



Stora Enso

Cargo Handling and Securing Manual

1 April, 2018

(revised 1 September, 2018)

Introduction

The Cargo Handling and Securing Manual (the “Manual”) stipulates the contractual minimum standard for suppliers handling goods on behalf of Stora Enso. It provides guidelines and instructions to help the supplier attain Stora Enso’s basic quality and safety standards for the handling, securing and transporting of goods as well as the methods and equipment to be used. The purpose of the Manual is to ensure efficient logistics services, that cargo is not damaged and that those involved in the supply chain process are protected.

The supplier is to adhere to the Stora Enso Code of Conduct, by which the supplier is required to have a management system in place that takes into account the size, complexity and risk environment of the suppliers’ business, including a systematic approach to the assessment, mitigation and management of risks related to human and labour rights, occupational health and safety, responsible business and environmental impact. Applicable laws, regulations and contractual terms governing the supplier’s assignments shall be duly applied and communicated. Sufficient training must be provided to relevant employees and business partners.

The supplier is always and ultimately responsible for the performance of the agreed services, i.e. to ensure that the services are performed in a safe, professional and competent manner using best practices. The supplier must also ensure that handling, securing and transport are conducted in accordance with any and all recommendations, laws or regulations, national or international. As Stora Enso cargo is transported between countries, the supplier must also follow local rules in all the countries where the supplier will perform its services and/or, when it comes to securing of goods, through which Stora Enso cargo is transported. The supplier must ensure that this Manual is also adhered to by any sub-supplier or sub-contractors appointed by the supplier.

The recommendations in this Manual are not exhaustive nor are they binding as to the exact performance of the agreed services, however, recommendations should be considered minimum standard. As long as the quality and safety standards achieved are equivalent to or surpass those set out in the Manual, provided that there are no other negative consequences for Stora Enso or Stora Enso’s cargo, the supplier is free to use alternative methods. If necessary, the supplier may even, in individual cases, be obliged to deviate from these requirements in order to achieve best practice. However, the supplier should inform Stora Enso about such best practices as these can be incorporated into future updates of this Manual.

The supply chain consists of various activities carried out by different suppliers. These activities are all outlined in the different sections of this Manual. The sections will apply and be relevant to different suppliers depending on what part/-s of the chain that they are to perform.

Instructions provided in this Manual currently relate to paper and board in reels and on pallets, pulp in bales or reels and timber products. Additional product categories, e.g. paper for recycling, pellets, round wood, liquid products and parcels may be added in forthcoming updates.

Please note that this Manual refers to laws, regulations, principles and standards by public and industry organizations that may be amended. To avoid any doubts, such amended, updated or new regulations are valid from the date when they were taken into force and will, from that time, be valid even if this Manual has not yet been updated accordingly.

This Manual is an integral part of the Stora Enso frame agreements for logistics service providers and, hence, any transport agreement or other logistics service agreement concluded based on such agreement.

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1.	SAFETY FIRST.....	6
2.	WAREHOUSING	8
2.1	Archiving.....	8
2.2	Warehouse.....	8
2.2.1	Floor	8
2.2.2	Layout	8
2.2.3	Roof	9
2.2.4	Walls and pillars	10
2.2.5	Hygiene requirements.....	10
2.2.6	Loading docks and doorways	10
2.2.7	Lighting.....	10
2.2.8	Fire safety.....	11
2.2.9	Other safety measures	11
2.3	Handling equipment.....	11
2.3.1	Forklifts and clamp trucks	11
2.3.2	Clamps	12
2.3.3	Forks (regular, multiple handling, toaster, top securing arm).....	13
3.	HANDLING	14
3.1	Reels	14
3.1.1	Reel handling	15
3.1.2	Mast-tilting	15
3.1.3	Clamp positioning	16
3.1.4	Correct use of split arms	16
3.1.5	Clamping force	16
3.2	Pallets	17
3.3	Pulp	18
3.4	Timber	19
3.5	LVL (Laminated Veneer Lumber).....	19
4	STORAGE	20
4.1	Reels	20
4.2	Pallets	21
4.3	Pulp	21
4.4	Timber	21
4.5	LVL (Laminated Veneer Lumber).....	22
5	DAMAGE HANDLING	23
5.1	Inspection and reconditioning of cargo	23
5.2	Classification of damages	24
5.3	Criteria for handling damages by product area.....	24
5.3.1	Reels	24
5.3.1.1	Condensation	25
5.3.2	Pallets	26
5.3.3	Pulp	27
5.4	Damages due to accidents.....	28
5.5	Claims for goods received with transport damages	28
6	ROAD TRANSPORT	29
6.1	Education and training.....	29
6.2	Inspection of a transport unit	29
6.2.1	Cleanliness.....	29
6.2.2	Water tightness.....	30
6.2.3	Floor	30
6.2.4	Sides and roof	30
6.2.5	Doors.....	30
6.2.6	Odour	30
6.2.7	Truck/trailer checklist	31
6.3	Cargo securing equipment	31
6.3.1	Lashing point	31
6.3.2	Edge protectors	31
6.3.3	Lashing belts	32
6.3.4	Anti-slip mats.....	32
6.3.5	Wedges/chocks	33
6.4	Loading of a transport unit	33

6.4.1	Preparation.....	33
6.4.2	Load planning.....	33
6.4.3	Loading patterns.....	33
6.4.3.1	Reels.....	33
6.4.3.2	Pallets.....	34
6.4.3.3	Pulp.....	34
6.4.3.4	Timber.....	34
6.5	Cargo Securing.....	34
6.5.1	Reels.....	35
6.5.1.1	Standing reels.....	35
6.5.1.2	Laying reels.....	36
i.	Pallets.....	36
ii.	Pulp.....	37
iii.	Timber.....	37
7	CONTAINER TRANSPORT	38
7.1	Inspection of the container.....	39
7.1.1	Water tightness.....	39
7.1.2	Floor.....	39
7.1.3	Cleanliness.....	39
7.1.4	Walls.....	39
7.1.5	Doors.....	40
7.1.6	Odour.....	40
7.1.7	Container checklist.....	40
7.2	Container stuffing.....	40
6.5.2	Planning.....	40
7.2.2	Loading patterns.....	41
7.2.2.1	Standing reels.....	41
7.2.2.2	Laying reels.....	41
7.2.2.3	Pallets.....	42
7.2.2.4	Pulp and timber.....	42
7.2.3	Cargo protection.....	42
7.2.4	Securing of the cargo.....	42
7.2.4.1	Standing reels.....	43
7.2.4.2	Laying reels.....	43
7.2.4.3	Pallets.....	43
7.2.4.4	Pulp and timber.....	44
7.2.5	Protection and securing material.....	44
7.2.6	Special instructions.....	45
7.2.7	Container sealing.....	45
8.	SEA TRANSPORT	46
8.1	RoRo (Roll-on/Roll-off).....	46
8.1.1	Transport units.....	46
8.1.1.1	Mafi's/Roll trailers and cassettes.....	46
8.1.1.2	SECUs.....	46
8.1.2	Inspection, loading and cargo securing.....	47
8.1.2.1	Inspection.....	47
8.1.2.2	Loading.....	47
8.1.2.3	Cargo securing.....	48
8.2	StoRo	48
8.2.1	Condition of holds and decks.....	48
8.2.2	Loading.....	48
8.2.3	Securing of the cargo.....	48
8.3	LoLo	50
8.3.1	Condition of the cargo hold.....	50
8.3.2	Loading and securing.....	50
8.3.2.1	Reels.....	50
8.3.2.2	Pulp.....	50
8.3.2.3	Timber.....	51
8.3.3	Handling equipment for LoLo.....	51
9	RAIL TRANSPORT	52
9.1	Inspection of a transport unit.....	52
9.1.1	Cleanliness.....	52

9.1.2	Water tightness.....	52
9.1.3	Floor.....	52
9.1.4	Sides and roof	52
9.1.5	Doors.....	52
9.1.6	Odour	52
9.2	Loading of a transport unit	53
9.2.1	Preparation.....	53
9.2.2	Load planning.....	53
9.2.2.1	Maximum payload.....	53
9.2.2.2	Weight distribution	53
9.2.3	Loading patterns.....	53
9.2.3.1	Reels	53
9.2.3.2	Pallets	54
9.2.3.3	Pulp	54
9.2.4	Timber.....	54
9.3	Cargo securing	55
10	AEO	56
APPENDIX 1: DAMAGE REPORT		59
APPENDIX 2: LIST OF APPROVED EDGE PROTECTORS FOR REELS.....		60
APPENDIX 3: TRUCK/TRAILER CHECKLIST		62
APPENDIX 4: CONTAINER CHECKLIST		63
APPENDIX 5: VESSEL CHECKLIST		64

1. SAFETY FIRST

The purpose of this Manual is to ensure that Stora Enso's products are efficiently handled and secured to avoid damages. But more importantly, our requirements and recommendations also aim to safeguard the health and wellbeing of all those involved in the handling, securing and transporting of our products as well as those we subject to risk if not putting safety first – our own staff, those providing services on our behalf and third parties.

