major shipping document and has three roles:
It affirms the contract of carriage and sets out the terms thereof. It is evidence of the contract between the consignor and the shipping line, and on the reverse details the conditions of carriage.

It is the carrier’s receipt for the carriage of goods by sea and is signed by the master or another duly authorised person on behalf of the ship owner, acknowledging receipt on board the ship of certain specified goods that he undertakes to deliver at a designated place.

Possession of the original BOL gives the title to the goods being carried. It is a negotiable document of title to the goods. The consignor must make sure that at least one original BOL reaches the consignee in good time (since he will receive the goods only against presentation of at least one original BOL). The carrier usually establishes three original BOL, which are sent to the consignee under two separate registered mail.

The BOL states to whom and on what terms the goods are to be delivered at destination. Without an original BOL the goods will not be released.

Terms of the BOL:

There are three different entries possible in the box headed “consignee”:

- To bearer: this means that any person having possession of the BOL may collect the goods; such person is not required to disclose their identity or to explain how they came into possession of the BOL. The mere fact that they have possession of and present the BOL is sufficient. Issuing BOL “to bearer” is not common practice and carries significant risk.

- To order: this is the form of BOL used most frequently in commercial transactions. As long as the shipper holding the BOL has not endorsed it, he is entitled to dispose of the goods. By endorsing it, he transfers his rights to the endorsee, that is, the person to whom the BOL is assigned by endorsement. Title to the goods is thereby transferred to the new holder of the BOL who may in turn assign it by endorsement to somebody else.

- To a named party (straight BOL): in contradiction to a BOL “to order”, the straight BOL - one in which it is stated that the goods are consigned to a specified person - does not entitle the shipper to dispose of the goods. That right is vested exclusively in the receiver who alone has the right to collect the goods, upon presentation of the BOL and proof of his identity.

Other commonly used BOL terms:

- The Straight BOL - assigned by means of a document instrument in writing, evidencing the assignment, which the assignee must present to the master of the vessel together with the original BOL when he collects the goods. On a straight BOL, the term "to the order of" printed on standard BOL must be crossed out, and the deletion initialed by both the shipper and the Master.

- A Clean BOL - contains nothing in contradiction to qualify the receipt on board of the ship, the goods in “apparent good order and condition”. Goods may sometimes be ‘received alongside’, which can result in a delay prior to the physical loading of the goods onto the vessel.

- An Unclean BOL - contains a notation that goods received by carrier were defective.

- The Through BOL - issued when a shipper wishes the carrier or shipping line to arrange for transport to a destination beyond the port of discharge. The through BOL, in addition to the agreement to carry goods from port to port, includes a further journey (by sea or land) from the port of ship’s destination to a distant place (for instance, a destination inland instead of a port).

- House BOL (HBL) – An internal document generated by a forwarder or broker to provide relevant information to a client. HBLs may not always be presented as official documentation used during the customs process.

- Master BOL (MBL) – the official BOL generated by the shipping line or vessel operator. MBLs will generally bear the most accurate information, and many customs authorities will only use MBLs for customs clearance purposes.

