

GLOSSARY TERMS

A.R. – Against All Risks – this is an insurance term in the freight forwarding business.

A.1. – First Class Condition

A.D. – After Date

ADD/CVD – Antidumping and Countervailing Duties – When Commerce determines goods are being imported at rates below the cost to manufacture and the importation is damaging, an Anti-Dumping/Countervailing Duty can be asserted.

Ad. val. – Ad Valorem – this is a latin term when translated means According to Value.

A.N. – Aft Hatch

A.S. – After Sight

ACCEPTANCE – An acceptance is a time draft that the drawee has either stamped or written the word accepted across the face of the draft and then signs the acceptance notation. If a bank is the drawee (the party that the draft is drawn on), a Banker's Acceptance is created. If the drawee is an individual or company, it is referred to as a Trade Acceptance.

ACCESSORIAL CHARGE – A charge made by a carrier for other than basic ocean transportation FMC 514.2 "Accessorial means a particular service or condition other than the basic transportation, which is usually described in a commodity description, TLI, or Tariff Rule, and for which a charge may be added to the basic ocean freight rate."

ADVISED CREDIT – A letter of credit that has been authenticated by the advising bank, insuring that the issuing bank did indeed issue the letter of credit. The advising bank does not take on any responsibility to effect payment as they would if they had confirmed the letter of credit. However, they will most likely assist in facilitating payment.

ALL INCLUSIVE / "ALL-IN" – a term that states a shipping rate that includes all shipping and accessorial charges.

AMENDMENT – The account party may contact the issuing bank in writing requesting that a term or condition in the original letter of credit be changed or deleted, or that a new term or condition be added to the letter of credit. According to the Uniform Customs and Practices (UCP) 500, amendments must be accepted or rejected in their entirety. In other words, if the amendment contains more than one change, and you like one change but not the other, you have to either accept or reject the entire amendment.

ASSIGNMENT of PROCEEDS – The beneficiary of a letter of credit may instruct the negotiating bank, in writing, to pay all or a portion of the proceeds due them to a third party. The request to assign the proceeds should be accompanied by the original letter of credit and the fee that the negotiating bank may charge for this service.

BAF or FAF – Bunker or Fuel adjustment factor – An accessorial charge for fuel. In some instance it is called a fuel surcharge.

B.B. – Break Bulk – Cargo loaded in bulk inside a vessel as compared to containerized cargo.

B/L – Bill of Lading – A contract of carriage, used by ocean, inland waterway, rail and truck common carriers, and contract carriers. Variety of B/Ls includes an Ocean B/L, a Multimodal B/L, a Uniform B/L, & a Uniform Short B/L. The former two can be negotiable, and would carry title to the goods.

B.O. – Bad Order – Rail term where the car is in need of repair.

BENEFICIARY – The party that the letter of credit is issued in favor of. The beneficiary may also be referred to as the seller, exporter, the supplier or the vendor.

C-TPAT – Customs – Trade Partnership Against Terrorism. In order to develop, enhance, and maintain effective security processes throughout the global supply chain, U.S. Customs and Border Protection (CBP) certifies entities who have satisfied the CBP requirements.

CAF – Currency adjustment factor – An accessorial charge to compensate for fluctuations in currencies.

C.E. – Consumption Entry

CFR or CNF Cost of Goods, and Freight – Shipper is responsible for paying the freight to destination.

CFS – Container Freight Station – a standard freight forwarding term as defined a location where the carrier controls the loading and / or unloading of containers.

CHB – Customs House Broker – A person or company who has passed all requirements and is licensed to do import business with US Customs. The exam requires a proficiency in CFR 19, NAFTA, and the Harmonized Tariff.

CIF – Cost of Goods, Insurance and Freight – a standard freight forwarder term, where seller is responsible for arranging & paying freight to destination and covering insurance to destination.

C.O.D. – Cash on Delivery

OFC Container on Flat Car C- Intermodal container without chassis.

C/O – Certificate of Origin – A document certifying that the goods described were from the area stated on the certificate. It usually is notarized and certified by the local Chamber of Commerce.

C.P. – Charter Party – This is a common expression used in sea freight. The hiring of a vessel or ship is referred to as a ‘charter’. So, when a vessel is ‘chartered’, it means that the ship owner has hired it out to a second party (the ship itself would be referred to as being ‘on charter’ and so forth). The terms and conditions of the charter, that is to say the contractual terms and conditions of hire, are documented in a contract called a ‘charter party’. Note that the expression is sometimes written as one word (charter party). In times past, the terms and conditions of the arrangement would have been uniquely drawn up on a document (the French word for which is taken from the Latin expression ‘carta’). This document when signed by the ship owner and the hirer would then be torn in two, with each keeping one piece. The French expression for this being ‘a part’ (on the side). So, from carta a part, the expression developed into an Anglicised form charter party.

These days, the underlying contracts are normally standard formats with established conditions for the trade, cargo type, trade route or vessel type employed.

As the terms and conditions of carriage are recorded on a document (the charter party) separate from the transport document, the transport document loses one of its traditional attributes (that of being ‘evidence’ of the contract of carriage). So, if a documentary credit was involved, the bank may call for both the charter party and the transport document or at the very least require the transport document to make reference to the charter party.

C.R. – Carrier's risk

CY/CY – Container Yard to Container Yard – A container yard is a location where containers may be parked, picked up, or delivered full or empty. A CY may further be a place of loading (stuffing) or unloading and/or where ocean carrier accepts custody and control of cargo.

CARNET – A Customs document that permits the party holding the carnet to carry or send merchandise temporarily into certain countries without paying duties or posting bonds. Used frequently for trade shows.

Chassis – Frame with wheels used to transport containers.

Conference – A group of carriers exempt from Anti-Trust laws because they can share services and establish rates.

CONFIRMATION – When the advising bank guarantees the obligation of the issuing bank, providing an extra layer of protection. Used most often when the credit worthiness of the issuing bank is in question, or the political or economic conditions of the issuing bank's country are considered risky.

CONSIGNEE – The party appearing on a bill of lading to which the carrier has been instructed to deliver the goods.

D/D – Date Draft

D/S – Days After Sight

DDC – Destination Delivery Charge – An accessorial charge for the delivery of the cargo to deliver at destination, usually the buyer pays for these charges.

Dead Freight – This is an amount paid to the Shipping Line, for cargo withdrawn by the shipper or cancelled by the shipper (and so not loaded) that the Carrier was advised would be loaded under a contract of Carriage. The amount claimed by the Carrier is the full freight less any lifting charges either not included in the freight or accepted as not incurred (although this deduction if included in the original freight rate is at the discretion of the Carrier). Effectively, once the contract is in place (and this is at the very moment of the verbal offer and acceptance, regardless of if a tangible document has been issued), the cargo must be shipped. If the shipper fails to load or cancels the booking, the Carrier can demand the full freight anyway this is even true if they then rebook the space for use by another shipper. It is uncommon to come across this condition in a service which runs on a regular and frequent basis this does not mean to say that the Carrier in such a service does not have the right to claim Dead freight, but rather that they waive the right for commercial reasons. It is a more common risk and a regularly imposed penalty in less frequent or charter arrangements.

DGD – Dangerous Goods Declaration – Any substance that falls under one of

9 UN hazardous classifications as defined in the IMDGC.

DOT – Department of Transportation – U.S. cabinet level agency responsible for domestic transportation and US inland portions of international shipments. DOT is also the parent agency of the US Coast Guard.

Demurrage? – Freight charges caused by containers being stored at port or CY beyond specified free time.

Detention? – Freight charges caused by containers being kept outside port or CY beyond specified free time.

Direct Service – A Direct Service in Airfreight can mean one of two things. Either, it is a request for or a reference to, the cargo being handed directly to the Air Carrier as opposed to the Consolidator or Forwarder. In this context then, a Direct Service is the opposite of a consolidated service (see definition 28). Note that this is frequently called

Direct IATA (with IATA being the International body that controls air activity [refer to definition 157]). However, not all Air Carriers are IATA members, so Direct with the Carrier would be a more accurate statement. The second use of the expression Direct Service is in requesting the routing of the cargo using one aircraft only. Whether or not the cargo is entrusted directly to the Carrier or via a Consolidator or Forwarder is not the point. What is important in this usage of the expression is that the cargo flies from origin to destination on a single craft. This would be the opposite of the dogleg service (refer to definition 8). The caution is that in using the expression in the context of the second definition (i.e. one aircraft) a consolidator may take it to mean the first definition (i.e. directly with the Carrier). The consequence of such a misunderstanding could be severe as the Freight Rates charged by Carriers for 'direct' handling of cargoes is often many times greater than the rate offered by the Forwarder.

DRAFT (Bill of Exchange) – A formal demand for payment from the drawer to the drawee stipulating the amount and currency to be paid at a specified time to the order of a named party, also referred to as the payee. A sight draft is

for immediate payment; a time draft allows for a financing period, usually not more than 180 days.

DRAWBACK – The ability to be reimbursed for some or all of the duties paid on imported merchandise at the time of re-exportation.

Dray – The trucking movement of a container.

Duty – Import Tax imposed by Customs – The Harmonized Tariff System (HTS) provides duty rates for virtually every item that exists. The HTS is a reference manual that is the size of an unabridged dictionary. Experts spend years learning how to properly classify an item in order to determine its correct duty rate. Duty can be imposed by ad valorem (a percentage of the value) and/or a flat charge per unit.

D.W. – Deadweight Ton – means 2,240 lbs.

E&O – Errors and Omissions – an insurance term.

EAON – Except as Otherwise Noted

EAR – Export Administration Regulations

EIN – Exporter's identification number – (Federal ID No.).

FAA – Free of All Average – an insurance term.

FAS – Free Along Side – Goods to be delivered by seller to a location along side of vessel, loading and carriage charges are for the buyers account (paid by the buyer).

FEC – Foreign Exchange Contract or Forward Cover – This is a Banking facility devised to allow (normally) importers to cost goods using a fixed exchange rate.

What this allows is for the importer to calculate the landed cost of the goods and to therefore sell goods at the first available moment, well in advance of

the due date for the supplier to be paid. In this way the importer will avoid having to bear the risk of exchange rate fluctuation. The rate of exchange used by the bank is one that they anticipate will apply on the due date i.e. the date that the supplier is to be paid. For example: If cargo arrives on day one and is due to be paid for on day 90, the importer contacts the bank and enters into a contract with them, where the importer undertakes to buy the required foreign exchange on day 90. In recognition of this undertaking, the bank then fixes a rate of exchange, which will stand for that future purchase of currency by the importer. The importer uses this exchange rate in the costing calculations.

When day 90 arrives, the importer buys the exchange at the agreed rate (and pays his supplier). If the local currency has deteriorated against the foreign one, the importer has no risk equally if it has improved, he has no gain. However, it gives stability in markets where the local currency is volatile. Exporters also have a use for these contracts especially when they give their prices to foreign buyers in a currency other than their local currency. The scenario is now reversed as the exporter obtains a fixed rate at which the Bank will buy the foreign currency from the supplier when the supplier is paid. The exporter effectively 'fixes' their profit in this manner, and again avoids any consequence of exchange rate fluctuation.

FEU – Forty foot Equivalent Unit – See TEU.

FIO – Free In and Out – Ocean Loading / Unloading term. –BEWARE the term free is a dangerous one. In this term, free means that the cost of loading and unloading are for the account of the shipper, and not the carrier.

For example, if you shipped a container from Hong Kong to Los Angeles for US\$1,000 FIO, you would have to pay the carrier US\$1,000 for the ocean freight, AND you would have to pay the Port tariff charges to load the container in Hong Kong plus the Los Angeles port tariff charges to unload the container, which would about double your shipping cost.

In other words, Free In and Out (FIO) means that the loading (in) charges, and unloading (out) charges are free as far as the carrier is concerned.

FMC – Federal Maritime Commission

FOB – Free on Board – Incoterm where seller is responsible for delivering goods to a specified port and the cost of loading goods onboard the vessel. This term must be clarified by stating a specific location and type of conveyance (i.e., FOB vessel, New Orleans, LA)

FTZ – Foreign Trade Zone or Free Trade Zone – An area where goods can enter the country duty free. The goods can be stored, used or sold while in the zone without incurring duties. Duties are only paid when the goods leave the Trade Zone FTZ as a FOREIGN Trade Zone. (see 19 USC 81a – The Foreign Trade Zone Act and 19 CFR part 146).

FORCE MAJEURE – a French term that means a natural disaster, riot terrorist act, or war which is totally beyond a party's control, and prevents them from fulfilling obligations under a contract.

Fortnightly – 14 days (every other week).

Freight – This is an excellent example of how difficult it is to 'crack the code' of the freight vocabulary. The word Freight is used in many different ways to describe many loosely associated things. The following is not intended as a definitive list but should indicate the need to be careful with the words you use in trade, given also that the party you are communicating with is not necessarily accomplished in English. (The English word Freight being "Fret", "Fracht", "Vracht", "Vrag" and "Nolo" in French German Dutch Afrikaans and Italian respectively).