The supplier is responsible for ensuring that its staff as well as any subcontractors are provided with and using necessary safety equipment. The supplier is also responsible for ensuring that safety training is provided on a regular basis, that risks related to occupational health, and safety are assessed, mitigated and managed in a systematic way.

In addition to the requirements and recommendations in this Manual, there may be specific safety regulations in place at contracted warehouses and terminals, at Stora Enso's premises or upon arrival at our customers. All suppliers of Stora Enso are required to be acquainted with and follow such safety rules and instructions. At times, local safety instructions will have to be confirmed in writing by the supplier.

Safety starts with me



No fire



No smoking (except in designated areas)



Never drive or work under the influence of drugs or alcohol



Never exceed speed limits or use mobile phone while driving

The minimum personal protection equipment (PPE) to be used at all times include high visibility clothing and safety shoes. The use of safety helmet is strongly recommended.



Safety vests and other high-visibility clothing



Safety shoes



Safety helmet

At times, ear and eye protection and/or other safety equipment is also required. Always wear a seat belt when in a vehicle.



Eye protection



Ear protection



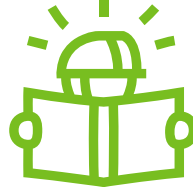
Seat-belt

At loading and unloading location

Upon arrival to loading and unloading location, always report to gate, are acquainted with and follow local instructions, and only park in designated parking areas.



Report to gate



Follow local instructions



Park only in designated areas

Loading and unloading activities can be particularly dangerous. Always stay out of the way of operating equipment, do not leave safety zones without permission and seek eye contact to avoid subjecting yourself and others to risk.



Stay clear from cargo being handled



Stay safe and out of the way



Seek eye contact

2. WAREHOUSING

Proper storage of Stora Enso products requires a well-designed facility, documented processes, continuously trained staff and a well-maintained, clean and properly run warehouse.

The supplier must have adequate warehouse bookkeeping, including, but not limited to, a record of the stock balance and the events, which show, as a minimum: what has been received and when; what has been delivered, when, and where or to whose custody; what the warehouse contains and where.

The supplier must compare physical stock balance and stock records once every quarter and report discrepancies to Stora Enso. Stora Enso will conduct physical stock count together with the supplier at least once per year, at no extra charges to Stora Enso.

2.1 Archiving

All shipping documents must be archived and stored for at least 10 years, either in their original versions or electronically, scanned and saved. Documents must be archived and saved/stored in such a way that the following information can be retrieved:

- Transportation date
- Order number
- Unit number

All archiving and saving/storage are to be made in a safe and secure way considering the risk of, e.g. fire, theft and water damages. The supplier is to inform Stora Enso how document archiving is managed and consider any proposals put forward by Stora Enso. Furthermore, Stora Enso must be informed of any damages to document archives.

2.2 Warehouse

A warehouse needs to fulfil certain requirements in order to ensure good, safe and adequate storage of Stora Enso products. The building must be well constructed and of materials that safeguard that products are completely protected even in extreme weather conditions like wind driven entry of rain or snow.

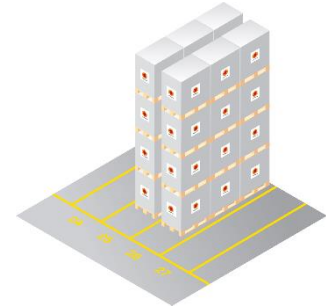
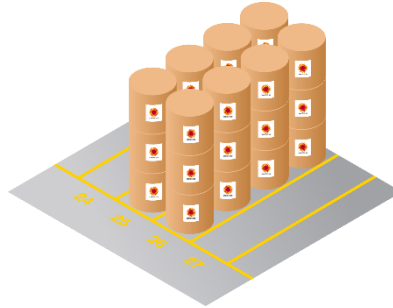
2.2.1 Floor

The floor must be firm, even, dry and clean. Preferred floor materials are polished concrete or bitumen. Concrete floors are also to be sealed off to prevent dusting, e.g. with an epoxy and urethane coating that is chemical, stain and skid resistant and easy to clean. Regular cleaning of premises is required and grease/oil patches must be removed immediately by using absorbing material. The floor is to be designed to withstand the weight of the stored products and machinery operating inside the warehouse. Cracks, uneven areas and damages to the floor must be repaired as soon as possible and in a durable way. Until repaired, these areas are to be clearly marked and restricted from storing of cargo.

2.2.2 Layout

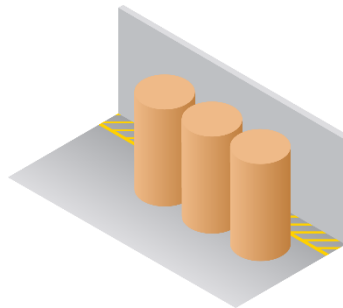
The layout of the floor should be done in such a way that there is an optimal use of the available space, also taking into account different obstacles and structural elements. Sufficient space for manoeuvring with handling equipment is essential.

Storage areas must be clearly marked by using lines and location numbers.

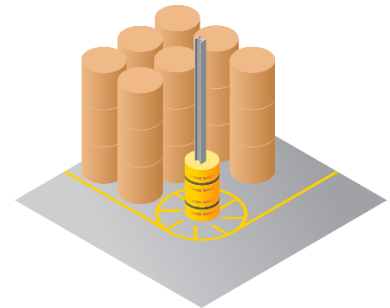


Storage by bay marking

Approximately 30-50 cm of free space must be kept from walls, pillars, pipes and other obstacles that should be marked as 'no-go zones'.



Safety area by wall

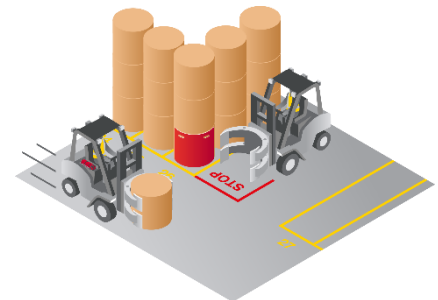


Safety area around pillar

To ensure safe working conditions and to provide a visually efficient warehouse, traffic routes should be clearly marked on the floor using lines and symbols.

All routes for pedestrians and areas restricted to visitors, e.g. at loading areas, should also be clearly marked.

Inside the warehouse, a separated and specially marked quarantine area has to be in place for goods damaged or classified as 2nd grade material.



In-house traffic guidance

2.2.3 Roof

The roof (ridge roof recommended) must be in good condition, 100% water tight, properly collecting and draining rainwater and regularly checked and cleaned. The warehouse is also to be equipped with effective drains that can withstand large amounts of water in case of heavy rainfall. Rainwater drainage pipes and gutters should preferably be located on the outside with a backflow prevention system. These must be checked regularly for damages and/or loose parts.

2.2.4 Walls and pillars

Walls must be in sound condition to avoid water, snow or animals entering to the warehouse. If construction requires pillars, these must be well marked and protected to avoid damages with a 30-50 cm safety area to be marked around them.



Pillar protection

2.2.5 Hygiene requirements

Necessary precautions must be taken to avoid insects, birds and mammals from entering and/or nesting inside the warehouse.



Figure 1 Pest control



Reel affected by bird droppings

Confirming product safety

Suppliers handling products for food and liquid packaging must act according to and fully comply with the requirements of Commission Regulation (EC) No 2023/2006 on good manufacturing practices for materials and articles intended to come into contact with food.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:384:0075:0078:EN:PDF>

The first step for any supplier is to work according to HACCP principles. HACCP is a systematic preventive approach to ensure food safety by identifying and controlling biological, chemical, and physical hazards that can cause the product to be unsafe for its intended use. When using the HACCP system it is possible to reduce these risks to a safe level. The supplier must perform a risk analysis of their own operations based on the HACCP principles, take appropriate actions based on the findings and share the results of the analysis with Stora Enso.

For additional guidance, please see standard ISO 22000:2005 for Food Safety Management System and <http://www.fao.org/docrep/005/y1579e/y1579e03.htm>

2.2.6 Loading docks and doorways

Loading docks and doorways should be adjustable for different loading operations and designed to take the weight of handled material and machinery. In addition, they must be equipped with automatic or manual restraining systems, e.g. wheel-locks securing vehicles and preventing moving and tipping. Docks must provide shelter from poor weather conditions and be broad enough to guarantee safe truck docking. Doorways should be equipped with cleaning systems, e.g. gratings that can remove dirt from wheels to prevent contamination of storage area.