Example BOL:
### MASTER BILL OF LADING

**Conocimiento de Embaques**

**Shipper's Name**

**Mailing Address**
Including City, State, and Zip Code

**Consignee's Name**

**Complete Mailing Address**
Including City, State, and Zip Code

**Notify Party**

**Contact Information for Person to be notified at Destination**
Include Full Name, Phone Number, and/or E-mail Address

**Vessels Name**

**Voyage**

**Flag**

**Place of Receipt**

**Place of Delivery**

**Port of Loading**

**Port of Discharge**

**Place of Delivery**

**Port Delivered to**

**Place of Deposition**

**Lugar de Entrega de la Carga**

**Enter Final Destination**

**Enter Releasing Instructions for Original Bills of Lading**

### PARTICULARS FURNISHED BY SHIPPER

**Marks & No. of Container Nos.**

**Description of Cargo**

**Weight**

**Measurement**

**Freight Charges**

**Rate**

**Rate**

**To Be Prepared in US Dollars**

**To Be Collected in US Dollars**

**Foreign Currency**

**Moneda Local**

**Signature**

**Contact**

**Telephone Number**

### CONTACT:

**Signature**

**Telephone Number**

**Total**

**In Witness Whereof the Carrier Has Signed**

**Original Bills of Lading**

**All of the Above**

**Carrier: Liner Services**

**For Shipper**

---

**DECLARED VALUE**

- **Applicable Only When Used For Through Transportation Bill of Lading.**

- **Applicable Only When Used For Through Transportation Bill of Lading.**

- **In Description of Cargo Only.**

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**FOR SHIPPER**

---

**FOR CARRIER**

---
Non-traditional movement – there may be instances in which cargo is moved via a seafaring vessel in which no BOL is used. Such an instance might be when cargo is moved using ocean waterways without moving between two countries, when the sea carrier or vessel owner isn’t large enough to participate in regular maritime shipping practices, and when natural disasters or conflicts preclude the normal procedures associated with sea shipping. In such instances, individuals or organizations should still endeavour to utilize standard shipping best practices, such as use of packing list and waybill, to prevent loss or theft along the way.

Cargo Configuration for Sea Shipping

Cargo shipped via sea tends to require the lowest attention to detail, especially if cargo is shipped using standard shipping containers. There are still a few things shippers should know when prepping cargo for sea movement however.

Container Shipping

Modern shipping containers have standardized interior, exterior and door dimensions. Containers also have pre-defined weight limits, set by the structural integrity of the containers and the rating on the cranes and vehicles used to move them. Shipping container weight will often be discussed in the following terms:

- **Tare** – the weight of an empty container; weight generated by the container itself
- **Net** – the weight of the goods placed in the container
- **Gross** – the combined weight of the container and the contents of the container

Containers may be made of different materials, altering the tare and gross weight availability.

Example container carrying vessel:

<table>
<thead>
<tr>
<th>TEU and FEU Dry Container</th>
<th>Container Weight</th>
<th>Interior Dimensions</th>
<th>Door</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>Gross (kg)</td>
<td>Tare (kg)</td>
<td>Net (kg)</td>
</tr>
<tr>
<td>20 ft</td>
<td>24,000</td>
<td>2,370</td>
<td>21,630</td>
</tr>
<tr>
<td>40 ft</td>
<td>30,480</td>
<td>4,000</td>
<td>26,480</td>
</tr>
</tbody>
</table>

Though there are dozens of varieties of containers available to meet a number of needs, the vast majority of containers what are known as “dry containers” at either 20 foot (TEU) or 40 foot (FEU) sizes. TEU and FEU are totally enclosed, and though they are called “dry” are not actually hermetically sealed. The containers themselves are lockable and stackable, with two TEUs being able to be loaded on top of or below an FEU. Standard dry containers are mostly made from steel, however aluminium varieties are available.

When planning shipments in an TEU or FEU, shippers should consider the width, height, and total volume of a container. As an example, the interior width of a standard FEU is just under 2.4 meters while the width of a standard north American pallet is just over 1 meter on the short end while just over 1.2 meters on the long end; loading using this pallet type using any side by side configuration will inevitably mean losing some usable free space. The same goes for oversized pallets – pallets of excessive height will not be able to fit through doors if they exceed the door height, especially if pallets are moved by a hand truck or other form of MHE, meaning there will still be several cm of clearance required for the pallet to be picked up off the ground.

Cargo that is loose loaded into a container by hand may be able to fill up every available space, but loading and offloading cargo by hand can take extremely long periods of time. Unless a transporter is willing to do a drop and pick, the use of handloading may even be prohibitive. Additionally, many containers may be emptied and transloaded onto another truck where intermodal arrangements are not available, which would delay the process even further while increasing the risk of damage to cargo. In large scale response operations, shippers may opt to use palletized loading just to speed up the front and rear ends of the delivery.
Outside of the standard TEU and FEU dry container, there are several common types of shipping containers to meet different needs.