1. Freight as an expression used to indicate the actual cost of movement. This would be in the context of a 'freight rate', but you will be asked, "how much freight did you pay" which could actually be the total of all transport costs from A to B, whether called freight-rates or not.
2. Freight as the actual action of movement. This would be in the question "how do you want to freight this" e.g. air or sea or land.
3. Freight used to describe the actual cargo itself. As in "I'm sorry, but we cannot find your freight!" or in the expression Freight Forwarder.
4. (To) Freight is used to indicate that the charges are to be shown on a given document. For example, to freight a bill of lading is to endorse it with the prepaid and/or collect charges due.

Interestingly and perhaps tellingly the word derives from the Latin 'onus' meaning a burden!

Gantry Crane – A big ass crane used to lift cargo from the pier to a vessel or vice versa.

GRI – General Rate Increase – An across the board rate increase by carriers, freightliners or a conference group.

GRI – General Rules of Interpretation – The universal rules governing the Harmonized Tariff System.

HMF – Harbor Maintenance Fee – Another accessorial charge, usually a percentage of the invoiced value of the cargo. Some have called this Harbor Port Tax.

Hague Rules – Ocean B/L terms covering carrier liability established 25 Aug. 1924. Incorporated into US law in 1936 through COGSA (Carriage of goods at sea act). Hague Visby amendments of 1968 are not included in COGSA. Read the fine print on the back of the B/L.

Harmonized Tariff System – A comprehensive commodity classification system. Schedule B is the export classification system, and HTSUSA is the classification system used to classify cargo imported into the US, and assess duty thereon.

H.W.M. – High Water Mark

IMO – International Maritime Organization – Part of the UN which regulates international navigation and shipping safety through a framework of rules, treaties and regulations.

IPI – Inland Point Intermodal (Micro-bridge) – Cargo moving from an inland point, under control of the ocean carrier. FMC 514.2 "Intermodal transportation means continuous transportation involving more than one mode of service (e.g., ship rail motor and air), for pickup and/or delivery at a point

beyond the area of the port at which the vessel calls."

Independent – A carrier who is not a member of a conference.

INCOTERMS – Standard set of definitions for delivery terms (terms of sale) established by the International Chamber of Commerce.

EXW – Ex Works (named place): any mode of transport; seller makes goods available to buyer at seller's premises or other location, not cleared for export and not loaded on a vehicle. The buyer bears all risks and costs involved in taking the goods from the seller's premises and thereafter.

FCA--Free Carrier (named place): any mode of transport; seller delivers goods, cleared for export, to the carrier named by the buyer at the specified place. If delivery occurs at the seller's premises, the seller is responsible for loading; if delivery occurs elsewhere, the seller must load the conveyance but is not responsible for unloading.

EXW--Ex Works (named place): FAS--Free Along Side Ship (named port of shipment): maritime and inland waterway only; seller delivers when the goods are placed alongside the vessel at the named port of shipment. The seller also clears the goods for export.

FOB – Free On Board (named port of shipment): maritime and inland waterway only; seller delivers when the goods are pass the ship's rail at the named port. The seller clears the goods for export.

CFR – Cost and Freight (named port of destination): maritime and inland waterway only; seller delivers when the goods pass the ship's rail at the port of export. The seller pays cost and freight for bringing the goods to the foreign port and clear the goods for export.

CIF – Cost, Insurance and Freight (named port of destination): maritime and inland waterway only; seller delivers when the goods pass the ship's rail at the port of export. The seller pays cost and freight for bringing the goods to the foreign port, obtains insurance against the buyer's risk of loss or damage, and clears the goods for export.

CIP – Carriage and Insurance Paid to (named place of destination): any mode of transport; seller delivers the goods to a carrier it nominates but also pays the cost of bringing the goods to the named destination. The seller also obtains insurance against the buyer's risk of loss or damage during carriage and clears the goods for export.

CPT – Carriage Paid To (named place of destination): any mode of transport; seller delivers goods to carrier it nominates and pays costs of bringing goods to the named destination. The seller also clears the goods for export.

DAF – Delivered At Frontier (named place): any mode of transport to a land frontier; seller delivers when goods are placed at the buyer's disposal on the "arriving means of transport" (not unloaded), cleared for export but not cleared for import before the customs border of the destination country.

DES – Delivered Ex Ship (named port of destination): maritime and inland waterway only; seller delivers when goods are at the buyer's disposal on board the ship not cleared for import. The buyer pays discharging costs.

DEQ – Delivered Ex Quay (named port of destination): maritime and inland waterway only; seller delivers when the goods are placed at the buyer's disposal, not cleared for import, on the dock (quay) at the named port of destination. The seller pays discharging costs, but the buyer pays for import clearance.

DDU – Delivered Duty Unpaid (named place of destination): any mode of transport; seller delivers the goods to the buyer not cleared for import and not unloaded from the arriving means of transport at the named destination, but the buyer is responsible for all import clearance formalities and costs.

DDP – Delivered Duty Paid (named place of destination): any mode of transport; seller delivers the goods to the buyer cleared for import (including import license, duties, and taxes) but not unloaded from the means of transport.

Inspection – Pre (or Post) – Shipment Inspection:

A Pre-Shipment inspection involves the inspection of cargo prior to loading or shipment by either an independent third party or by a representative of the buyer. The inspection is called for to assess the quantity, quality, composition or condition (or all of these) of the cargo. Essentially, there are two types of inspection. An Inspection that is commercial in nature this is to say that the buyer or buyer and seller have agreed to the inspection or one that is mandated by law. When the inspection is legislated, it is normally a requirement of the government of the destination country. They will normally appoint an independent inspection service to act on their behalf in the various countries of origin and frequently, the clean report issued by the inspection service (or a certificate that the clean report has been issued) is the 'trigger' for payment. As such, the buyer cannot remit funds to the seller unless the cargo has passed the inspection. The extent of the inspection may be fixed and quite specific, dependant on the nature of the goods. Equally, the goods and circumstances dictate where and when such inspections take place. They can range in extent from a simple 'tally', e.g. counting boxes and opening a random sample of these, right up to drawing samples and subjecting them to chemical analysis in a laboratory.

With a 'commercial' inspection, the buyer normally appoints someone to be present at the loading, again checking quantities and random samples. This may be someone from the independent inspectorate field, or their own local agent etc. There are no guidelines for these informal commercial inspections but a common application is to check that the quality of goods ordered on the strength of a high-grade sample meet the standards of the sample goods. Post Shipment Inspections are uncommon but still have their place in freight. Clearly the cargo has already moved and if the inspection reveals problems, these are compounded in that the cargo is no longer with the seller. These are often voluntary inspections and should not be confused with inspections mandated through Customs and Excise, for example.

INSURANCE – here are some of the types of insurance offered: Ocean Marine,
General Average, E&O – Errors & Omissions, OS&D – Over, Short, &

Damage, COGS – Carriage of Goods at Sea, Hague Visby – see Hague rules.

INSURANCE COVER (Calculation) – In 1906, an Act of Parliament was passed in Britain governing the minimum requirements for maritime insurance. This Act (the Maritime Insurance Act of 1906) specified that, in the absence of instruction, the insuring party need only organize cover to the value plus 10% (i.e. the commercial invoice plus an additional 10%). Much has changed since 1906 and certainly the ratio of freight-costs to freight-value is substantially different. To simply add 10% to the invoice is perhaps underplaying the true cover required. The Seller's Commercial Invoice will be for the goods and further, the invoice may include some, none or all of the cost of transport to get the goods onto the Buyer's shelf from the Seller's point of manufacture. It is therefore required that Cover is calculated by firstly determining the costs of moving the cargo onto the Buyer's shelf from where the Seller's freight charges included in the sales invoice, end. Dependent on the specifics of the transaction, this may embrace freight, transport, duties and all disbursements (although generally excluding recoverable taxes such as VAT), with the addition of margins for profit and exchange fluctuation in accordance with allowances made by the insurer. These additional costs over and above the Seller's invoice are then totaled and expressed as a percentage of the Seller's invoice.

Roughly speaking, there is a sliding scale between value and freighting cost percentages. This is to say that the higher the value of the cargo, the lower the total movement costs as a percentage of that value (provided that the freight costs are not raised in relation to the value of the goods, a system that is uncommon but not impossible). Normally freight movement costs are related to the size of a product rather than the value of it. Small traffic of high value will normally result in the charges for the movement of the freight being a low percentage of the overall cargo value whereas bulky traffic of low value would have the reverse effect, with the freight percentage forming a substantial part of the landed costs. It should be emphasized that the 1906 standard of values plus 10% is still given as a guideline in the absence of instruction. The intention behind the Act was to allow Sellers to proceed even if they were unable to obtain direction from

the Buyer, i.e. the Buyer's failure to notify the Seller of the correct freight or other costs to be included in the calculation would not inhibit the movement of the cargo.

However, Sellers have a vested interest in ensuring that the insurance cover they undertake is adequate as they are owners of the cargo until such time as they are paid and in the most extreme example should the Buyer fail (become insolvent) then the Seller would retain the insurable interest irrespective of the Commercial Terms employed. In an age of mass communication the modern Seller should have no need to default to the minimum cover of value plus 10% due to a lack of instruction or information. In many countries, in the absence of instruction, insurance brokers will normally offer insurance cover to the value calculated to be CFR plus 10% (Note. Do not confuse the use of the term CFR with the Incoterm CFR. These identical expressions have two different meanings one in the context of the Sales Contract, one in the context of the Insurance Contract). In the context of insurance, this term means the addition of the freight to the destination point of entry on to the cost or value of the commercial invoice.

This calculation stems from the common formula used in insurance claims when determining values for General Average liabilities, the base figure used to calculate the percentage contribution being expressed as CFR plus 10%.

LASH – Lighter aboard Ship – A ship containing equipment to load/unload itself.

L/C – Letter of Credit – Bank contract for guarantee of payment. See UCP500 rules for boilerplate.

LIFO – Liner In, Free Out – This is a qualification to a freight rate and should not be confused with, or used as, a term of sale. The expression Liner In Free Out, means that the port to port freight rate offered by the Carrier is inclusive of the costs of loading on to the ship but excludes the costs for the discharge of the goods at the port of arrival.

Terms such as these and there are many that you will come across are a throwback to the past in many respects. Frequently they are used with

different definitions in different countries. In many cases the variation is subtle often differing in some slight detail between ports in the same country and you should exercise great caution when working with terms like this to the point where you might consider calling for an exact definition from the party you are in discussion with. This holds particularly true if that party is based in a foreign country.

CAUTION: The word free can be very confusing in a trade context. For example: In the above expression the word 'free' means 'free from inclusion of'. So, Free Out means that the freight rate given does NOT include the costs of discharge from the ship. However, in the sales term FOB (Free on Board) the expression "free" means inclusive of the costs to achieve the underlying condition, so the purchase price under FOB includes all of the charges to achieve a condition (in this case loading on board.)

LINER TERMS – or full liner terms – This is an ocean freight expression. Liner terms are the opposite of Free terms. When you ship liner terms, the carrier is responsible for the loading and unloading of the cargo. If you ship LINER-IN, FREE-OUT, then the carrier is responsible for loading, and the shipper is responsible for unloading. FREE-IN, LINER-OUT means the shipper pays for loading, and the carrier pays for the unloading.

MLB – Mini Land Bridge – The same as IPI except the origin is a port instead of an inland point. If the origin is New Orleans, but the vessel sails out of Los Angeles, the NOLA → LA transport is MLB.

Microbridge – FMC 514.2 "Intermodal transportation means continuous transportation involving more than one mode of service (e.g., ship, rail, motor, and air), for pickup and/or delivery at a point beyond the area of the port at which the vessel calls."

NDNC – No Deal, No Contract – The context is when the seller/agents/brokers have sealed a deal, prior to the final contract between buyer and seller. NDNC is an agreement contingent upon a contract between the seller and all agents in the deal. No Contract, No Deal.

NLR – No License Required – The code that replaced G–DEST on the SED.

NOS FOB – Not Otherwise Specified – NVOCC – Non–Vessel Owning Common Carrier –An indirect ocean carrier who does not operate vessels, but accomplishes carriage via sub–contract with vessel operating carriers.

NVO or NVOCC (Non–Vessel Owning Common Carrier) – Although this is a common expression used by Sea freight Forwarders in many countries, the expression NVOCC has legal definition in the USA only. Sometimes, outside of the USA, they may be given as Non Vessel Owning Or Cargo Carrier rather than Common Carrier. As there is no formal definition outside of the USA, these variations abound. What the expression is trying to convey is the concept of the "Contractual Carrier" that is to say, someone who will issue a transport document as though they are the Carrier, although they themselves do not own or operate the vessel. Essentially, a Freight Forwarder (Ocean Transportation Intermediary) in all but name, Forwarders who choose to use the expression NVOCC to describe themselves outside of American operators who have legal obligation to do so in many circumstances are confusing the issue unnecessarily, and might be further attracting unwanted risks. For example, to use the variation Non Vessel Owning Common Carrier is rash. The last thing a non–American Forwarder wants is to be held accountable as a Common Carrier etc in America, the legal status of the Common Carrier varies from other countries, where such status is vigorously to be avoided, because of the legal burden it places on the Carrier. The exact American legal definition NVOCC means a common Carrier that does not operate the vessel by which ocean transportation is provided, and is a shipper in its relationship with the Ocean Common Carrier. Note that the "Ocean Common Carrier" is the actual shipping line.

OCP – Overland Common Point – Similar to IPI, but the shipper is responsible for moving the container/cargo from the loading point to the port.