2.2.7 Lighting

Adequate lighting with minimum illumination of 200 Lux is required. Buildings can be designed to maximize daylight usage, but direct sunlight on the products must be avoided.

LED lighting is preferred as this is more durable, consumes less electricity and emits/radiates less heat. All lamps must have protective covers to prevent glass splinters falling onto workers and stored goods. The safety margin from highest point of the cargo stored to the lamps is 1 meter.

2.2.8 Fire safety

Fire protection systems must be in order and fulfil national requirements. Escape routes, firefighting equipment and walkways must be free from any obstacles and signs are to be clear and visible. Scrap paper, rubbish, unused pallets, etc must be removed immediately and stored separately. Smoking is strictly prohibited and only allowed in designated areas. Personnel must be trained to use firefighting equipment.

Regularly inspected fire extinguishers must be clearly marked, checked and easily accessible in different locations throughout the warehouse.

Sprinkler systems are highly recommended. Every warehouse must be equipped with early fire- and smoke detection devices. Automatic alarm systems, preferably linked to fire departments, are required.

Forklifts and clamp trucks must each have a special dedicated parking space at least 4 meters away from combustible materials. For overnight parking, this distance must be 8 meters. Parking should preferably be arranged outside the warehouse in a separate, designated area.

Fuelling and recharging of trucks should be done outside the warehouse due to both fire and contamination risks. However, if these procedures are carried out inside a warehouse, safety measures must be taken. E.g., the surroundings of the fuelling/charging stations shall be free from all combustible materials and clear from stored goods. The fuel tank shall be placed inside either a safety basin/bounding or have a double hull. The equipment in both stations must be protected from hits and breakage due to machinery. In addition, sufficient firefighting equipment must be available near the fuelling station.

Handling equipment should be protected with both portable extinguishers and automatic fire extinguishing systems.

2.2.9 Other safety measures

To ensure a safe working environment and safeguard against trespassing or theft, other measures may also be appropriate in a warehouse setting, e.g. surveillance cameras, mirror balls etc.

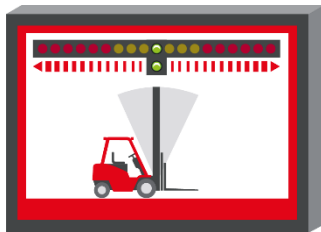
2.3 Handling equipment

2.3.1 Forklifts and clamp trucks

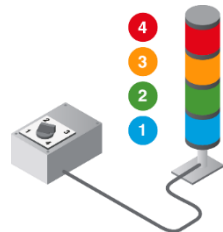
The equipment used must be intended for the specific product being handled and in good condition to ensure efficient operations. Equipment should be checked regarding emissions and energy consumption. Clamp trucks must be equipped with mast tilt indicators and signal lights for used clamping force.

The type of work, handled products and working condition must be taken into consideration when choosing the proper equipment to be used. The machines and equipment must undergo regular, well-documented maintenance and check-up. In order to relieve point load when entering a transport unit with heavy load, it is essential to consider the width and pressure of the tires.

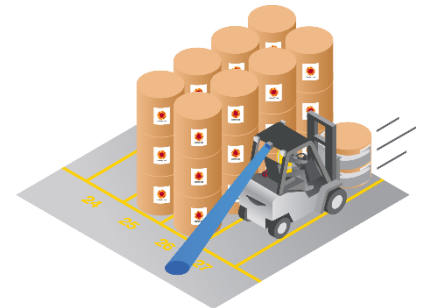
For safety reasons and to increase visibility, all handling equipment must have the lights on at all times during operations (operating + blue spot™).



Mast-tilt indicator



Clamp force indicator



Blue Spot™

2.3.2 Clamps

Selecting the correct clamp type and ensuring that equipment is in good condition is essential for operating efficiency and to avoid damages to equipment and products. There are several clamp type options depending on the usage, for example:

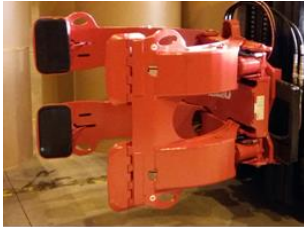
- Pivot arm clamps
- Non-rotating single paper reel clamps
- Non-rotating multiple paper reel clamps
- Rotating clamps
- Swing frame clamps
- Sliding arm clamps
- Fixed or split arms

Rotating clamps normally have short and long arms and are required when handling cargo in tight spaces such as containers and rail wagons. With this design, tighter stacking with less clamp truck manoeuvring is possible when the short arm is turned towards the wall and with the long arm making the clamping movement.

Clamp pad surfaces for reel handling should be rubber coated. Steel sprayed/waffle pads are only accepted when handling cargo in temperatures below 0°C. Clamps and clamp pads must be checked every time before starting the operation. Clamps must be clean from oil and other contaminants that can stain the cargo handled. They must also be undamaged and without any sharp edges. Springs must be in good condition and standing supports are required. The type and size of attachment is also to be adequate for the type of product to be handled and operations performed.

Bale clamps must have steel patterns, providing extra grip to the bales. Ideally, they are equipped with metal bars ('bull bar') to prevent the units getting into contact with the clamps' hydraulics. When handling 4 or more units, a middle clamp pad is required.

Attachments must undergo daily inspection and frequent maintenance to avoid defects that can cause damage to the handled products. Equipment and attachments may only be used for the purpose they have been designed for.



Reel clamp and clamp pad



Middle clamp pad and bull bar



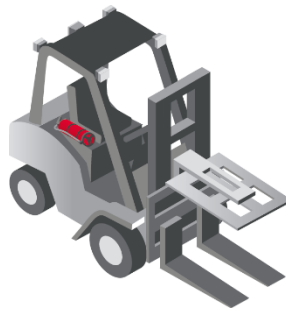
2.3.3 Forks (regular, multiple handling, toaster, top securing arm)

Forks must be adjustable to the size of pallets. This to ensure that the unit standing behind the pallet is not affected when handling the one in front.

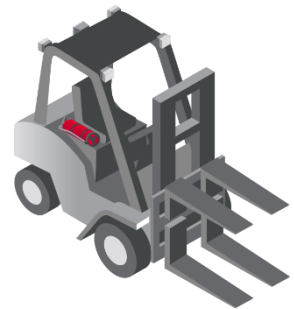
A shortening device or penetration meter can be used, and different pallet sizes can also be painted/marked on the forks. Hydraulic side shift and top securing arms are recommended for safe pallet handling.



Forklift with double pallet handlers



Forklift with top-securing toaster



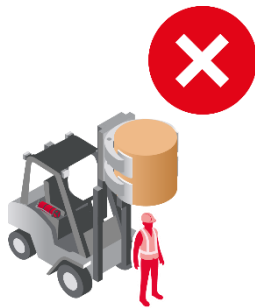
Forklift with top-securing arm(-s)

3. HANDLING

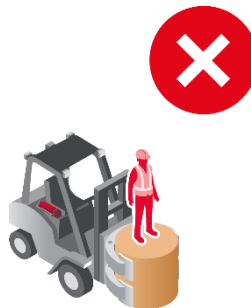
Before operations, the handling equipment must be inspected for any damages and/or defects. Before handling, the condition and the quantity of the products are to be checked.

Discharging of a transport unit should be carried out taking into consideration how the transport unit was loaded. Preferably, the same method should be used, but in reverse, to ensure a safe procedure. Handling is an important part of the supply chain and must be carried out in such a way that it does not have a negative effect on the condition of the product.

The handling of cargo can involve risks for those involved in the operation. Always stay out of the way of operating equipment, do not leave safety zones without permission and seek eye contact with the truck operators if your support is required.



Do not stand under the load



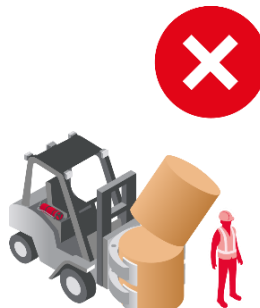
Do not stand on top of the load



Do not stand in near the load



Do not stand between the clamping arms.