- **Open Top/Side** - Some containers come with open tops or open sides to accommodate oversized cargo such as vehicles. The containers will still have bases of regular dimensions to facilitate stacking and moving via cranes, however.
- **Oversized** – Some containers are made especially long or especially high to accommodate larger loads. Only special vessels and ports can accommodate this type of container however.
- **Cold Storage** – Cold storage or refrigerated “reefer” containers are used for transmission of any climate controlled or cold chain items. Reefer containers are designed to transport cold requirement items over the entire sea voyage, and require constant connection to electricity or fuel to maintain low internal temperatures. Self-contained reefers can technically be transported on any vessel that can accommodate regular TEUs and FEUs, but special training and handling may be required.

### Refrigerated “Reefer” Containers

<table>
<thead>
<tr>
<th>Type</th>
<th>Container Weight</th>
<th>Interior Dimensions</th>
<th>Door</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross (kg)</td>
<td>Tare (kg)</td>
<td>Net (kg)</td>
</tr>
<tr>
<td></td>
<td>Length (m)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td></td>
<td>Capacity (m³)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td>20 ft</td>
<td>24,000</td>
<td>3,050</td>
<td>20,950</td>
</tr>
<tr>
<td></td>
<td>5.449</td>
<td>2.29</td>
<td>2.244</td>
</tr>
<tr>
<td></td>
<td>26.7</td>
<td>2.276</td>
<td>2.261</td>
</tr>
<tr>
<td>40 ft</td>
<td>30,480</td>
<td>4,520</td>
<td>25,960</td>
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<tr>
<td></td>
<td>11.69</td>
<td>2.25</td>
<td>2.247</td>
</tr>
<tr>
<td></td>
<td>57.1</td>
<td>2.28</td>
<td>2.205</td>
</tr>
</tbody>
</table>

### Open Top Containers

<table>
<thead>
<tr>
<th>Type</th>
<th>Container Weight</th>
<th>Interior Dimensions</th>
<th>Door</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross (kg)</td>
<td>Tare (kg)</td>
<td>Net (kg)</td>
</tr>
<tr>
<td></td>
<td>Length (m)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td></td>
<td>Capacity (m³)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td>20 ft</td>
<td>24,000</td>
<td>2,580</td>
<td>21,420</td>
</tr>
<tr>
<td></td>
<td>5.629</td>
<td>2.212</td>
<td>2.311</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>2.33</td>
<td>2.263</td>
</tr>
<tr>
<td>40 ft</td>
<td>30,480</td>
<td>4,290</td>
<td>26,190</td>
</tr>
<tr>
<td></td>
<td>11.736</td>
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</tr>
<tr>
<td></td>
<td>64.4</td>
<td>2.33</td>
<td>2.263</td>
</tr>
</tbody>
</table>

### Flat Rack Containers

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<tr>
<th>Type</th>
<th>Container Weight</th>
<th>Interior Dimensions</th>
<th>Door</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross (kg)</td>
<td>Tare (kg)</td>
<td>Net (kg)</td>
</tr>
<tr>
<td></td>
<td>Length (m)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td></td>
<td>Capacity (m³)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td>20 ft</td>
<td>30,480</td>
<td>2,900</td>
<td>27,580</td>
</tr>
<tr>
<td></td>
<td>5.624</td>
<td>2.236</td>
<td>2.234</td>
</tr>
<tr>
<td></td>
<td>27.9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>40 ft</td>
<td>34,000</td>
<td>5,870</td>
<td>28,130</td>
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<tr>
<td></td>
<td>11.786</td>
<td>2.236</td>
<td>1.698</td>
</tr>
<tr>
<td></td>
<td>27.9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### High Cube Containers

<table>
<thead>
<tr>
<th>Type</th>
<th>Container Weight</th>
<th>Interior Dimensions</th>
<th>Door</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gross (kg)</td>
<td>Tare (kg)</td>
<td>Net (kg)</td>
</tr>
<tr>
<td></td>
<td>Length (m)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td></td>
<td>Capacity (m³)</td>
<td>Width (m)</td>
<td>Height (m)</td>
</tr>
<tr>
<td>40 ft</td>
<td>30,480</td>
<td>3,980</td>
<td>26,500</td>
</tr>
<tr>
<td></td>
<td>12.031</td>
<td>2.352</td>
<td>2.698</td>
</tr>
<tr>
<td></td>
<td>76.3</td>
<td>2.34</td>
<td>2.585</td>
</tr>
<tr>
<td>45 ft</td>
<td>30,480</td>
<td>4,800</td>
<td>25,680</td>
</tr>
<tr>
<td></td>
<td>23.544</td>
<td>2.352</td>
<td>2.698</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>2.34</td>
<td>2.585</td>
</tr>
</tbody>
</table>