On Board – An ambiguous term on a B/L, On Board followed by a date

usually means received for shipment, and not necessarily Laden On Board Vessel. The fine print on the back of the B/L should explain.

On Carriage – Transportation beyond the port of discharge. This can also be another accessorial charge.

OTI – Ocean Transportation Intermediary, this is a Freight Forwarder or an NVO according to the Shipping Act of 1998.

Overweight Container Law – Since April 9, 1997 any container or trailer in intermodal commerce weighing over 29,000 lbs must provide all parties with: actual gross weight, reasonable description of the cargo, identity of the certifying party, the trailer or container no., and the date of certification.

P.D. – Per Diem – a Latin term that means Per day.

Phytosanitary Certificates – Phyto means plants. Under international (WTO) treaty, a competent government authority can issue a certificate based on inspection of goods confirming that a plant(s), seeds, or plant products are free of insects and disease which the destination country specifies.

Pro-Forma – Latin phrase meaning "in the form of". A pro-forma invoice based on a sales contract should be issued to help a buyer open a letter of credit. A pro-forma invoice is not a demand for payment of money, but a preliminary copy to aid documentation.

RORO – Roll On, Roll Off – Ships specially fitted so entire trucks can drive onboard.

S/D – Sight Draft

SED – Shipper's Export Declaration – A declaration required by Census, Customs, and the Department of Commerce, giving all the details of who shipped what to whom, and the value of the goods. SSF does this electronically.

SHinc – Sundays and Holidays included

SHex – Sundays and Holidays excepted (not included)

Short Shipped (or Shut Out) – In Sea freight, this condition arises when the cargo is not taken on board the vessel. The Cargo is booked, documents are issued and the cargo is placed in the port, however it fails to be loaded. Traditionally, the main reason for this problem was over-booking. Such over-booking arose because of poor communication or rolled-over cargo rather than as a consequence of incompetence or greed (which was frequently the common and incorrect assumption). (Note that 'Rolled Over cargo is cargo that was previously short-shipped from a prior vessel). In the modern era, short shipments usually come about because of scheduling or weather problems. Vessels have limited time under the lifting equipment in a modern port and need to maintain schedules. If a tidal action is needed to facilitate the departure of the vessel, it might have to sail at a given time regardless of what it has or has not taken onboard. The on-board stamp on a sea freight document details the actual vessel that the cargo was loaded on. It is therefore important to see if the on-board endorsement indicates a different vessel than that for which the document was issued. If cargo is found short-shipped from a vessel for which 'on board' bills have been issued, the merchant has every right to complain.

S.L.&C. – Shipper's Load and Count

STC – Said To Contain – On the body of a Sea Freight Transport document, there will be a broad description of the cargo. The detail in this section will be prefixed STC, meaning Said To Contain i.e., the stated number and type of package in the previous columns are Said to Contain (followed by a description of the goods.) Under most laws, the Transport Document is a receipt for Packages, not a receipt for the cargo. This is to say that the law recognizes that if the Carrier is recording the receipt of cargo, the cargo condition (other than its outward appearance) quality, value and sometimes even mass and volume are unknown to the Carrier. The Carrier can tally that he has been given so many cartons, but he cannot see what is in those cartons. He relies on the Seller's declaration as to what they are

"said" to contain. This is particularly important when dealing with Full Containers when the document given is a receipt for One Package (the container). These issues are relevant to insurance claims and Carrier's liabilities that are normally linked to the number of packages involved in the claim and not the total value of the claim itself.

This matter is normally the province of the ruling convention applicable to the transport document. Some allow the Carrier the protection described above when working with Full Containers, whereas some do not. (You may care to look at the difference in this particular point between the Hague-Visby and Hamburg Rules)

SWIFT – Society for Worldwide Interbank Financial Telecommunications – An agreement between banks on communications and standards primarily pertaining to Letters of Credit.

TEU – Twenty foot Equivalent Unit – A 20ft container. This is a US measurement term. A TEU is about six meters long. It is a standard box or container. One FEU = two TEUs.

Telex Release – In those countries where Waybill or Express Release documents are not readily acknowledged as customary to the trade, there is still the option to operate a 'waybill' transaction by the Seller's surrender of one or more original Bills of Lading back to the Carrier. The Carrier then notifies their destination representative that the Buyer need not produce a further original to obtain release. Although most modern communication is by Email, or at least by Fax, Carriers generally still refer to this process of notification as being a "Telex Release". Every Bill of Lading is clause in such a manner that, on surrender of one original of the Document of Title, any and all other originals fall void. The Carrier issues more than one original as a necessity of trade, but obviously that Carrier must then protect themselves from the fact that several 'original' receipts have been issued. But, it is important to note that this surrender need not always be in the country of destination. For example cargo moving from the Country A to Country B involving a Document of Title may be released to the Buyer in Country B on presentation of one original of that Document of Title to any office in the world owned or operated or associated to the said Carrier.

This could be in the countries of Origin or Destination, but equally it could be in any other third location. In certain countries where Waybills are not acknowledged (the Far East mainly) this is an equally easy system for removing the need to generate, transmit and produce Documents of Title, should they not be required by the Seller. (It should be noted that this type of release often requires all originals to be surrendered simultaneously i.e. 1, 2 or 3 dependent on how many were issued).

THC – Terminal Handling Charge – Another accessorial charge.

TOFC – Trailer on Flat Car – Intermodal trailer or container with wheels.

TWRA – Transpacific Westbound Rate Agreement – A Conference of several ocean carriers allowed to meet and establish rates and schedules.

Tariff – A published listing containing actual rates, classifications, charges, rules, etc. A tariff is the distinguishing feature of a common carrier consisting of its offer to the public to provide transportation between published points/routes of service based on a common set of rules, at specified costs.

Transshipment – When a shipment from point "A" to "C" must be handled through "B" or other intermediate points.

UCP 500 – Uniform Customs and Practices for Documentary Credits, is a document published by the International Chamber of Commerce setting forth standard rules and conditions under which Documentary Letters of Credit are to be drafted, issued, notified, amended, negotiated, interpreted and paid by commercial banks. These rules reflect general consensus among banks worldwide, and provide a common basis on which to conduct business.

USDA – United States Department of Agriculture – US Government agency in charge of regulating agricultural plants & animals USDA oversees the import/export of agricultural products, and issues animal health certificates, (plant) phyto sanitary certificates, and (meat & dairy) sanitary certificates

on products within its jurisdiction, as required by foreign governments for exports. This is done respectively, through the USDA veterinary service for live animals, the Animal Plant Health Inspection Service (APHIS) for non food animal products, plants, and plant products, and the Food Safety Inspection Service for meat & dairy products. Comprehensive & current information on destination country documentation requirements for agricultural products is maintained on the USDA sponsored EXCERT system.

U.S. Customs – A division of the Department of Treasury is in charge of controlling the admissibility of goods into the country, and collecting duty and taxes thereon. Customs also enforces laws and regulations otherwise applicable to imported goods.

Waybill –This is a term for a non-negotiable "straight" bill of lading. It represents a contract for carriage.

Y/A – York/Antwerp Rules

" Ocean / Sea Freight Services "

" Major US Ports "



Most of the Shipments Transported by Ocean Cargo Include: Agricultural Tractor, Road-Building Machinery, Vehicles & Trucks, Heavy Equipment, Generators, Industrial Machinery, Grocery Goods, Food Items, Raw Materials

We offer following Ocean Freight Services :

Sea freight export / import consolidations, Combined air, sea freight services, Door to door delivery, Custom brokrage, L.C.L consolidation. F.C.L consolidation, Warehousing, distribution and delivery, Order follow up tracking systems, Supply chain tracking systems, Factory stuffing, Multi-model transport operators, Infrastructure and services facilities at all sea ports and dry parts.

" Steamship Lines "



List of Ocean Freight Services:

Full Container Loads (F.C.L.):

20 Foot Container, 40 Foot Container, 45 Foot High-Cube Containers, 20 Foot Flat-Beds or Flat-Racks, 40 Foot Flat-Beds or Flat-Racks, Break Bulk, Roll-on Roll-off (Ro-Ro)

Less than container loads (L.C.L.):

Customs Brokers

When importing goods, the shipment must clear customs. Any customs brokers could clear the goods through U.S. customs and have the shipment delivered to its final destination. In order for clearance, proper documentation is required:

Bill of Lading or Airway bill

Commercial invoice with description and value of the goods

Power of Attorney

Additional documentation may be needed, depending on the commodity, value and origin.

Also, shipments can move in-transit to a final country of destination.

For every shipment entering the United States, there are about 500 pages of Customs regulations and thousands of tariff items. And as brokers, we are well-versed in determining proper classifications and dutiable value.

When you look at the world the way we do, you can see why we are the preferred Custom Broker in the Americas. A freight forwarding organization can provide cargo transportation services for the following industries:

Medical equipment (medical supplies)

Agricultural equipment (tractor parts)

Computer equipment & computer parts, computer peripherals (hardware & software)

Vehicles (automobiles, trucks, busses)

Auto & truck parts

Heavy Equipment & machinery (machinery spare parts)

Generator sets (generator parts)

Office equipment (photocopiers, copying machines, copiers, fax, facsimiles, sorters)

Office supplies

Chemicals

Electrical materials

Construction materials

Grocery items (food items, frozen foods, food stuffs)

Radar equipment (radar parts)

Vessel supplies

Industrial equipment

Perishable goods (seafood, fish, plants, flowers)

Laundry equipments & boilers (boiler parts)

Aircraft parts (airplane parts, helicopter parts)

Marine equipment (boat parts)

Watercraft (jet skies, wave runners)

Health & Beauty Aids (H.B.A., toiletries, cosmetics, shampoos, colognes, perfumes)

General cargo (general commodities)

and ETC. Etc.

" Container Specifications "

40 ft HIGH CUBE ALUM REEFER CONTAINERS



Internal Dimension		
Length	11,585 mm	38 ft 0.29 in
width	2,290 mm	7 ft 6.16 in
Height	2,527 mm	8 ft 3.49 in
Door Opening		
Width	2,290 mm	7 ft 6.16 in
Height	2,493 mm	8 ft 2.10 in
Weight		
Max Gross	32,500 kg (30,480 kg)	71,650 lb (67,200 lb)
Tare	4,110 kg	9,060 lb
Max Payload	28,390 kg (26,370 kg)	62,590 lb (58,140 lb)
Load Capacity	67.0 cubic meters	2,367 cubic feet

40 ft HIGH CUBE STEEL REEFER CONTAINERS



Internal Dimension		
Length	11,587 mm	38 ft 0.29 in
width	2,290 mm	7 ft 6.16 in
Height	2,539 mm	8 ft 4.00 in
Door Opening		
Width	2,290 mm	7 ft 6.16 in
Height	2,572 mm	8 ft 5.40 in
Weight		
Max Gross	34,000 kg (30,480 kg)	74,960 lb (67,200 lb)
Tare	4,700 kg (4,800 kg)	10,360 lb (10,580 lb)
Max Payload	29,300 kg (25,680 kg)	74,960 lb (56,620 lb)
Load Capacity	67.0 cubic meters	2,378 cubic feet

20 ft OPEN TOP CONTAINERS



Internal Dimension

Length	5,893 mm	19 ft 4.21 in
width	2,346 mm	7 ft 8.36 in
Height	2,384 mm	7 ft 9.74 in

Door Opening

Width	2,338 mm	7 ft 8.05 in
Height	2,244 mm	7 ft 4.35 in

Weight

Max Gross	30,480 kg (24,000 kg)	67,200 lb (52,910 lb)
Tare	2,320 kg (2,450 kg)	5,120 lb (5,400 lb)
Max Payload	28,160 kg (21,550 kg)	62,080 lb (47,510 lb)

Load Capacity	33 cubic meters	1,155 cubic feet
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40ft HIGH CUBE DRY CONTAINERS



Internal Dimension

Length	12,031 mm	39 ft 5.66 in
width	2,348 mm	7 ft 8.44 in
Height	2,695 mm	8 ft 10.12 in

Door Opening

Width	2,336 mm	7 ft 8.01 in
Height	2,585 mm	8 ft 5.75 in

Weight

Max Gross	32,500 kg (30,480 kg)	71,650 lb (67,200 lb)
Tare	3,940 kg (3,990 kg)	8,690 lb (8,880 lb)
Max Payload	28,560 kg (26,490 kg)	62,960 lb (58,400 lb)

Load Capacity	76.0 cubic meters	2,689 cubic feet(2,684)
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40ft DRY CONTAINERS



Internal Dimension

Length	12,031 mm	39 ft 5.66 in
width	2,348 mm	7 ft 8.44 in
Height	2,390 mm	7 ft 9.90 in

Door Opening

Width	2,336 mm	7 ft 8.01 in
Height	2,280 mm	7 ft 5.45 in

Weight

Max Gross	32,500 kg (30,480 kg)	71,650 lb (67,200 lb)
Tare	3,750 kg (3,770 kg)	8,270 lb (8,310 lb)
Max Payload	28,750 kg (26,710 kg)	63,380 lb (58,890 lb)
Load Capacity	68.0 cubic meters(67.4)	2,385 cubic feet(2,379)

20ft DRY CONTAINERS



Internal Dimension

Length	5,897 mm	19 ft 4.17 in
width	2,348 mm	7 ft 8.44 in
Height	2,390 mm	7 ft 9.90 in