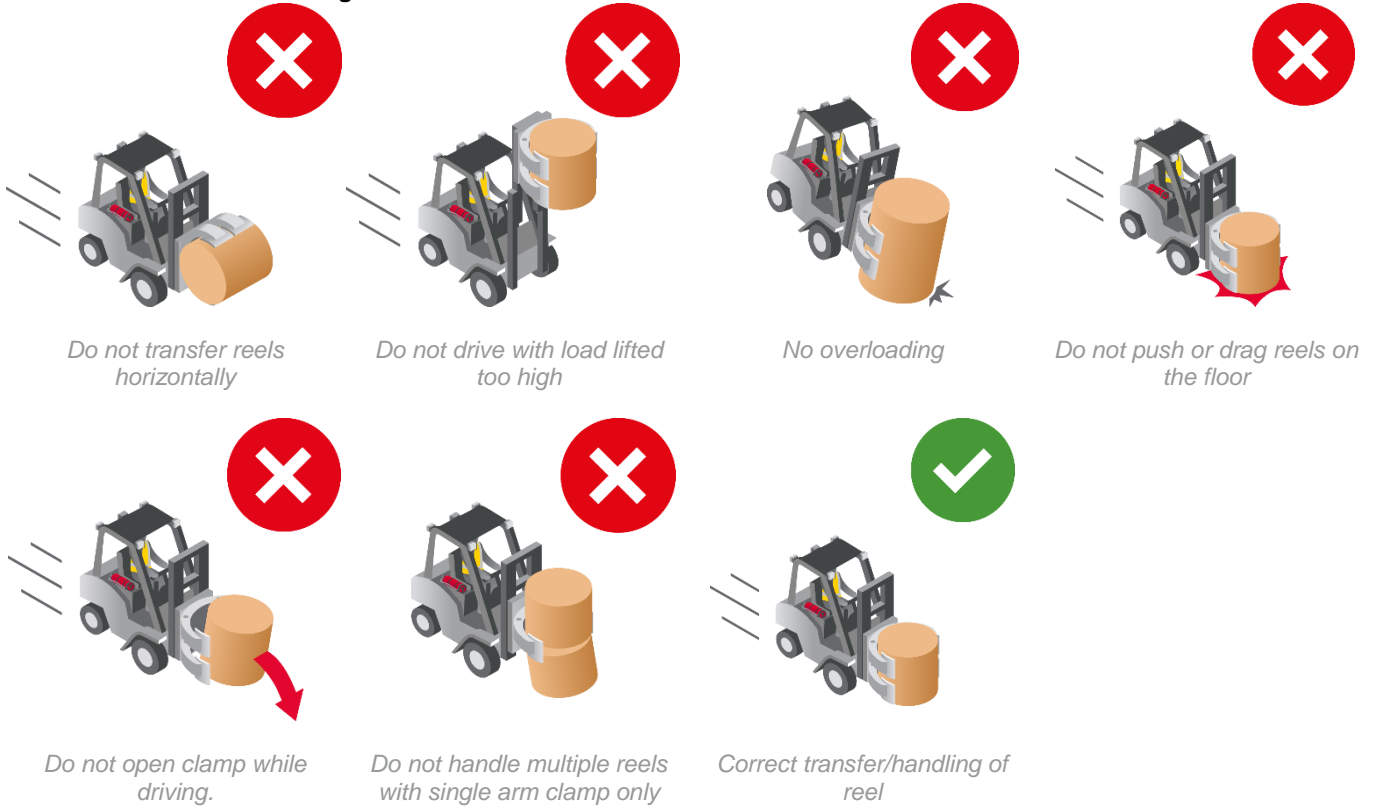


No loose (unclamped) reels/ No freeriders

3.1 Reels

Paper and board reels are prone to damage and have high unit value. Best practice operation and well maintained equipment is therefore essential. Reels must be kept in an upright position and not be pushed over any surface. Clamps used to handle reels must have a sufficient number of correctly positioned arms and use the correct clamping force.

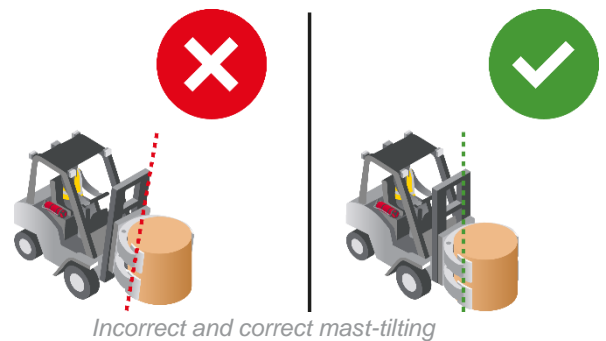
3.1.1 Reel handling



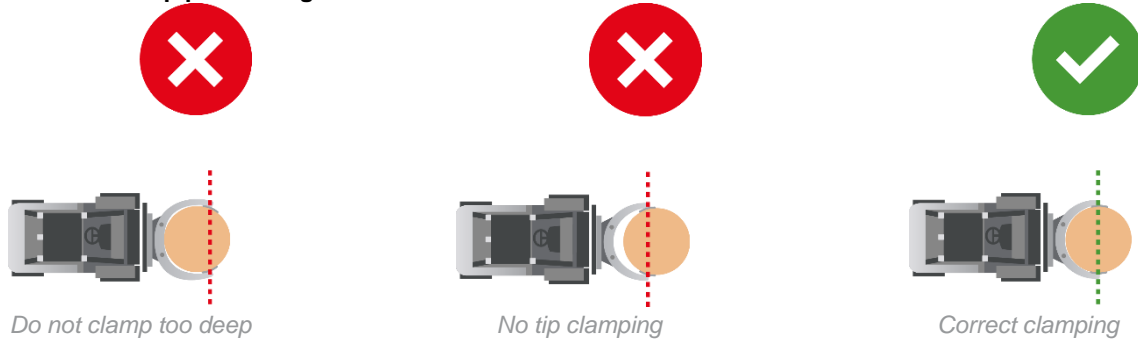
3.1.2 Mast-tilting

A mast tilt indicator is required in all forklifts and clamp trucks to ensure correct tilting of the mast. When mast is not tilted correctly, it can result in:

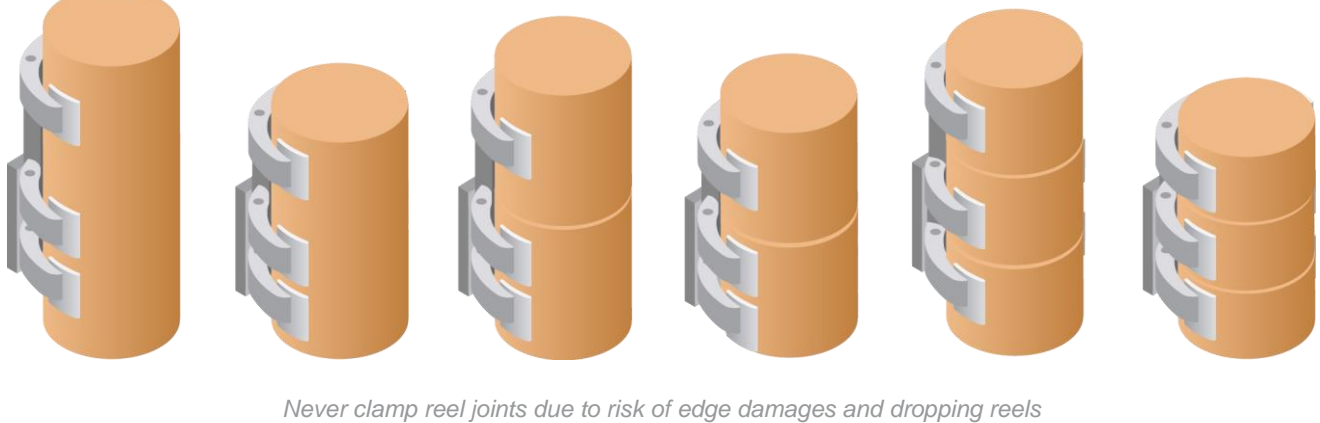
- Bad grip between contact pad and reel
- Mechanical damages on contact pads
- Belly damages on reel



3.1.3 Clamp positioning



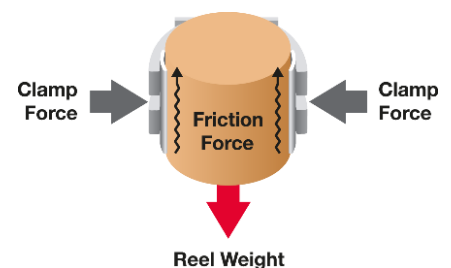
3.1.4 Correct use of split arms



3.1.5 Clamping force

Clamping force is the force that the clamp applies to the reel. The force to be used is based on the grade of product, the weight, dimensions, friction, wrapping, and environment.