### Oversized Cargo

Sea shipping is ideal for extremely large cargo; the cargo holds of larger ships can handle excessively large items, while the MHE used in port operations can handle weights not common in air or trucking. For transportation of oversized items, shippers must obtain proper exterior dimensions, and in the case of machine equipment, should obtain detailed material handling specifications available from the manufacturer or in the equipment manual. Non containerized shipments may take some time to formalize, as a break bulk carrier with the appropriate size hold and free space may not be readily available. Additionally, it may be difficult to find vessels utilizing the correct routing to arrive at a shipper’s intended destination. Shippers should begin conversations early with forwarders to determine the time and information needs to successfully ship bulk cargo.
Bulk Dry / Loose Cargo

Sea faring vessels have a unique capacity to carry enormous quantities of unpackaged bulk cargo; cargo that is loose dry cargo such as grain or ore. Bulk carriers can hold high volumes of loose items in one or a few large cargo holds in the middle of the vessel. Unlike containerized vessels, it is highly unlikely that bulk carriers would undergo a transhipment process – the act of getting loose bulk off and back on a ship is very energy intensive. Bulk carriers require specialty equipment and training to load and off load. Loading can occur with cranes or grain elevators, while offloading requires special cranes to scoop or even suck up fine granules. Depending on the needs on the ground, bulk cargo operations might even undergo bagging directly at the point, to facilitate quick loading onto trucks for onward movement. Bulk cargo vessels are common for food operations in humanitarian response.

Physical Cargo Needs

Due to the long duration of sea shipping, shippers should be mindful of cargo that may have sensitivities to temperature, or have specific expiration dates. Cargo shipped in a container along regular shipping lanes may easily take up to two months to reach its destination, especially when customs clearance and demurrage are taken into account. Containers will remain sealed, and will be exposed to the sun and elements throughout the duration of its journey, meaning contents can be subject to extreme heat or extreme cold.

- **Medical cargo** – pharmaceuticals and consumables that have expiration dates must be handled with transit times in mind. Many countries won’t import medical goods with less than 18 months of shelf life left, a time constraint that starts at the point of customs. This means medical goods must be procured and shipped with even longer shelf lives. Shippers should know the import procedures of the intended destination and plan accordingly. Temperature sensitive items may need reefer storage, even if not expressly stated by the manufacturer.
- **Food stuffs** – containerized food items should be prepped for long storage – special temperature requirements must be identified up front, and fumigation may be required prior to loading.
- **Dangerous Goods** – sea shipping standards around dangerous goods are less stringent, but must still be accounted for. Some DG items are reactive to metal, meaning long term exposure to shipping containers might actually damage the container resulting in additional cost to the shipper. Other DG items become combustible with increased heat – even though cargo at origin or destination may not be exposed to extreme temperatures, containers can be offloaded and held in extremely hot climates while waiting transhipping on another vessel.

Planning Sea Movement

In planning movements by sea, port capability and the control of port activity needs to be understood in order to assess any possible constraints that could impede the movement of goods. The following factors will indicate the suitability of a port to handle the planned movements:

- The number, type and size of ships that can be handled at one time
- Typical vessel waiting and discharge times
- Availability of equipment to handle different types of consignment – for example, bulk, bagged, loose, containers etc., and its state of repair
- Availability of labour, working hours and typical discharge rates for both manually
- Unloaded cargo and containers
- Operational factors that may constrain activity such as the risk of congestion or the impact of the weather at certain times
- Port documentation requirements and the efficiency of procedures for clearing cargo
- Storage facilities and infrastructure such as railways, roads

Where the movement of goods is to an area under the control of the local public authority, a clear understanding of the requirements covering movement of goods must be obtained from the appropriate authority prior to initiating any movement.

References

[Container Specifications]