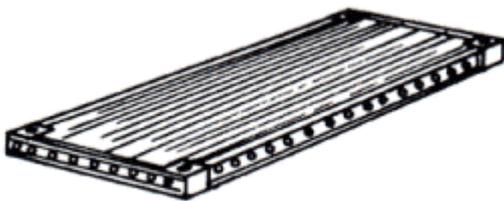
Door Opening

Width	2,336 mm	7 ft 8.01 in
Height	2,280 mm	7 ft 5.45 in

Weight

Max Gross	30,480 kg (24,000 kg)	67,200 lb (52,910 lb)
Tare	2,240 kg (2,290 kg)	4,940 lb (5,050 lb)
Max Payload	28,240 kg (21,710 kg)	62,260 lb (47,860 lb)
Load Capacity	33.0 cubic meters	1,169 cubic feet

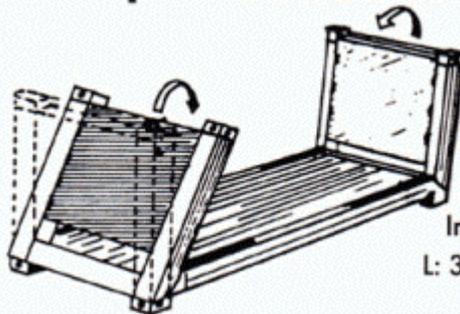
40' Platform



Payload: 86,000 lbs

Interior
L: 40'
W: 8'

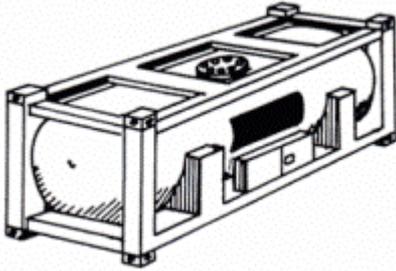
40' Collapsible Flat Rack



Payload: 57,280 lbs

Interior
L: 39' 11"
W: 8'
H: 6' 6³/₁₆"

20' Tank Container



Payload: 6, 764 US Gallons
Cubic Capacity: 904 cu. ft.

Interior
L: 20'
W: 8'
H: 8' 6"

" Container Glossary Terms "

A

absorption

Refers to the taking up of gases or vapors by liquids and/or solids where the gas or vapor fully penetrates the liquid or solid (adsorption is limited to the surface).

acceleration of shipment

Negative and positive accelerations are dynamic, mechanical stresses which occur in two main types during the transportation of goods: Regular acceleration forces primarily occur in maritime transport. Acceleration of up to one g ($g = 9.81 \text{ [m/s}^2\text{]}$) and, in extreme cases, even more, may occur due to rolling and pitching in rough seas. Such regular acceleration forces have an impact on the effort involved in load securing.

Irregular acceleration forces occur during cornering or when a train passes over switches, during braking, starting up, hoisting and lowering. Such acceleration forces are not generally repeated, but they may occur several times at varying intensities during transport. These are the typical stresses of land transport and transport, handling and storage operations.

acid value

The acid value specifies how many milligrams of potassium hydroxide (KOH) are necessary to neutralize the free fatty acids in a single gram of fat.

across the grain

The cross-section that is the result of cutting a tree trunk perpendicular to its length. (As opposed to "with the grain").

active behavior

Applies to goods that have an active influence on other goods and their environment.

additives

Substances added to other substances in order to modify their properties in a particular manner or to improve processing.

adsorption

The uptake of gases, vapor or dissolved substances (this is limited to the surface of solid objects)

adsorption delay

Delayed take up of water vapor by the cargo. In the Container Handbook, this refers exclusively to water vapor and describes the fact that during the day the water vapor is given off by the cargo to the air in the container (desorption) faster than the cooling of the container air introduces water vapor to the cargo (adsorption). The water vapor condenses on the walls of the container thus leading to damage.

adsorption isotherms

As used in the Container Handbook: Graphical representation of the uptake of water vapor by a substance at a specified temperature. For product information purposes, the sorption isotherms are usually taken for a temperature of 20°C.

aerobe

(Greek: aer - air) Microorganisms that require atmospheric oxygen.

aerobic respiration

Greek: aer - air) Metabolic process of goods of vegetable origin, during which glucose and atmospheric oxygen are consumed by respiration processes to form carbon dioxide, water vapor and heat.

aflatoxins

Short form of Aspergillus - flavus - toxin. A mycotoxin (mold toxin) that is produced by the fungus Aspergillus - flavus among others.

A-frame

Frame shaped like the letter "A" used to transport sheet loads, similar to the type of frame used when transporting panes of glass.

agglomeration

Lump formation.

airbag

Airbags can be positioned in the gaps between the cargo in order to achieve a tight fit during loading.

allelopathy

(Greek: allelon - mutual; pathe - influence) The mutual influence of goods of vegetable origin when stored together, caused as a result of gaseous metabolic products, for example, ethylene or carbon dioxide.

American Rust Standards

Used to classify corrosion damage. The American Rust Standard is recognized worldwide and widely used. It is often used in reports produced by surveyors.

amorphous

Without shape, without a fixed form.

anaerobe

(Greek: an - without, and aer - air) A microorganism that survives without atmospheric oxygen.

anaerobic respiration

(Greek: an - without; and aer - air) Occurs with goods of vegetable origin if the permitted carbon dioxide content is exceeded.

animal diseases

Animal diseases are diseases which are caused by bacteria, viruses, protozoa or fungi and may be transmitted to animals and humans.

animal goods

Goods of animal origin.

anthrax

Notifiable febrile disease caused by the anthrax bacillus.

anthropogenic influence

Influence caused by human activity.

apparent density

Density of lumber including hollow space.

Arrhenius equation

An equation describing the dependency of reaction speed on temperature. A simplified rule of thumb for transportation purposes is that when the temperature is lowered by 10^{°C}, degradation processes are reduced to between half and a third, i.e. the storage life can be doubled or even trebled by lowering the temperature by 10^{°C}.

articulated train / double train

An articulated train is a combination of an articulated truck and one or more trailers, i.e. truck tractor plus semitrailer plus trailer. German road traffic licensing regulations (StVZO) forbids combinations of this type. Section 32a states explicitly that no trailers are to be towed behind articulated trucks.

articulated truck

An articulated truck is a combination of a truck tractor and a semitrailer.

athwartships stowage

Load stowed across the beam of the container or ship (as opposed to fore and aft stowage). In the context of load securing, it is of utmost importance whether a container is stowed athwartships or fore and aft on a ship. In the case of athwartships stowage, the greatest acceleration forces act on the actual container longitudinally rather than transversely. Load securing measures must then be taken with this in mind.

ATP agreement

Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (Agreement on the Transport of Perishables); UN agreement for the cross-border transportation of foodstuffs.

autolysis

(Greek: autos - self; lucin - separation) Self-digestion.

autoxidation

Oxidation caused atmospheric oxygen and taking place at normal temperatures.

B

baud

Unit of speed for data transfer; 1 baud = 1 bit/s.

bay

A row of containers running from one side of the ship to the other. To be distinguished from a hold.

bay plan

Plan for the stowage of containers, in which each bay on a vessel is represented in a cross-sectional plan of the ship from bow to stern. A bay plan shows all possible positions for stowage on the vessel.

bay-row-tier system

Numbering system for the arrangement of containers on a vessel. In this numbering system, the bay is specified first, then the container row, which runs the length of the ship, and finally the tier (vertical layer).

bay-tier-row system

Numbering system for the arrangement of containers on a vessel. In this numbering system, the bay is specified first, then the tier (vertical layer) and finally the container row, which runs the length of the ship.

beveling

If a board or lumber beam is used diagonally for load securing purposes in a container, the ends must be beveled to ensure a tight fit into the container, thus allowing forces to be transferred to the container.

bilge sump

Sump at the lowest point of the hold, where water can collect and be pumped off.

billets

Semi-finished products (steel products) with a square or rectangular cross-section, edge lengths of 50 to 125 mm, rounded edges and a minimum length of approximately 1000 mm. These are used to produce bars, wire rod and special profiles or for forged or drop-forged items.

bill of lading, bill of lading number

Consignment note issued by the consignor as part of ocean-going and inland transportation processes which regulates the legal relationships between the loader, the consignor and the receiver of the goods that are being transported.

This note may be confirmation from the consignor that the goods have been received for shipping (Received for Shipment B/L) or a confirmation that the goods have been put on board (On Board B/L, Shipped on Board B/L). This document also covers the duty of the consignor to deliver the goods to their port of destination and to hand the goods over to the legitimate owner of the bill of lading in return for the bill of lading.

biotic activity

Refers to activities evident in products of vegetable or animal origin that during transportation exert an influence on the products themselves and/or on other animal or vegetable products. Biotic activity covers biochemical, microbial and other decomposition processes (e.g. allelopathy).

Bird's mouth

A bird's mouth is formed when a very flat V-shape is cut into the end of a piece of wood.

bitter ends

The ends of rope after a change of direction of any kind. The ends are usually joined by means of a knot, wire cable clamps, turnbuckles, shackles etc.

black rot

Rot attack on fruit. Black rot can always occur if damage to the fruit extends as far as the flesh. This is then easily transferred from an infected piece of fruit to the other fruits. Black rot is a frequent type of chilling damage occurring in pineapples.

block stowage

A method of loading: In block stowage, the goods are stowed as a single block, without leaving space for the flow of air. Thus, air can only pass around the block itself.

blowing

Bulging observed on the lids and bases of cans caused by the formation of gas after the sterilization process and ultimately leading to bursting. Such bulging can be caused by high temperatures (see heat-induced blowing) or low temperatures (see cold-induced) erfolgen

blue discoloration

Blue discoloration of wood caused by blue stain fungi.

blued steel strap

A normal steel strap can be refined by heat treatment (heating, quenching, tempering). It undergoes a structural change which gives it optimal properties in terms of hardness and elasticity. Heat treatment leaves an oxide layer on the surface of the steel which is a blueish color (steel blue), hence the name.

botulism

Dangerous food poisoning caused by the bacterium *Clostridium botulinum* occurring for instance in insufficiently sterilized preserved meat or vegetables.

box container

Alternative colloquial term for the standard ISO container.

bracing/bracing beams

Items used to secure general cargo loads. Bracing is usually made from squared lumber beams that are fitted between the load and the load-bearing sections of the container in order to take up the horizontal and vertical forces acting on the load. The bracing is subject to compressive stress.

brine circuit

Intermediate circuit of a cooling system that uses a saline solution (brine) as a coolant to reduce the freezing point. This method is often used to reduce the amount of chemical-based coolant used in the cooling system.

brittle fracture

Caused by mechanical stress placed on plastic films at freezing temperatures.

buckling

Drying and consequential bulging of the exterior of paper packages on palets.

buffer stow

A so-called "buffer" is required when transporting a heavy load with a high mass and small surfaces for distributing the forces acting upon the object. Lumber beams are usually used for this purpose. For certain types of load, the effort involved in this load securing method can be reduced by using part of the load as a "buffer". Round bars are a good example, as they are 1) capable of bearing high loads, and 2) suffer no damage as a result of being used as a buffer. For this method, a round bar is first loaded across the end wall of the container. This then acts as a buffer and, in the event of jolts during transport, cushions or distributes the forces evenly across the end wall. Since the buffer is created by the way the cargo is loaded, this method is referred to as "buffer stow".

C

CA, CA atmosphere

CA = Controlled Atmosphere: For example, an artificial reduction of the level of oxygen and increase in the level of carbon dioxide to extend the lifetime of goods.

CA container

container with controlled atmosphere.

cakes

Cuboid semi-finished copper product that is used to make other semi-finished or finished products.

caking

Hardening of bulk cargo caused by a release of water vapor; Causes the formation of lumps if moisture is present in salts or sugars.

candying

Hardening caused by an excessively dry atmosphere, e.g. on dried fruits.

capacitive network

Data network with capacitive coupling to the power network for remote monitoring of refrigerated containers.

capillary condensation

Condensation of vapors in the fine pores of adsorption media.

cargo information

This is an online system for transport professionals containing transport-related risk and damage prevention information which can be called up via TIS (www.tis-gdv.de).

cargo sweat

Condensation on the surface of the cargo: Condensation can form on the cargo as a result of climatic conditions. Cargo sweat can always occur when the temperature of the cargo is lower than or equal to the dew point. It can also occur during transportation from temperate latitudes, e.g. from northern-hemisphere winter to the tropics.

cargo temperature

The temperature of the cargo within the container. Can vary according to place and time (e.g. during a cooling or warming process).

catalysis

(Greek: katalysis - dissolution, decomposition) Change, usually the acceleration, of a chemical reaction by means of substances (catalysts) which appear to remain unchanged during the reaction process.

CBU

Capacitive Bridge Unit; component of a remote refrigerated container monitoring system where data is transferred via the power cable. A CBU is used to capacitively modulate the data signal (using a capacitor) over the power cable.

cell lumen

Pores in the wood structure.