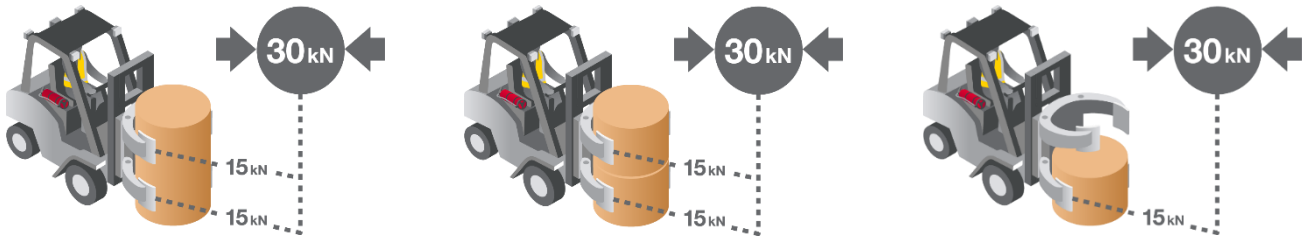
Manufacturers of equipment provide tables for the conversion of hydraulic pressure to clamping force (in kN). Clamping force depends also on the opening of the clamps (diameter of reel) which, in turn, depends on the type of clamp. If the (CF) is too high, it will lead to out of round (OOR) reels that will be rejected by the customer.



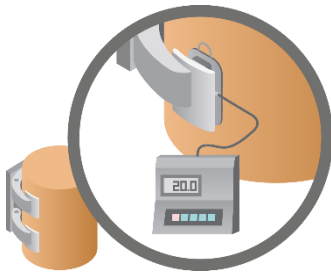
The clamping force must be checked every 100 working hours, at every maintenance interval and after changing attachments. Records must show pre-adjustment measurement and be filed and made available for inspection.

A selection valve, by which the clamping force can be adjusted in steps, is required. Different-coloured lamps placed on top of the truck should indicate the clamping force used (exception: intelligent clamps).

The maximum permitted clamping force is stated on the labels of the reels or in a belt around the reel. If not, then the table provided here indicates the maximum force according to the weight of the reel. Clamps equipped with one cylinder per arm will automatically split the clamping force (see picture below). In case of common cylinders, splitting of the clamping force must be done by an adjustment valve.



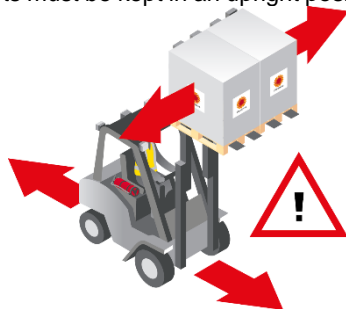
Correct handling of reels when 30kN stated on label



Clamp force reduction valve	Recommended value	Total clamping force 2 arms	Weight per reel (kg)	Product type
1	10 Kn	20 Kn	< 500	Newsprint & Book paper
2	15 Kn	30 Kn	500-1500 <500-1000	Newsprint & Book paper SC and LWC paper + boards
3	20 kn	40 Kn	1000-2000 1500-2500	SC and LWC paper + boards Newsprint & Book paper
4	27,5 Kn	55 Kn	> 2000	SC and LWC paper + boards

3.2 Pallets

Pallets must be kept in an upright position and not be pushed over any surface. Feet and banding is to be kept in good condition.



Limit movement with load lifted

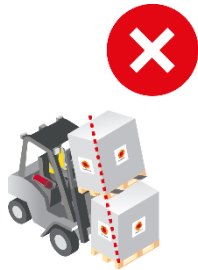


Do not push or move pallet with forks

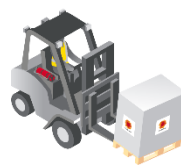


No unsecured pallets (no free riders)

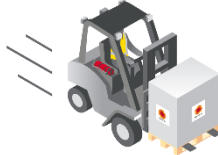
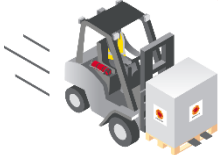
Mast tilt must be kept vertically straight so as not to create damages to the pallet base, side or other pallets when stacking and handling. Forks must be suitable for each pallet size handled. Double fork attachments are required when handling multiple pallets. The spread and length of forks must be adjusted in order to guarantee stability and safety when handling pallets.



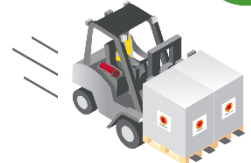
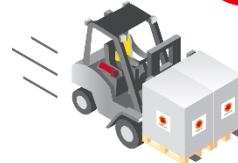
Mast till to be kept vertically straight



No pallet handling on fork tip only



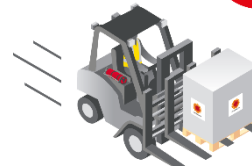
Spread forks correctly



Do not handle two pallets with only two forks



Use long enough forks for adjacent pallets

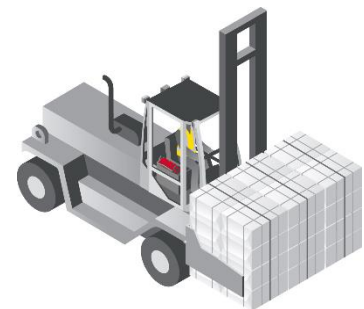


Single pallets not to be handled with double forks

3.3 Pulp

Pulp bales are clamped at the bottom part of the product. Units must be aligned from all sides. Clamps may not be placed between product and bale wires as this may break wires. If lifting is later needed using crane, clamping is not allowed from the lifting wire side as clamping may damage lifting wires.

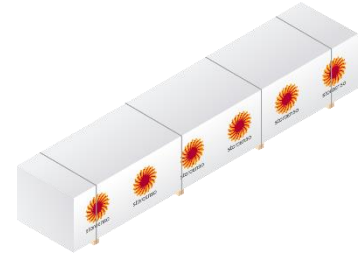
Pulp is normally handled 1 to 4 units at a time. When handling 4 or more units, a middle clamp pad is required. Only proper clamps may be used and pressure must be adequate. During transport, bales must be lifted high enough above the floor to avoid scraping.



Correct clamping of pulp units

3.4 Timber

Sawn timber packages must be handled in a safe and efficient way. When using forklift trucks, it is important to consider the lifting capacity of the truck and also the size and spread of the forks. Before handling, packages must be checked so that they are in suitable condition, i.e. no mechanical damages, broken straps or contamination.

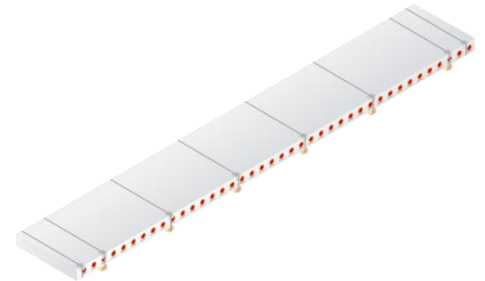


Timber package

3.5 LVL (Laminated Veneer Lumber)

LVL packages must be handled with forklift or crane and when lifted with crane only web slings of proper strength and condition are allowed. The use of chains or wires is strictly forbidden as incorrect handling can cause severe damage to the product as well as to its stability. This can lead to rejection of products.

When handled with a forklift truck, proper stability has to be considered. The spread of the forks must be wide enough for safe lifting and for extra-long packages two forklifts must be used simultaneously. Repositioning and pushing the packages with fork tips is forbidden.



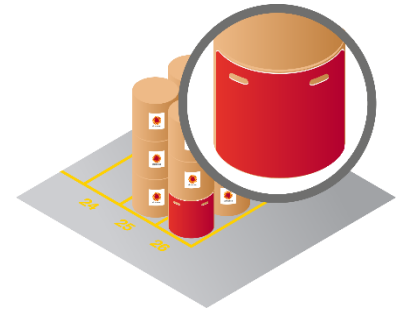
LVL package

4 STORAGE

Stora Enso products are not to be stored together with goods that could endanger the quality of Stora Enso's products.

Reels and pallets must be kept in different, well-separated areas. Orders in the warehouse are to be stowed in such a way that the rule "first in - first out" is respected and unnecessary handling is avoided.

Units stored close to driveways and corners must be protected by reel/pallet guards.

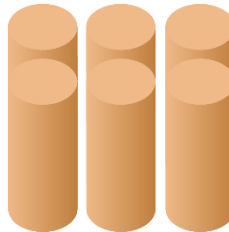


Reel guard correctly placed in corner

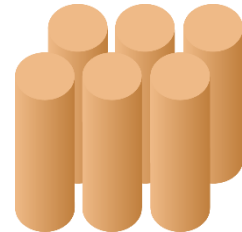
4.1 Reels

Reels and pallets must be stored in separate, dedicated compartments in the warehouse.