CFC

Chloro Fluoro Carbons. CFCs are artificially produced gases or liquids. They are used as coolants, propellants or detergents. CFCs can remain in the atmosphere for decades before being broken down. They are a source of chlorine radicals, which react with ozone and contribute significantly toward the destruction of the ozone layer. CFCs are now banned in Switzerland and a number of other countries.

chafe

Become damaged as a result of abrasion.

chilled bananas

Bananas are chilled when the temperature has dropped below the acceptable limit. This process means that the fruit suffers irreparable metabolic damage which renders it incapable of ripening.

chilled meat

Fresh meat is transported chilled.

chilled operation / chilled mode

Operating mode of a refrigerated container. During chilled operation the circulating fans run at maximum rpm and the intake air temperature is regulated constantly.

chill haze

Change in consistency due to the deposition of dissolved components as a result of the cooling of aqueous solutions.

chilling

Chill damage is caused when the storage temperature goods of vegetable origin drops below the specified limits. This process means that fruit suffers irreparable metabolic damage which renders it incapable of ripening.

chilling damage

Occurs when the load is subject to temperatures below the acceptable limits. This process means that fruit suffers irreparable metabolic damage which renders it incapable of ripening.

chipping

This a mechanical defect of enamel goods.

circulation bypass

Occurs when air in a space does not circulate throughout the entire space, but rather seeks the path of least resistance in parts of the space.

CKD

(Completely Knocked Down cars). For the purposes of customs, cars are not transported fully assembled, or are partially dismantled after being assembled. Final assembly of the vehicles is subsequently carried out once they reach their destination. CKD transportation makes it possible to avoid high import duties (100% and more).

climacteric

(Latin: climactericus - turning point, critical time) Ready-to-eat or ripe for consumption.

climacteric fruits

(from the Latin climactericus - turning point, critical time) For bananas the "climacteric" is the point at which the fruits turn from green to yellow. Starch breaks down to form sugar. Fruits that reach the climacteric are ready-to-eat or ripe for consumption.

climacteric rise

(from the Latin climactericus - turning point, critical time) The final increase in carbon dioxide excretion which marks the beginning of maturation of a fruit. After the climacteric rise, fruits are ready-to-eat.

clip-on-units

Refrigeration units used to cool porthole containers on deck, in port or during road/rail transportation.

coagulation

(Latin: coagulare - to congeal) Clotting of a colloid solution, for example, protoplasma.

coefficient of expansion, thermal, cubic

Increase in volume of a material caused by an increase in temperature.

coefficient of sliding friction

Dimensionless factor indicated by the Greek letter μ . This factor is used to determine the force required to overcome the friction which is produced by a specific material combination constantly sliding under the influence of a pulling force. The coefficient of sliding friction is important in load securing, since the sliding friction of a load with a specific material combination (load/loading area) must be overcome before the load slides. The greater the friction, the less effort is required in securing the load.

cohesive resistance

Resistance of an object against slipping on a surface (a function of cohesion and friction).

coil box container

Special container for transporting coils. They handle greater line loads and are equipped with coil wells and special load securing features.

coil containers

are built like flats or flatracks, i.e. they consist of a container floor and flat or frame-like end walls. The container floor has cargo troughs for accommodating coils /rolls of steel sheet.

coils

Products such as steel sheets, wide strip, steel piping or wire which are coiled into rolls. Coils weighing up to 35 t are transported.

cold chain

Unbroken chain from manufacture through to the consumer in which the prescribed cooling temperature is constantly maintained.

cold-induced blowing

Bulging on cans caused by the canned product increasing in volume when the temperature falls below freezing point.

cold-rolled strips

Flat cold-rolled products in widths of up to 650 mm and thicknesses of 0.1 - 6 mm. Can be made from any type of steel and is available with any required surface treatment. Cold-rolled strips are available in the form of rings or strips (bars). The advantage of cold-rolled strips and sheets over hot-rolled and cold re-rolled sheets is the greater degree of accuracy of dimensions.

collapsible flat rack container

Flat with end walls that can be folded in when empty. The end walls are unlocked and folded down onto the loading area. In this state, the flats can be stacked. Three of the "folded" flats take up about the same space as a standard container.

collo

Pl. colli, internationally used word meaning an item of freight (crate, box, bale, bag, bundle, etc.).

compatibility characteristics

Interrelationships between the transport properties of products in relation to each other and in relation to the environment.

Conair container

Refrigerated containers without their own refrigeration unit. Conair refrigerated containers, also called insulated or porthole containers, do not have their own refrigeration unit. They are thus reliant on an external supply of cold air. This is achieved by refrigeration units of various types, permanently installed on the ship, permanently installed in the terminal or clip-on units for individual containers.

Porthole containers are thermally insulated and have two sealable openings on the end walls (the portholes) through which cold air can be blown into the container and warm air can be extracted. The cold air is forced through the lower opening into the container, then distributed throughout the load via the T-bar floor, and subsequently flows through the load to the top of the container and is extracted through the upper opening.

consolidated packages

Group of cargo items fastened together with straps or similar devices.

contact insecticide

Contact poison that kills pests on contact.

contact poison (contact insecticide)

Poison that kills pests on contact.

container bolster

A container floor without sides or end walls generally used for Ro/Ro operations.

container dry

Water content of goods which would not negatively impact the quality of the goods being transported in the container. For any given load, this water content will be dependent on the duration of the journey and the route and may vary over different routes.

containerizable

Goods (and their packaging) must have the physical properties which ensure that they will survive transport in a container without damage as a result of climatic, mechanical and biotic conditions (depending on the route and duration of transport). These properties include the humidity, temperature and ventilation requirements of the load.

container packing certificate

Certificate indicating correct loading of a dangerous goods container and the observance of the regulations set out in the IMDG Code (International Maritime Dangerous Goods Code). The container packing certificate is issued by the person responsible for packing the container.

container section

A packed section of a container.

container sweat

Condensation which forms on the surfaces of the container.

container template

Generally a moveable frame that maps the size and shape of the inside of a container. If the exact dimensions of a cargo or its packing are unknown, the 'template' can be pushed over the load in order to make sure that the correct size of container has been selected.

contamination

Damage to goods caused by dust, dirt or staining substances.

contraction

(Latin: contrahere - shrink) Reduction in volume.

cooked bananas

If upper temperature limits are exceeded, the bananas can ripen so quickly that they burst. This is usually referred to as "cooked" bananas.

corner castings

Corner fittings located at all eight corners of the container. They are used to handle the container. Lifting gear, such as container gantries and cranes, is attached to the corner castings of the containers in order to lift them. The corner castings are used in conjunction with twist locks to secure containers when traveling on road vehicles or stack and fasten them securely to the deck of ocean-going vessel. The twist locks are placed in the corner castings and engage with the corner castings (on the floor) of the next container.

corner posts

Corner posts of a container. These connect the upper corner casting of a container to the lower one and form one of the most stable parts of the container.

corrosion

(Latin: *corrodere*) Destruction of materials. When applied to metals this is an electrochemical process that can, in particular, be promoted by a good electrolyte (sea water).

corrugated board carton

Carton made of corrugated board.

corrugations

Metal sheets are deliberately corrugated in order to increase their stability. Standard containers, insofar as they are made of steel sheet are usually manufactured using sheet sheets with trapezoidal corrugations. Corrugations can also be used when making steel drums, again for the purposes of stabilization.

cradle

A cradle is a frame that is used to secure loads with a tendency to roll, such as boats or cylindrical goods (boilers, large-diameter pipes, etc.). The upper side of the cradle is shaped to fit the product it is designed to carry.

crate

A wooden receptacle formed like a case or box, with the difference that the external walls and the lid are not fully closed.

crate restraint shoe

Steel bracket specially made to suit a specific crate, where the upper side of the shoe takes the crate and the underside of the shoe is designed to fit tightly to the transport medium or container.

crispness

Property of a product (e.g. bakery products).

critical water content

Water content of cargo at which a change in quality is expected.

cryptoclimate

(Greek: kryptos - concealed, hidden) Microclimate in a closed space such as a container.

CTU / CTU guidelines

Cargo Transport Unit: Guidelines for the packing of loads except bulk goods either in or on CTUs for transport by means of any method of land-based or water-based transportation.

D

daN

deca Newton.

data logger

Device used for automatic (and continuous) recording of data. The data can then be read out at a later time, for instance, using a laptop.

dead air zone

Area in a cargo stack with insufficient ventilation.

degree of rusting

Assessment of the visible amount of rusting, i.e. the degree of damage to iron and steel cargoes as a result of corrosion. The American Rust Standard is frequently used in international trade to describe the degree of rusting.

deodorization

(Latin: odor - odor; de - negation = to render odorless) Elimination of odors.

dermatitis

(Latin: derma - skin; -itis - suffix denoting 'inflammation') Inflammation of the skin.

desiccant

Substance for absorbing moisture.

desorption

Release of the water vapor from a substance.

desorption isotherm

Graphical representation of the release of water vapor from a substance in relation to its water content at a specified temperature. For product information purposes, the isotherms are usually taken for a temperature of 20℃.

dew point temperature

The temperature at which water vapor in the air reaches saturation point and condenses ("dew" appears).

diffusion law

(Latin: diffundere - to pour out, spread) Water vapor always flows from the higher to the lower partial pressure.

dilatation, thermal

(Latin: dilatare - to extend) Increase in the volume of a substance as a result of increased temperature.

display packaging

Packaging designed for a specific product (e.g. pears) which are also suitable for presentation at the point of sale.

dormancy temperature

The temperatures of cargo of vegetable origin are regulated in order to prevent loss of quality.

dose

(French: dose - appropriate measure) Quantity of a toxic substance in the body.

dressed lumber

Wood from which the sapwood has been removed.

drip loss

Loss of juice as the result of recrystallization of frozen meat. If the meat is frozen rapidly at low temperatures (e.g. -27℃), small ice crystals are produced. If the meat rises to a higher temperature (e.g. -10℃), the ice crystals grow larger, i.e they recrystallize. As of a certain size, they can rupture the cell walls of the meat. These "perforated" cell walls lose substantially more cell juices than cell walls which are not damaged. The result is a loss of juice, also known as "drip loss".

driving wedges

See tapered blocks

dry bulk

Bulk cargo.

dunnage

Dunnage is used to protect the contents of the container, for instance against sweat. A distinction is drawn between top dunnage side dunnage and floor dunnage. Paper (see paper dunnage), wood, plastic or many other materials can be used as dunnage.

dunnage material

Materials which are not fastened firmly to the means of transport or transport container and are used to protect the goods from sweat, dirt, or mechanical stress, for instance, or as an aid in stowage (interlayer dunnage). Depending on its application, it is referred to as floor dunnage, interlayer dunnage, lateral dunnage or top dunnage.

E

eating ripeness

Ready-to-eat or ripe for consumption (climacteric). Ideal degree of ripeness for consumption.

EN standard

European standards.

enzymes

(Greek: enzymos - fermented) These are catalytic systems which break down nutrients.

equilibrium moisture content

The water content of the goods is in equilibrium with the quantity of water vapor in the ambient air (relative humidity).

ergot

Resting body (sclerotium) of the ergot fungus. Meal contaminated by ergot causes poisoning; ergot alkaloids produce uterine contractions.

essential oil

Constituent part of spices that have a strong seasoning action and odor.

EUROSAL service

Container line running between the west coast of South America, the Caribbean and Europe. Members of the EUROSAL service include Hapag-Lloyd, Hamburg-S? and CSAV.

eutectic point (E.P.)

Temperature (approx. -62°F) at which all the water in the cells of the product is completely frozen, preventing microbial biotic activity and therefore preventing any loss of quality to the product. The product has an infinite storage life. Water and dissolved substances crystallize out together.

F

fat-cleaving enzymes

Lipases.

FCL container

Full Container Load: Container packed by the shipper for door-to-door delivery without any transshipment operations.

ferment

(Latin: fermentum - yeast, fermentation) See also Enzyme: Certain organic substances induce decomposition, particularly fermentation, in other organic substances. The term "enzyme" has generally replaced the term "ferment".

fermentation

Biochemical process in which energy is released from carbohydrates by enzymes.

FEU

The abbreviation "FEU" is occasionally used for "Forty foot Equivalent Unit" and refers to a 40ft container. A 40ft container comprises 2 TEUs (Twenty foot Equivalent Unit, 20ft container). Therefore: 1 FEU = 2 TEU.

fiber drum

Cylindrical transport container (similar to a large can or a barrel). It is made of wound kraft paper and has a sheet steel base and lid. It is generally sealed by means of closing rings and a locking lever.

field bus

Part of a network solution that based on a four-tier model (actuator-sensor level, field-level, cell-level, management-level). The "field-level" will generally comprise spatially separated machine lines and local machines linked to each other or to the superordinated level.

fit-for-purpose packaging

Packaging that is able to withstand any stresses that can be expected during the voyage and that will afford appropriate protection to the products. The stresses could vary significantly depending on the method of transport (road, rail, air, sea, combined methods of transport, repeated transshipment, etc.).

flaking

Flaking is a common fault during the production of enamel goods. In a general sense, it refers to the separation of areas of the surface due to strain and mechanical stress.

flange

A ring welded onto the end of a pipe. It is used with its counterpart to join pipes. The rings are provided with drilled holes through which the pipes can be bolted together.

flap

Collapsible rail/ramp for moving loads into the belly of the ship.

flatrack (flat)

Container without side walls and roof, with fixed or collapsible end walls.

flexural strength

The ability of a material or a construction to withstand bending.

flowability

Ability of crystalline, pulverulent or granular goods to flow freely.

flow moisture point (FMP)

Point at which the goods change from solid to liquid state.

foodtrays

Preformatted small packages which are also used for Sales presentations.

fore and aft stowage

Load stowed along the length of the container or the ship. Contrast athwartships stowage. In the context of load securing, it is of utmost importance whether a container is stowed fore and aft or athwartships on a ship. In the case of athwartships stowage, the greatest acceleration forces act on the actual container longitudinally rather than transversely. Load securing measures must then be taken with this in mind.

freezer burn

Drying out of frozen goods.

freezer container

This is a special type of refrigerated container which can maintain the temperature of the cargo at approximately -65°C . At approximately -62°C , the "eutectic point" is reached, i.e. as of this temperature, all the water in a product is completely frozen. No microbial activity can occur when there is no free water, and therefore the product does not suffer any further loss of quality. At these temperatures, the product has an infinite storage life.

freezing chain

Unbroken chain from manufacture through to the consumer in which the prescribed freezing temperature is constantly maintained.

friction-enhancing mat

Mat made of material which hinders slipping.

fruit respiration

Exchange of gases between fruits and the ambient air.

Apples, for instance, constantly take in oxygen when they respire and release approximately the same quantity of carbon dioxide. If you change the concentration of the gases which are involved in respiratory metabolism, you can permanently affect the intensity of the fruit respiration. This will delay the maturity and degradation processes and thus increase the duration of storage.

fumigant

A gas that acts as a respiratory poison against pests.

fungal film

Film of fungal growth, e.g. on microscope lenses.

fungal hyphae

Fungal filaments.

fungicide

(Latin: fungus - fungus, cide - inhibiting) A means used to combat mold.

G

general cargo

Cargo, consisting of goods, unpacked or packed, for example in cartons, crates, bags or bales, often palletized.

generator set (gen-set)

A generator which can be attached to a container or a truck chassis and which generates power for supplying electricity to a refrigerated

container.

GGVSee

Gefahrgutverordnung-See. Regulation in the Federal Republic of Germany concerning the transportation of dangerous goods by sea-going vessels.

grating

Floor of a refrigerated hold/container which is designed so that air can flow along the floor and into the space where the floor is not covered by a load. T-bar gratings comprising aluminum tee profiles are used in refrigerated containers. Hole gratings (braced boards with holes) are normally used on refrigerated cargo ships.

grey-mold rot

Storage disease frequently occurring in carrots and tomatoes.

ground conveyor

General term for conveying equipment which runs on wheels along the ground, can be freely steered and is used to convey, pull or push loads, such as forklift trucks or side loaders.

H

half-height open-top container

A half-height container with no roof, which is particularly suitable for heavy and compact cargo. The container can be loaded through the open top using a crane. Due to the reduced height of this container, the rates on container ships can sometimes be more favorable.

handling symbol

Handling symbols are an essential part of the marking of packages and ensure greater care is taken during cargo handling.

hardboard

This refers to hardboards, generally around 2-3 cm thick, that are used for load securing and for interlayer dunnage or top dunnage. Since these hardboards only has minimal material strength and, in addition, one side of the board is very smooth, they are not suitable for use as dunnage and cannot be recommended. The exception is use as lateral load distribution or to protect neighboring cargo from low physical loads, as described under section 5.3.3.7

hard-top open-top container

Container that opens at the top and can be closed with a solid roof (steel sheet). Like all containers that open at the top, this is suitable for crane loading.

heat capacity

Physical property of a material indicating its ability to retain heat; measured in kJ/(kg K); typical values: 4.182 kJ/(kg K) for water, 2.1 kJ/(kg K) for ice, 1.6 kJ/(kg K) for many frozen foodstuffs.

heat expansion rupture

Damage to a product or its packaging caused by an increase in volume when the temperature rises above a critical point.

heat-induced blowing

Bulging on cans caused by dilation (expansion) of the canned product.

heat transition coefficient

Also known as the k-value; physical value that specifies the degree of insulation provided by a wall or similar. For containers, heat transition takes account of the heat transfer from the air inside the container to the wall, the heat transmitted by the wall, and the heat transferred to the air outside the container; unit of measurement: W/(m); Typical value for refrigerated containers: 0.3 W/(m) (new), 0.4 W/(m) (old).

heavy-lift steel cornerpieces

These are angled steel plates attached to the bottom and/or top of cargo items to prevent damage by slinging equipment.

heavy plate

Hot-rolled thick steel sheets (sometimes several cm), generally further processed or used in the "raw" steel industry (shipbuilding).

heeling

Heel, heel angle: Temporary inclination of a ship to one side along its fore-and-aft axis brought about by external forces working on the ship. Heeling can be caused by a rough seas, winds or the rudder position. The heel angle describes the inclination of the ship. The heel angle is the deviation from the perpendicular.

high cube container

Large volume container (many cubic meters), as it is 9.7 feet high (as opposed to 8 ft or 8.5 ft).

highly perishable foodstuffs

Foodstuffs that are at risk of rapid quality degradation.

hoist operation

Operation with lifting gear (cranes etc.).

hold meteorology study group

The objective of the container meteorology study group at the Warnemünde-Wustrow University of Seafaring, established by Professor Ulrich Scharnow in 1970, who has headed the group since that time, was to investigate the complex thermodynamic processes occurring in containers. The investigations were carried out on two standard containers, each of which was equipped with an air lock to prevent disturbing the cryptoclimate when monitoring and making measurements and a weather station. The results of the investigations were able to provide information to both container manufacturers and consignors, particularly to consignors of hygroscopic goods, about the potential for climatological stress to which the goods stored in containers are subjected under specific climatological conditions, particularly in ambient conditions exposed to radiation.

homeothermic pests

(Greek: homoios - identical; thermos - heat) Warm-blooded pests.

hot rolled (wide) strip

Hot rolled steel product with a rectangular cross-section of at least 600 mm in width. It is immediately wound into coils after rolling with the edges aligned as closely as possible (like a watch spring).

It is subsequently used to produce thin steel sheet and heavy plate as well as cold rolled strip/cold rolled wide strip.

HPE standards

Packaging guidelines for boxes, crates, wooden supports, etc.

HPE is the abbreviation for the:

Bundesverband Holzpackmittel Paletten Exportverpackung e.V. (German Federal Association for Wooden Packaging, Export and Palets).

humidity motor

Circulation produced when the temperature gradient between the cargo and the container wall is too steep. This increases the transport of humidity to the surfaces of the container.

hydrolytic class

The degree of water resistance for glass products.

hydrolytic/enzymatic fat cleavage

(Greek: hydro - water; lysis - solution; enzymos - fermented) Fat cleavage due to moisture and fat-cleaving enzymes (lipases).

hydrometer

Measuring equipment used to determine the density of liquids, also areometer.

hygrophilic microorganisms

(Greek: hygros - moist, philos - love) Microorganisms that require a relative humidity of > 90%.

hygroscopicity

(Greek hygros - moist) A property of products that react to the air humidity.

I

IBC

Intermediate Bulk Container: A special type of bulk container for hazardous materials.

IEC

International Electrotechnical Commission.

imago

(plural: imagoes) Fully developed insects.

IMDG code

International Maritime Dangerous Goods Code. Regulations concerning the international transport of dangerous goods by sea.

infection

(Latin: inficere - to poison) Invasion of the body by pathogenic microorganisms causing inflammation.

ingot

Ingots are blocks of metal which are cast into a particular shape. They can vary greatly from metal to metal and from production site to production site. Aluminum, lead, zinc and tin are very often transported in this form.

in-package desiccation

Drying out that occurs within the package.

insecticide

Pesticide designed specifically to combat insects.

intake air temperature

Temperature of the air as it leaves the cooling mechanism and is blown into the refrigerated hold/container. The intake air temperature is

regulated during chilled operation.

integral refrigerated container

Insulated refrigerated container with an integrated refrigeration unit. Requires a three-phase power supply for operation.

integrated unit

Refrigerated container with integrated refrigeration unit.

interfacial problems

Transfer of heat and water vapor at interfaces

internal breakdown

Chilling damage in pomaceous fruit. If, for instance, apples are stored at too cold a temperature, they "freeze" and suffer irreparable metabolic damage. The flesh of the fruit usually becomes soft and brown from the core. Such damage generally cannot be detected externally.

invasion

In the context of the Container Handbook: Insect attack of goods.

iodine value

Measure of the degree of unsaturated hydrocarbons in oils and fats.

isomerization

(Greek: isos - same; meros - part) Intra-molecular restructuring. The atoms in the molecule are reorganized in such a way that the actual composition does not change. This usually has an effect on the chemical and physical properties.

ISO standard

Standard compliant with the "International Organization for Standardization".

K

kraftliner

Kraft paper (see below) made of bleached/unbleached kraft pulp and used to make the outer layers of corrugated board and millboard.

kraft paper

This is made of at least 90% fresh, usually unbleached, sulfate pulp (kraft pulp). It is characterized by high strength and resistance.

L

Label

Labels are, in accordance with the dangerous goods stipulations of the IMDG code, adhesive labels that indicate to all parties concerned what type of dangerous goods are being transported. They differ from placards in terms of size, although placards have the same purpose.

Labels with dimensions of 10 x 10 cm are designed for use on each of the items to be transported. Placards of at least 25x25 cm must be attached to the outside of the container or vehicle.

lashing - lash:

Attaching or fixing/securing a load to a means of transport/or securing a load inside a container in order to prevent it from sliding or falling.

Lashing is a widely used international term.

The term can be modified to indicate the type of lashing that is meant (direct lashing, diagonal lashing, tie-down lashing) The lashing equipment may be prefabricated lashing belts, chains, wire rope, as well as ropes made of artificial or natural fibers, or a combination of such.

lashing capacity

The permissible lashing capacity (LC) is the maximum force that may be applied to a lashing. This lashing capacity can be found on a label that is attached to the lashing equipment.

For maritime transport, "MSL" is to be used in accordance with appendix 13 of the guideline entitled "Bekanntmachung von nderungen von Richtlinien f? die sachgerechte Stauung von Ladung bei der Bef?derung mit Seeschiffen" ("Publication of amendments to guidelines for the correct stowage of cargoes for carriage in ocean-going ships") of 14 February 1996 (published in the German "Bundesanzeiger" newspaper, 7 May 1996).

lashing crosspiece

A construction similar in appearance to a girder, manufactured primarily from steel and offering attachment points for lashing equipment.

lashing equipment

Devices or aids for securing loads against slippage, tipping and falling. It may comprise chains, wires, ropes, straps or rods and is generally used in conjunction with a tensioning device (e.g. turnbuckle, twistlock or ratchet tensioner). Depending on the way in which the load is secured, it may be referred to as cylinder lashing, cross lashing, wire-rope lashing or round-turn lashing. Verb: to lash

lashing rod

Metal rod for securing (lashing) containers on deck.

lateral dunnage

Covering the sides of the container with dunnage provides protection against dripping sweat.

lateral tier

Lateral layer of cargo. Generally used to stabilize the stow or to close off the face of the load.

lattice

Grid-like structure, mainly wooden, used to secure the load.

lethal

(Latin: letalis - fatal) Fatal

Lgjs container car

Series of rail cars for container transportation. The letter j in the name indicates that the car is fitted with buffers.

Lift-on-lift-off operation

(Lo-Lo) Loading and unloading of Intermodal Transport Units (ITUs) using lifting gear.

lighter

A lighter is an inland water vessel or barge usually without an engine that was originally used for reducing the draft of a ocean-going vessel by lightening the load thus allowing it to enter the port.

line load

Weight force which can be withstood by a container floor per running meter.

liner bag

Plastic fabric fixed inside a standard container with bulk cargo.

lipases

(Greek: lipos - fat, oil) Fat-cleaving enzymes.

liquid bulk

Liquid cargo

load limit line

A red line in refrigerated containers that indicates the maximum stowage height of the load to allow sufficient air circulation below the roof.

load-securing foam

Foams which are used as fillers, generally made from PE or PU. They are used to fill gaps in the container, and thus to ensure tight fit and

firm securing of the load.

locking coil

Coils (rolls of steel sheet) are generally loaded athwartships with their winding axis fore and aft. They are stowed from the side walls inwards, so that one or two spaces are left in the center that are too small for a further coil. The locking coil(s) is (are) placed in this (these) space(s). The opening angle leads to significant lateral pressure. This pressure forces the other coils towards the ship's sides, thus stabilizing the stow / row of coils. Locking coils must not protrude down into the cantlines of the lower tier by more than one-third of the diameter of the locking coil, since if they protrude any further, the increased lateral pressure can lead to damage to the coils.

lower temperature limit

Temperatures below this limit lead to quality degradation, e.g. chilling.

low temperature flexibility

Increased kink resistance achieved by adding plasticizer to synthetic plastics.

low-temperature refrigerated containers

Refrigerated containers that enable goods to be transported at temperatures as low as -60°C.

lumen

(Latin: lumen - cavity) Pores in the structure of wood, cavities in vegetable fibers.

M

maximum cargo height

Frozen goods are packed using the block stowage method merely for protection against the effects of external heat, so it must be ensured that subzero temperatures are maintained in the floor, side and ceiling areas. A free space of at least 8 -10 cm must be left for the return air between the top of the cargo block and the container roof. This maximum cargo height is indicated in the containers.