Reels must be stacked vertically using a single column-stacking pattern with adequate space of minimum 5 cm between reel stacks to allow clamp truck access and avoid overlapping of reels.



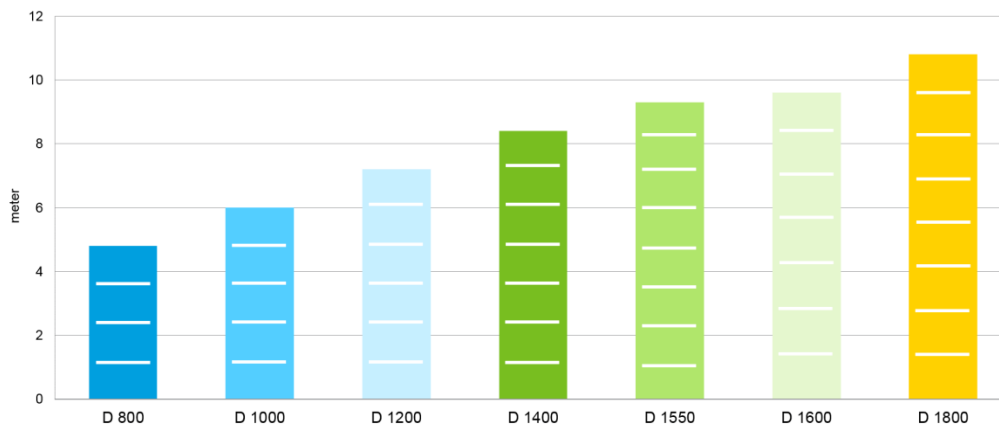
Soldier stacking



Zig-zag stacking

Safe stacking heights

Take the strength of the warehouse floor, the roof construction and possible restrictions from sprinkler systems and lighting into account when stacking.

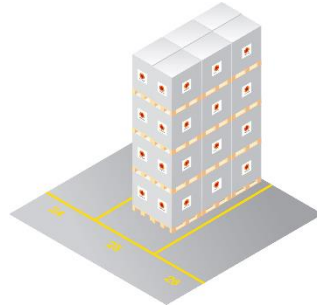


Safe stacking height of reels based on reel diameter

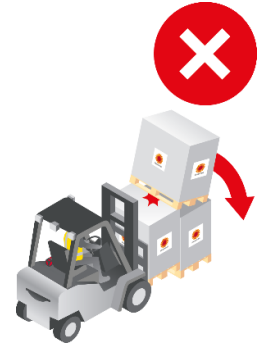
4.2 Pallets

Reels and pallets must be stored in separate, dedicated compartments in the warehouse. Stacks must be stable and balanced, as an irregular, imbalanced stack/pallet might tip over and damage the product and its surroundings.

Storing is limited to 4 pallets in height. No overlapping in stacks allowed.



Maximum 4 pallets in height



No overlapping of stacks

4.3 Pulp

Stacks must be aligned and in good order, with sufficient gap between units in order to unload without damaging products.

Storing is limited to 4 in height or 8 meters.

When handling FSC or PEFC certified wood pulp (Forest Stewardship Council / Program for the Endorsement of Certification Schemes), there are specific requirements that have to be taken into consideration.



Pulp storage

PEFC/FSC certified wood pulp is to be kept physically separated based on order number, as well as from other material at all time during discharging, storing and loading operations. A PEFC/FSC sign must be visible to separate certified wood pulp from any other material. It might even be necessary to separate PEFC/FSC material from PEFC/FSC Controlled Sources material, if required by Stora Enso. At the port terminal/inland warehouse, a PEFC/FSC responsible person has to be nominated. For certified wood pulp, special PEFC/FSC training of all people handling pulp (incl. forklift drivers) is necessary and must be documented.

PEFC/FSC wood pulp must be tracked and controlled and records of inputs, outputs and shipping documentation are to be kept for all PEFC/FSC pulp.

4.4 Timber

Sawn timber should preferably be stored indoors or covered so as not to be affected by moisture. The storage location must be equipped with suitable amount of wooden skids in sound condition to be placed under the packages. Stacking is to be done so that working in the warehouse is safe. Timber packages must not lean against structures of the warehouse building or against other packages.

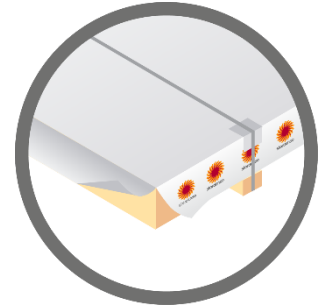
Packages that appear damaged, have broken bands or are poorly protected must immediately be fixed. The contents of the original package may not be changed, however.



Timber storage

4.5 LVL (Laminated Veneer Lumber)

Packages have to be stored weather protected under cover. Place the packages on wooden skids at least 30 cm off the ground on a flat and dry surface. The skids must be of suitable size and number. They must also be evenly spread to prevent products from becoming twisted or crooked. If storing packages for more than a week, the bottom corner of the plastic wrapping is to be cut open to allow for air circulation.



Air circulation for LVL package

After the above steps are completed, the label on the unit, the stock sheets and other applicable stock control systems as well as the 'Damage Report' must be checked and updated to ensure traceability. Goods that are beyond repair are rejected and should preferably be identified with a damage sticker.

5.2 Classification of damages

Where	What	How
Place of damage – mandatory		
At place of inspection		
Before place of inspection		
Notice point of damage – mandatory	Type of damage – mandatory	Cause of damage – if clearly identified
00 Mill	01 Edge damage	Handling
01 Pre transport	02 Side damage	Transportation
02 Port of loading (storage & handling)	03 End damage	Warehousing
03 Port of loading (stowage & unitising)	04 Wrapper damage/broken pallet base	Deficiencies handling equipment
04 In vessel	05 Core damage	Deficiencies transport facilities
05 Discharge port (discharge, storage)	06 Deformation / Out-of-roundness	Deficiencies warehouse
06 Discharge port (loading & delivery unitising)	07 Water damage	Insufficient packing
07 Terminal or Inland warehouse	08 Dirt and contamination	Insufficient lashing
08 Delivery port	09 Shortage, non-delivery	Condensation
09 Printer	00 Other, spoiling, mould, rust, etc	Other

5.3 Criteria for handling damages by product area

5.3.1 Reels

Criteria for rejecting a reel:

- Oval or crushed core that cannot be straightened
- Oil stained, wet reel or other contamination of any sort which has penetrated through wrapping
- Odour
- End, side or edge damage to the reel exceeding the following:
 - 12% of the reel radius of all Paper division products (newsprint, office, SC, coated and book papers)
 - 10% of the reel radius of consumer board products
 - 70 mm of reel radius of containerboard products (fluting, kraftliner and linerboard)

Criteria for reconditioning a reel:

- Paper division and consumer board products: The reel is to be reconditioned if the damage is less extensive than stated above.
- Containerboard products: All damages up to the rejection limit shall be taped and reported as repaired.
- Raw material reels to converters: Damages shall be taped and reported as repaired.
- Wrapper damages
 - If damage to the wrapper is less than that of two hands, it shall be taped
 - If damage to the wrapper is greater than above, reel must be repacked
 - Taping is not allowed if there is any damage to the product itself
 - Tape used must have the identification of the contracted supplier

Multipack reels (multiple reels in same package):

- If one of the reels inside of package is to be rejected, remove the rejected reel and the others must be repacked and placed in stock for onward delivery.
- In case of repairing, all reels in the package need to be stripped to same diameter.

Damage types reels:



09 Shortage / non-delivery

00 Other

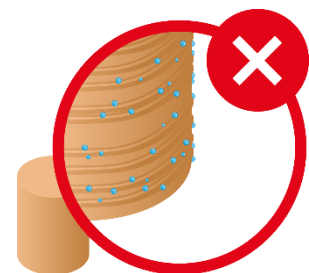
5.3.1.1 Condensation

Condensation on cargo occurs frequently in winter when products are stored and loaded in a cold climate and then transported to countries with a warmer and more humid climate. This phenomenon can also occur during storage when temperature suddenly rises to plus degrees after a longer cold period.

If during a voyage the holds are ventilated with air of higher dew point than the temperature of the cargo, the vapour in the air condensates which results in water drops on the products. Condensation continues until the surface of the cargo reaches the same temperature as the dew point in the air surrounding the cargo.

In sea transports, when shipping cargo from cold climates to milder ones, condensation damages can be avoided by

- closing air vents
- circulating air in the hold and warming it up when possible
- using dehumidifiers



Unit subject to condensation

Reels affected by condensation or ice should be put in a horizontal position to facilitate the drying of the reel. In case the space in the warehouse does not permit this, the reels must be separated from each other and not stacked. Storage should preferably be in a well-ventilated and heated space allowing reels to dry. Stora Enso is to be informed immediately in case of severe damages or broken wrappings.

5.3.2 Pallets

General requirements:

- Pallet bases must be intact. If the pallet base or its leg is damaged, it must be repaired
- All broken bands must be replaced
- Bands must be tight
- If torn, wrapping must be taped immediately. Note that plastic is to be placed under the tape to safeguard the product. New plastic foil must be provided for larger exposed areas. The product must be intact.
- Stacks must be straight
- Any dirt on packaging must be cleaned

Cupboard pallets, narrow reels on pallet:

- When damages on individual reels with radius of up to 50 mm, each reel must be individually reconditioned by removing the damaged layers. If more than half of the reels on a pallet are damaged to this extent, all of the reels on the pallet are to be stripped to a uniform diameter
- Reels must be centred on the pallet and placed in an upright position

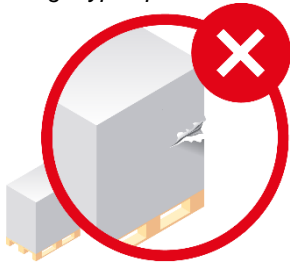
Loose sheets and ream wrapped sheets on pallets (bulk packed):

- All product damages caused by forks – reject
- Shifted sheets or moved sheets from pallets – reject (no restacking)
- Capsized pallets – always reject

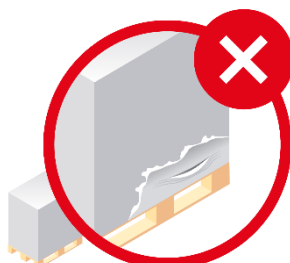
In addition to loose sheets, paper in boxes:

- If boxes are damaged, the products are rejected. If more than one pallet is damaged, boxes from multiple pallets may be combined to create a full prime pallet again
- Capsized pallets are always rejected

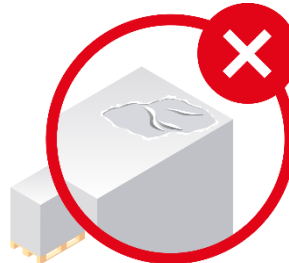
Damage types pallets:



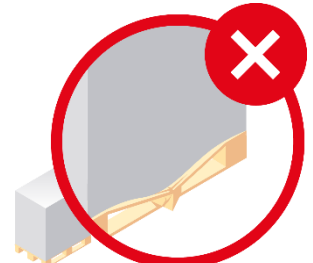
01 Edge damage



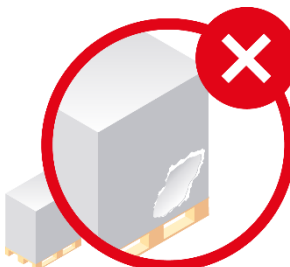
02 Side damage



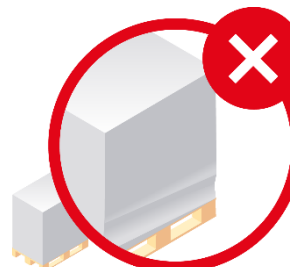
03 End/top damage



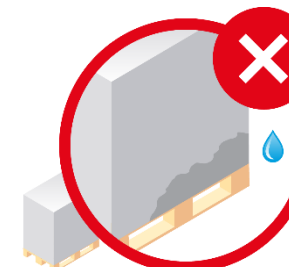
04 Broken pallet base, lid or straps



04 Wrapper damage



06 Deformation



07 Water damage



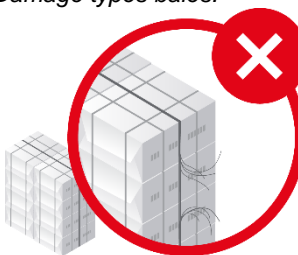
08 Dirt and contamination

09 Shortage / non-delivery
00 ther

5.3.3 Pulp

Pulp is delivered for various end users including the hygiene industry where damage tolerance is often very low. Wrapper and wire damages as well as contaminated pulp or units containing foreign particles can cause serious safety risks and failures in production processes.

Damage types bales:



04 Broken lifting wires



06 Deformation or loose units



07 Water damage



08 Dirt and contamination

5.4 Damages due to accidents

In the event of an accident, damage or loss, the supplier must immediately report discernible transport damage and loss of goods to Stora Enso. A written report containing the following information must be provided:

- registration number and type of vehicles involved
- place, time and details of accident or event of damage or loss
- name, address of casualties
- extent of product loss
- consignment details
- measures taken by supplier
- contact details, names and telephone number to supplier

5.5 Claims for goods received with transport damages

Steps to be taken and documents required to support claims for transport-damaged cargo:

- When receiving goods, check the external condition and make a remark for any deviation in the delivery note (POD /Lieferschein)
- Visible or apparent damages must be notified immediately. Invisible damages must be reported as soon as possible, but not later than seven days after delivery
- The driver of the vehicle or delivering party must countersign the remarks
- Customers are to notify the local office of Stora Enso or the Settling Agent of the Insurance Company about the damage in writing and without delay. In the notification, please include Stora Enso references (order and unit number) and type of damage detected.
- On receipt of notification, Stora Enso (or the Settling Agent of the Insurance Company) will determine whether it is necessary to instruct a surveyor to inspect the nature, cause and extent of the alleged damage. Therefore, the product must be kept aside for survey purposes until Stora Enso informs otherwise.
- The package is to be stored with its original wrappings and identification markings.

6 ROAD TRANSPORT

The supplier must ensure that dispatched vehicles are equipped, maintained and fulfilling the following requirements:

- Vehicles must be approved by an Authorized Vehicle Inspection Company
- All service and repairs must be conducted in an environmentally sound manner and well documented
- Tires must be in good condition, meet high environmental standards and adapted to the vehicle and road conditions, e.g. snow and ice
- Necessary emergency equipment must be available in vehicles
- Technical support systems must be installed in all new vehicles for the individual monitoring of fuel consumption
- Vehicles in use must, at all times, not only fulfil the legal requirements of the country where the vehicle is registered but also local rules, legislation and requirements of all transit countries

The supplier undertakes to work toward:

- All vehicles used to be of a minimum Euro class 5 or according to identical international standard
- Drivers being trained in safe, fuel-efficient and defensive driving
- Increased use of fuels with reduced environmental impact
- Usage of alcohol interlocks in all vehicles

6.1 Education and training

Loading and unloading must be carried out by appropriately trained staff. EN 12195-1:2010 and VDI 27001, are recommended for the training, advice and instruction for all persons involved in the securing of cargo on transport units.

Drivers must be aware of the additional risk of the load, or parts of the load, shifting when the transport unit is being moved. Stora Enso expects that the supplier is conducting training of drivers in accordance with Directive 2003/59/EC on the initial qualification and periodic training of drivers.

6.2 Inspection of a transport unit

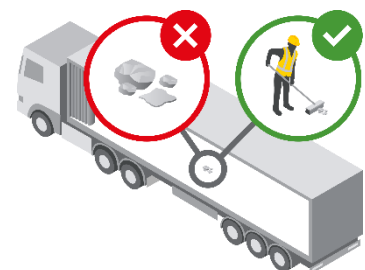
The aim of the inspection is to safeguard that goods are received undamaged and comply with AEO requirements for supply chain safety and security, i.e. to confirm that the transport unit is not used for any illegal activity, such as smuggling. The inspection may be performed visually or using tools. Any suspicious alterations in the structure of the transport unit must be reported.

If a transport unit does not meet the below listed requirements, it will be rejected until it meets quality standards. Costs arising in relation to a rejected transport unit is to be paid by the supplier.

6.2.1 Cleanliness

The transport unit must be entirely clean before loading Stora Enso products. This implies that the trailer floor must be swept and cleared from any debris before loading operation begins.

It is of utmost importance that the cargo space is free from any stones, dust, nails, remains of previous cargo, pieces of wood, etc. that could possibly damage the products.

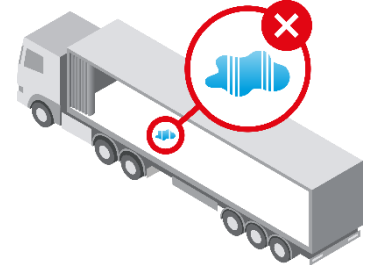


Transport unit to be swept before loading

6.2.2 Water tightness

Stora Enso requires that closed transport units are completely watertight. The cargo space must be and remain dry at all times. Hence the importance to check the roof, sides, curtains, doors and floor for any damages that could lead to water entering the transport unit.