Maximum Securing Load (MSL)

The strength of a material to resist a tensile load without suffering plastic/permanent deformation. The MSL is extremely important for cargo securing, since materials which are liable to suffer permanent deformation must not be used for securing cargoes. Cargo securing materials must therefore be dimensioned to ensure that they are loaded no further than their MSL.

Mediterranean fruit fly (*Ceratitidis capitata*)

Quarantine pest which particularly attacks citrus fruits.

medulla

(Latin: medulla - marrow) The medulla is responsible for feeding the wool fibre.

mesophilic microorganisms (humidity)

(Greek: mesos - middle; philos - love) Microorganisms thriving above 86% relative humidity.

mesophilic microorganisms (temperature)

(Greek: mesos - middle; philos - love) Microorganisms thriving at medium temperatures.

mm H₂O

Millimeters of water: Unit for small differences in pressure, measured as the difference in height in mm between the two surfaces of a water column in a siphon. 1 mm H₂O = 9.81 Pa.

modular unit load dimensions

Packages or unit loads are suitable for modular container stuffing if their dimensions or multiples of their dimensions are equal to the internal dimensions of the container. By using appropriately dimensioned load units it is possible to tightly pack the container making good use of the "natural" securing elements of the container, namely the side and end walls. If the cargo modular unit load dimensions and the overall load is of appropriate dimensions, there may be no need for additional load securing measures to be implemented.

modular unit load packaging

Packaging whose dimensions permit the items in a consignment to be grouped together to form modules. Modules are predefined basic sizes defined for cargo units which enable them to fit together, to be combined and to be transported with different means of transport.

moisture sensitivity

Degree to which the quality of a product is impacted even by minimal uptake of water vapor.

mold growth threshold

Relative humidity in excess of 75% promotes rapid multiplication of the majority of mold species.

monophagic

(Greek: monos - one; phagein - to eat) Associated with a particular food source.

MSL

Maximum Securing Load (MSL) is the strength of a material to resist a tensile load without suffering plastic/permanent deformation. The MSL is extremely important for cargo securing, since materials which are liable to suffer permanent deformation must not be used for securing cargoes. Cargo securing materials must therefore be dimensioned to ensure that they are loaded no further than their MSL. For

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mycotoxins

Poisonous metabolic products produced by mold.

N

narrowband

Frequency band for data transfer via the power cable. The frequency on narrowband is 55 kHz.

neutral behavior

Goods which are mutually compatible and compatible with their environment display neutral behavior.

nominal breaking load

Breaking load (BL): Specifies the load at which a material will fail.

non-climacteric fruits

(Latin: climactericus - turning point, critical time) Fruits which are not (yet) ready to eat or ripe for consumption.

non-respiring goods

Goods which do not cause a change in the ambient atmosphere (except perhaps a release of water). These include all frozen goods and goods sealed in gas-tight packaging, steel products and all products which are not subject to decomposition processes. Caution! Degradation processes occur even in scrap lumber/wooden chips, shredded scrap metal, waste paper, etc. Although these cannot be described as respiration, they nevertheless consume O₂ and release CO₂ to the extent that this may lead to the build-up of life-threatening concentrations in closed rooms.

nonwoven fabric

Water absorbent cloth underneath the container roof.

O

odor sensitivity

Sensitivity of the goods to foreign odors.

odor tainting

Taking up of odors from foreign substances or gases in the environment.

onion neck rot

Rot of the neck of onions caused by the mold *Botrytis allii*.

onward-carriage

The colloquial meaning is the transport of goods from the sea port/airport to the domestic port of destination. In accordance with the German Commercial Code, onward-carriage is the delivery of goods from the store of a receiving agent to the final recipient. During this phase of the transport chain, the freight regulations of the German Commercial Code apply.

open-sided container

Container with sides which can be opened, usually closed with tarpaulin and bows.

open-top container

Container open at the top (enables the container to be loaded by crane).

oxidative fat cleavage

Fat cleavage produced by atmospheric oxygen.

P

pail

A container made from plastic or steel with a firmly closed lid, for transportation of liquids, in particular paints and oils.

pallet box

Transport container/box with integrated pallet.

palletization

Loading of uniform packages onto pallets in accordance with a predefined packing plan. For reasons of stability this should be done in such a way that the load items interlock.

palletized

Cargo which has been grouped into a single cargo unit. Better rates are generally available for packing containers with palletized loads in the case of LCL (Less than Container Load), as a pallet load can be better handled with ground conveyors (q.v.) than individual items.

paper dunnage

Covering the floor, sides and cargo surface with paper dunnage provides protection against dripping sweat.

parasitoses

These are diseases caused by parasites.

partial pressure difference

In a mixture of gases, each component has a partial pressure. The sum total of all partial pressures is the absolute pressure. The partial pressure difference is the difference between the partial pressures of the gases either side of a gas separation membrane.

particulate air contaminants

Air pollution caused by dust.

passive behavior

Defines the sensitivity of cargo to other cargo and to its environment (e.g. sensitivity to foreign odors).

payload

The revenue-producing load carried by a means of transport.

PCT

Power Cable Transmission: Transfer of digital data by means of the high-voltage power cable.

peel discoloration

Chilling damage in citrus fruit.

penetration

Penetration of packages occurs as a result of insect activity (holes eaten out by insects).

permeation rate

Property of a material which measures the rate at which gases pass through the material as a result of solution diffusion processes.

phase change

Change to the state of an aggregate as a result of temperatures rising above or below the solidification and melting temperatures, e.g. with oils and fats

pH value

Hydrogen ion concentration. This indicates the acidity or alkalinity of a solution.

physiological ripeness

Post-climacteric: This is the start of overripeness. The fruits start to decompose, the taste suffers and the fruits can easily be attacked by mold or rot.

phytosanitary certificate

Certificate of health under the International Plant Protection Convention.

picking or industrial ripeness

Preclimacteric, the stage of ripeness prior to the ready-to-eat/ripe for consumption stage.

pileworm / shipworm

Teredo which destroys wood

pipe clamps

These are used to protect cylindrical goods, to unitize them and to ensure that they can be transported safely. They comprise pairs of squared lumber, steel profiles or similar materials which are placed above or below the goods and are generally connected to each other with threaded rods at the sides.

pitching

Movements of a ship around its transverse axis.

Placard

Placards are, in accordance with the dangerous goods stipulations of the IMDG code, adhesive placards that indicate to all parties concerned what type of dangerous goods are being transported. They differ from labels in terms of size, although labels have the same purpose.

Placards of at least 25x25 cm must be attached to the outside of the container or vehicle.

Labels of a size of 10x10 cm must be attached to each package to be transported.

poikilothermic pests

(Greek: poecil - multicolored; thermos - heat) Cold-blooded pests.

polymerization

(Greek: poly - many; meros - part) Gelling of oils caused by exposure to heat, in particular in the context of plastics manufacture.

polyphagic

(Greek: poly - many) Associated with many food sources.

polypropylene wrapped Hercules, Hercules cordage

A particularly strong type of rope: Hercules rope is a combination of fiber and wire rope, the individual strands have a wire core. This construction means that Hercules rope is easier to handle than ordinary wire rope.

polyurethane foam

Used to insulate refrigerated containers. It is also known as construction foam.

porthole container

Refrigerated containers without a separate refrigeration unit:

Porthole refrigerated containers, also called insulated or CONAIR containers, do not have their own refrigeration unit. They are thus reliant on an external supply of cold air. This is achieved by refrigeration units of various types, permanently installed on the ship, permanently installed in the terminal or clip-on units for individual containers.

Porthole containers are thermally insulated and have two sealable openings on the end walls (the portholes) through which cold air can be blown into the container and warm air can be extracted. The cold air is forced through the lower opening into the container, then distributed throughout the load via the T-bar floor, and subsequently flows through the load to the top of the container and is extracted through the upper opening.

postclimacteric

(Latin: post - after; climactericus - turning point, critical time) Physiological ripeness.

post-fermentation

Heat and moisture can cause products such as coffee, cocoa, tobacco to ferment again, which in turn can make them unfit for consumption.

postmortem

(Latin: post - after; mors - death) After death.

precarriage

The carriage of goods (containers) by any mode of transport from the place of receipt to the port (place) of loading into the ocean vessel

(main means of transport).

preclimacteric

(Latin: climactericus - turning point, critical time) Picking, harvesting, shipping or industrial ripeness.

pre-fabricated lashing belts

These are ready-made lashing belts with hooks and tensioning elements sewn in.

preserved foods

Semi-preserved foodstuffs with limited shelf life.

preserved foodstuffs

Foodstuffs preserved by sterilization and stored in cans/jars.

preslung cargo units

In order to accelerate unloading, the strops used on loading are left on the cargo units. This then makes slinging unnecessary when discharging the cargo.

Pre-Trip Inspection (PTI)

Test to examine correct operation of a refrigerated container. The test should be carried out before transporting refrigerated goods.

protection of stored commodities

Protection of goods against spoilage by animal pests.

psychrophilic microorganisms

(Greek: psychros - cold, philos - love) Microorganisms that thrive at low temperatures.

psychrophilic spoilage

Spoilage on the surface of meat/fish.

putrefaction

Autolysis due to enzymes within the meat.

pycnometer

(Greek: pyknos - sealed) Measuring device used to determine the density of liquids.

Q

quarantinable diseases

(French: quarante - forty): Infectious and notifiable diseases that carry a mandatory isolation period (quarantine) for infected parties. Such diseases can be spread as a result of trade and transportation.

quarantine

Precaution against contagion and infection: Isolation, (French: quarante - forty) originally lasting forty days, to prevent the introduction of diseases and pests.

quarantine pests

(French: quarante - forty) Pests that carry or spread quarantinable diseases (see above), or which can themselves be termed quarantinable diseases.

R

radiation class

Radiation conditions calculated on the basis of the measured duration of sunshine and solar altitude for 10 day measurement periods.

rancidity

Oils and fats spoil by becoming rancid. This causes changes in odor and taste, which can make edible oils and fats inedible.

recovery

Capacity of a material or construction to return to its original position (elastic deformation).

recrystallization

If meat is frozen rapidly at low temperatures (e.g. -27°C), small ice crystals are produced. If the meat rises to a higher temperature (e.g. -10°C), the ice crystals grow larger, i.e they recrystallize. As of a certain size, they can rupture the cell walls of the meat. These "perforated" cell walls lose substantially more cell juices than cell walls which are not damaged. The result is a loss of juice, also known as "drip loss".

relative humidity

Relative humidity is derived from the ratio of absolute moisture content to saturation content. Depending on its temperature, air can absorb different quantities of water vapor until it is saturated (100% relative humidity). Absolute humidity (moisture content) is the quantity of water actually present in the air and is measured in grams per cubic meter (g/m^3). Relative humidity expresses as a percentage the quantity of water vapor the air has at a specific temperature, relative to its saturation content. If, for instance, air at 20°C has an absolute humidity of 12.1 it will have a relative humidity of 70%. If air has reached its saturation content at 20°C , it has absorbed $17.3 \text{ g}/\text{m}^3$ of water.

residual oil, feedstuffs containing

Pressing residues arising from oil extraction from oil-bearing seeds/fruits.

respiration

Breathing. Even after it has been harvested, fruit undergoes ripening processes. Bananas, for instance, absorb O₂ from the ambient atmosphere, convert starch to sugar and release CO₂, ethylene, water vapor and heat. This ripening process is also known as respiration.

respiration heat

Heat which is released during respiration.

respiring goods

Generally goods of vegetable origin, for example fruits, for which ripening or degradation processes are taking place. These take air (or gases) from the atmosphere surrounding them and give off CO₂, water vapor and heat to their environment.

return air temperature

Temperature of the air which is drawn off from the refrigerated hold/container. The return air temperature is controlled during refrigeration.

risk factors

Required information on possible risks for the transport, handling and storage processes, available from TIS (Transport Information Service www.tis-gdv.de).

risk of larceny/theft

Risk of the illegal removal or appropriation of goods or objects. A distinction is made between simple larceny (i.e. without the use of force) and compound larceny (i.e. with forced entry by breaking and entering or by copied keys).

roll angle

Angle at which a ship moves around its longitudinal axis.

roll oscillation

Oscillation due to rolling. This is the name given to the movement of a ship around its longitudinal axis.

roof bows

Steel or aluminum frame construction in conjunction with removable wooden/aluminum gates that hold the tarpaulin of a truck, trailer, semi-trailer or a swap body. This type of open-sided construction is sometimes known as a tarpaulin truck.

ro/ro ship

Roll-on/roll-off: Cargo ship on which the mobile cargo can be rolled directly on and off board (by lorry, trailer, etc.) by means of bow, stern and side doors (ramps). In contrast to this, cargo loaded and discharged on other cargo ships by means of their own or external loading tackle (vertical handling).

round turn

Hawsers, ropes or belts wound around an item. On the one hand as a basis for forming a knot, on the other hand as a method of lashing. Unfortunately, round turn lashing is a widespread "securing method". It is absolutely unsuitable for securing a cargo as the cargo can move "freely" in the loop and no securing effect is thus achieved.

S

safe to transport

Cargo is secured appropriately if it is loaded, stowed and secured in such a way that it cannot be damaged by events that can be reasonably expected during carriage.

salmonellosis

Infectious, febrile intestinal and general diseases caused by salmonellae.

San-Jos?scale

Quarantine pest that attacks stone fruit, pomaceous fruit and berries, as well as decorative woods und structural lumber.

saturation content

Depending on its temperature, air can absorb different quantities of water vapor until it is saturated (100% relative humidity).

sealed package

Packaging impervious to water vapor used to store goods at risk of corrosion. Desiccants are used in sealed packages to maintain an artificial atmosphere with a relative humidity of < 40%. No corrosion is possible below this threshold.

secondary infection

Contamination caused as a result of microorganisms (durable spores) from previous contaminated loads that are able to attack a subsequent cargo.

self-heating

Temperature increase within an organic solid without external heat input.

semifinished product (semi)

Steel products that have already been shaped by hot-rolling or continuous casting processes and which are then subjected to further shaping to produce finished products. These include:

Rough-rolled blocks (blooms with round or square cross-sections), slabs, billets, boards and ingots.

semitrailer (trailer)

Trailer with a rear axle assembly that is pulled by a towing tractor or truck tractor. There are two different kinds of trailer: Semitrailers that are also permitted in road traffic, and roll trailers (cargo trailers) that are pulled by towing tractors and are used only in ro-ro operations. These towing tractors are permitted only in terminal operations, and not allowed to be used on public roads.

separation

Chill haze

shock and/or tilt indicators

These indicators are attached to sensitive loads for monitoring purposes. They indicate whether specified threshold values have been exceeded either in terms of acceleration or tilt.

shrinkage in mass

Loss of volume, for instance with leather goods as a result of drying out.

shrinkage/shortage

Loss in volume, reduction (weight loss) of goods during transport or storage.

shrink wrapping

Shrink wrapping involves enclosing the package contents in shrink film (flat or tubular film), heat sealing any unsealed portions and separating the package from the film web or covering the package contents with a shrink cover. Depending upon the shape and weight of the package contents, the shrink material used should be PE or plasticized PVC film of a thickness of 0.01 to 0.2 mm, with PE films being particularly suitable for heavy items. The film is heated from the outside in a shrink-wrap oven or with hand-held heat gun, thus releasing the captive tension in the film. Shrink films are produced in either monoaxial (in a single direction) or biaxial (in two directions) orientation. As the film cools down, it shrinks around the package contents, applying a very low pressure per unit area.

sintering

Physical changes in materials caused by high temperatures; applied in particular to metals, ceramics and minerals/rock.

sirex wasp (*Urocerus gigas* L.)

Giant wood wasp. When using packaging made of wood for marine transport to Australia and New Zealand, the appropriate treatment and

certification of the wood must be observed.

SKD

SKD (semi knocked-down cars): For export to countries which apply high levels of customs duty to luxury goods, automobiles are shipped in completely knocked down (CKD) or semi/part knocked down (SKD, PKD) form. In this case, the package sizes for the individual components are adapted precisely to the container in which they are transported, which means that the cargo is secured by tight fit.

skids

Skids are sled-like bases used to facilitate ground conveyance of/securing of, for example, heavy machinery and machine parts

slab

Cuboid half-finished steel products that are hot-rolled into sheets at the rolling mill.

slim wedges

See tapered blocks

slinging

Describes the process of attaching slinging equipment (for example, ropes, chains or webbing slings) to a load in order for it to be lifted/transshipped safely using lifting gear, for example, a crane.

slit strip

Rolled sheets are produced in relatively wide strips (e.g. > 600 mm), also called wide strip. In order to be able to offer narrower strips, the strips are cut to slit strip in a slitting unit.

slot position

Specifies the position of the container on board the ship, for example using the Bay Row Tier system.

slot rate

Rate used to calculate the cost of renting a slot for transporting a single container on board a ship.

Smart Reefer

A type of refrigerated container (trade name).

sorption behavior

(Latin: adsorbere - take up) Absorption or release of water vapor by a hygroscopic cargo until equilibrium is reached.

sorption isotherms

Graphical representation of the sorption behavior of a substance at a specified temperature.

specially-shaped stanchions

These are collapsible stanchions that can be inserted and locked in place or unlocked and folded down. Stanchions are suitable for providing tight fitting lateral load securing for many types of load.

spontaneous combustion

A rise in temperature of an organic solid without external heat to a point where the solid ignites spontaneously.

spreader

Containers were traditionally handled using four wire ropes and cranes. However as the opening angle of the wire ropes placed considerable horizontal pressure on the tops of the containers, steel framed constructions (spreaders) were introduced in order reduce these forces. These spreaders have undergone constant development and are still used on container gantries today.

stacking load

The force acting on lower packing units as a result of the units stacked on top of them. Standardized DIN and ISO symbols are used to identify the permitted stacking loads.

stalk position

Different positions of tobacco leaves on the stalk which are harvested at different times.

stanchion

Rods or bars on the sides and corners of an open means of transport or container, used to secure the cargo. Removable stanchions are inserted into the stanchion pockets provided.

stomach poison

Poison which enters the body of the insect on food intake (ingestion). Stomach poisons are usually administered using artificial bait.

storage climate conditions

Refers to the specific external conditions (humidity, temperature, ventilation) in which particular products can be stored without risk of a reduction in value or of damage to the products.

stowage factor

The stowage factor specifies how many cbm or cbf of hold space in a ship will be taken up by a metric tonne, a US ton, or an Imperial ton (1,000 kg/907.18 kg/1016 kg) of a cargo taking into account gaps, shape of the hold, number of 'tween decks, supports and the use of

dunnage.

straddle carrier / van carrier

Special self-propelled vehicle for moving containers within the terminal.

stretch wrap

Stretch film used to wrap cargo to form bales or to wrap cargo to pallets.

strip

To unpack/unload a container.

strop

Slinging equipment from various materials. Strops are slung round the load and attached to the hook of the crane.

stuff

To pack or load a container.

sublimation

Transition from the solid to gaseous state without passing through the liquid state.

swap body

Swap bodies are vehicle bodies that are not permanently fixed to the carrying vehicle. They are similar to containers and are locked to the carrying vehicles in the same way using twist locks. At the loading bays, the swap bodies can be stored standing on their own legs. They are suitable for use for multimodal transport by road and rail and have grappler pockets which allow them to be moved using gantry cranes.

sweat class

Classification of sweat water according to intensity. Grades range from 0 (no sweat water) through to 6 (greatest formation of sweat water). The classification is made by observing the volume of water produced per m² surface, thus how many grams of sweat water appear for each square meter for each of the grades.

swellability

Increase in volume of solid substances, particularly hygroscopic substances, (paper, natural fibers) as a result of exposure to moisture.

syneresis

Congregation of molecules, leads to "sweating" in cereals.

syrup formation

Formation of viscous liquids as a result of humidity and warmth, for example, in dried fruits.

T

tank container

A large container essentially comprising an ISO frame in which liquid containers are mounted. They must meet special requirements with respect to pressure-resistance as a result of the pressures they have to withstand. For this reason, the actual containers are generally cylindrical or spherical in form. Several containers can be mounted either horizontally or vertically in a single frame. Only specific containers must be used for foodstuffs and must be marked "Potable liquids only". Tank containers for hazardous goods must meet the requirements of the IMDG code. Half-height tank containers serve to carry high-density liquids which cannot be carried in normal tank containers because they cannot be filled to a high enough level and are therefore subject to surging.

tapered blocks

These are wedges cut at a narrow angle to allow small gaps between items of cargo to be braced. They are also referred to as slim wedges or driving wedges.

TBU

Transformer Bypass Unit: Component of a remote refrigerated container monitoring system with data transfer via the power cable. A TBU allows a transformer to be bridged, that would otherwise not let the data signal pass.

telescope carton

The top of telescope cartons is fabricated as a separate part and overlaps all four sides of the carton (e.g. banana boxes).

temperature-controlled transport

Transportation during which the optimum temperature for chilled and frozen products is maintained.

temperature/dew point difference

The difference between the temperature of the goods and the dew point temperature of the air surrounding the goods.

temperature gradient

Differences in temperature within a spatial distance.

TEU

Twenty-foot Equivalent Unit: Corresponds to a 20 foot container, where the container height (8ft, 8 $\frac{3}{4}$ t oder 9 $\frac{3}{4}$ t) is not taken into account; unit for counting containers.

textured coated board

Plywood board with a phenolic laminate backing to enhance durability. The laminate is textured with a screen-printing process.

theoretical density

Pure solid lumber without cavities.

thermophilic microorganisms

(Greek: thermos - heat, philos - love) Microorganisms that thrive on heat.

thigmotaxis

(Greek: thigma - contact, touch; taxis - arrangement, sequence) Stimulus by touch.

tier (container)

Layer in a container that is numbered from bottom to top.

tight fit

A method of securing the load by direct or indirect physical contact with load-bearing components of the means of transport or the transport container.

TIS

Transport Information Service (www.tis-gdv.de)

TLV

Threshold Limit Value (referring to harmful substances in the workplace).

tower units

Cooling equipment for supplying of cool air to porthole containers in terminals.

toxic

(Greek: toxikon - poison) Poisonous

toxicity

(Greek: toxikon - poison) The degree to which a substance is poisonous.

trade imbalance

Discrepancy between the amount a country imports and the amount it exports.

transpiration losses

Evaporation losses in vegetable products as a result of respiration (transpiration).

transport-related acceleration forces

Negative and positive accelerations are dynamic, mechanical stresses which occur in two main types during the transportation of goods:

Regular acceleration forces primarily occur in maritime transport. Acceleration of up to one g ($g = 9.81 \text{ [m/s}^2\text{]}$) and, in extreme cases, even more, may occur due to rolling and pitching in rough seas. Such regular acceleration forces have an impact on the effort involved in load securing.

Irregular acceleration forces occur during cornering or when a train passes over switches, during braking, starting up, hoisting and lowering. Such acceleration forces are not generally repeated, but they may occur several times at varying intensities during transport.

These are the typical stresses of land transport and transport, handling and storage operations.

transport-related properties of products

Product properties required for transport, handling and storage processes

transport temperatures

Loading, travel and pulp temperatures, e.g. for sweet oils.

travel or transport temperature

Optimum storage temperature of a product.

tray

Trays are preformed containers made from plastic to take individual fruits that are particularly sensitive to pressure.

trichinosis

Human disease caused by *trichinella* (*trichinella spiralis*). Household pets, for example may be secondary hosts. Meat inspections are statutory preventive measures.

turgor

(Latin: *turgescere* - to swell) Inner pressure, distension of cells.

turnbuckle

Tightening elements made up of two threaded rods, a threaded barrel and a lever, usually in the form of a ratchet. Turnbuckles are the preferred tensioning method when securing loads with chains.

turner

Banana that is becoming ripe to eat.

twist lock

A securing mechanism for securing containers in a vertical direction; twist locks are placed between the containers and fastened in the oblong holes on the container corners.

U V

unitization

Grouping together of items for transport into transport units (e.g. in containers or on pallets).

unit loads

Unit loads are parts of a shipment that can be treated as a single unit during cargo handling and transportation. The size or dimensions of the unit load can vary according to requirements and to the means of transport and packaging container available. To optimize the cargo handling, transport and storage processes, standardization of unit loads is desirable. The most common unit loads are pallets and components with bases that resemble pallets, such as pallet boxes, IBCs, etc. The most important properties of a unit load are that it can be loaded to ensure a tight fit, its modularity and its stability, the last of which ensures that it can be stowed safely and will not be damaged by load securing measures.

upper temperature limit

Temperatures above this limit lead to quality degradation.

upright blocking

In the context of load securing, upright blocking is understood to be wooden elements inserted vertically in order to take up and transfer loads.

USDA

United States Department of Agriculture; U.S. governmental department responsible for the regulations concerning the import of foodstuffs.

VCI (Volatile Corrosion Inhibitor) method

A method used to inhibit corrosion.

viscosity

(Latin: viscum - tenacity) Degree of resistance to flow in a fluid or semifluid for gas, caused by internal friction.

volume-to-payload ratio

The volume-to-payload ratio of a means of transport specifies the volume available per unit weight payload. In the metric system, it is usual to specify the ration in cubic meters per metric ton (m³/t). In english-speaking countries, it is usual to use cubic feet per ton (cu.ft./t).

W X Y Z

walking board

Plywood board, generally around 2 cm thick, often used for load securing and for interlayer dunnage or top dunnage.

water content

The percentage of total mass of a substance that is constituted by water.

water content class

Classification of goods in accordance with their water content.

water vapor release

Desorption

water vapor uptake

Adsorption

waviness

Damage as a result of moisture affecting, for instance paper plies, veneered boards.

wideband

Frequency band for data transfer via the power cable. The frequencies used for wide band range from 140 kHz to 400 kHz.

Wireless LAN

Wireless Local Area Network; a wireless (radio) network used for transferring data; is also used in offices.

wire rod coil

Steel product made in rod wire rolling mills with varying cross-sections. German standards refer to wire rod as a product that can be wound immediately into coils from the rolling mill whilst still hot.

Coils of wire rod. Depending on the nature of the goods and any intended subsequent processing these coils are corrosion-sensitive and sensitive to mechanical damage, for example, kinks forming in the wire. The length of the winding axis is a critical factor in determining the way they are stowed.

wood treatment certificate

Certificate of treatment against insect infestation.

xerophilous microorganisms

(Greek: xeros - dry, philos - love) Microorganisms that survive at a low relative humidity of (approximately 75%).