These damages must be repaired in a professional and durable way before loading Stora Enso products. Dampness in the cargo space will not be accepted and can lead to a rejection of the vehicle.

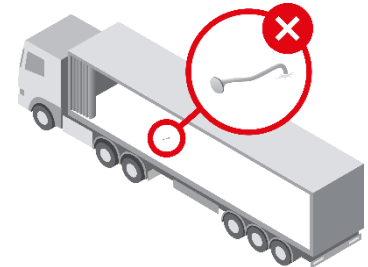


Transport unit to be dry at all time

6.2.3 Floor

The floor of the transport unit must always be completely dry, clean and smooth when loading or transporting Stora Enso products. Nails, (oil or grease) stains, bolts, dust, remains of previous cargo, wood chips, other protruding objects, etc. are all to be removed and could lead to a rejection of the vehicle.

The floor also needs to be strong enough to withstand/allow the use of loading/unloading equipment such as clamp trucks.



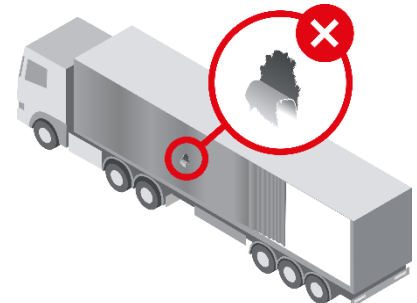
No protruding objects, debris or water on floor

6.2.4 Sides and roof

The sides and roof of the transport unit must be in good and sound condition and 100% watertight. Furthermore, the sides are to be even and free from any protruding objects.

The trailer's headboard should be smooth and even to avoid damages.

For curtain side trailers, the opening and closing function of the tarpaulin must be in proper working condition and there are to be no damages in the tarpaulin.



No curtain damages

6.2.5 Doors

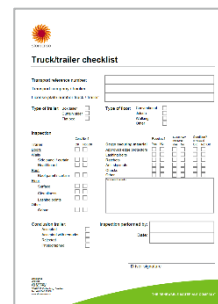
The doors, gaskets and locks are all to be in a proper working condition, 100% watertight and assure that the cargo space can be completely closed off.

6.2.6 Odour

The transport unit is expected to be completely free of any odour/smell, which may adversely affect Stora Enso products.

6.2.7 Truck/trailer checklist

It is strongly recommended that the *Truck/trailer Checklist* is used in order to verify and document the condition of the transport unit and cargo securing/protection material. Deviations should be noted to avoid disputes upon delivery. The *Truck/trailer Checklist* is outlined in the appendix and is available on www.storaenso.com.

A screenshot of a 'Truck/trailer checklist' form. It includes sections for 'General information', 'Truck/trailer', 'Cargo', and 'Securing'. There are checkboxes for various items like 'Truck/trailer condition', 'Cargo condition', 'Securing material', etc. The form is designed to be filled out by the driver or handler to document the state of the transport unit and cargo before delivery.

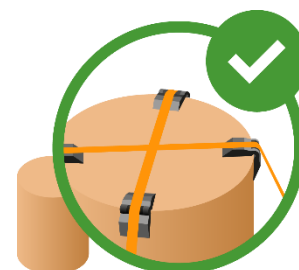
6.3 Cargo securing equipment

6.3.1 Lashing point

Lashing points must be in accordance with the European standard, currently DIN EN 12640.

6.3.2 Edge protectors

Edge protectors must be placed in the correct location and position (curved side on the reel belly) on the material. Note that only approved edge protectors are allowed and that lashing using incorrect edge protectors can damage products.



Correct position of edge protectors

Approved types of edge protectors for securing Stora Enso reels are listed in the appendix 'List of Approved Edge Protectors for Reels'. No other types of edge protectors than those listed are accepted for reels.

Tools, such as ProPole® or similar are highly recommended in order to safely and correctly mount the edge protectors.

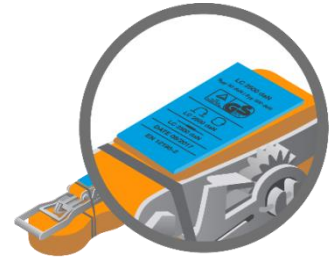


ProPole® used for safe, correct mounting of edge protectors

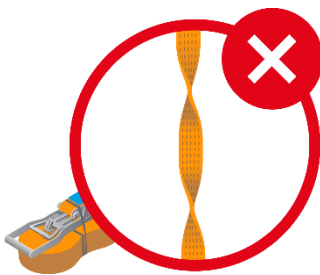
6.3.3 Lashing belts

Every transport unit must be equipped with a sufficient number of belts and ratchets (in accordance with European standard EN 12195-2) for the cargo they will be transporting. These must be in good condition, always be inspected prior to loading and replaced in case of any damages.

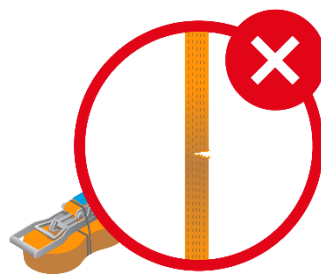
The STF (Standard Tension Force) applied may maximally be 500daN (1 daN \approx 1 kg) on the side of the ratchet. It is also required that the technical information is provided on the belts or its labels. The belts must be placed straight and exactly in the middle of the edge protector.



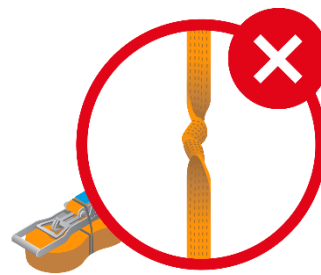
Lashing belt and ratchet



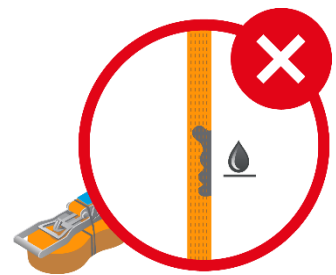
Lashing belts must not be twisted



Lashing belts must not be torn



No knots on lashing belts



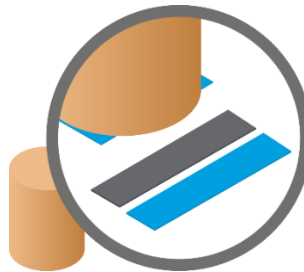
Lashing belt must be clean

6.3.4 Anti-slip mats

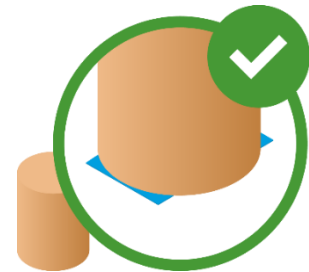
There are two types of anti-slip mats frequently used to increase friction and prevent material from slipping during transport. A heavier 'black' type, made from rubber (Regupol®), with a friction coefficient of 0.7μ . The lighter 'blue' version, made of foam (Transpofoam®), has a friction coefficient of 0.8μ . Other anti-slip mats are accepted as long as they fulfil a minimum friction of 0.6μ .

Anti-slip mats, at least 150 mm wide, must be placed on either side of the material lengthwise and protrude app. 1 cm from underneath the reel/pallet. In case of multiple layers, anti-slip mats are to be placed in-between units.

Anti-slip mats used must be clean and dry.



Two types of approved anti-slip mats



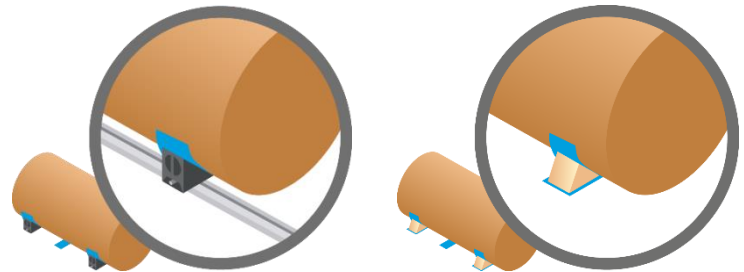
Correct positioning of anti-slip mat

6.3.5 Wedges/chocks

Wedges must be used when transporting reels in a lying/horizontal position. These wedges can be constructed from metal or wood and needed to prevent/block the reel from rolling. The height of the wedge must be $\frac{1}{8}$ th of the reel's diameter.

There should be 2 wedges positioned towards the ends of the reels on each side to ensure access by clamp truck.

Wooden chocks are to be positioned with the 90° angle facing upwards.



Metal chock and anti-slip mat

Wooden chock and anti-slip mat

The wedges should be secured to the trailer. For wooden wedges this may mean nailing them into the floor if permitted by the contracted supplier. The nails should then protrude app. 1 cm so that they can easily be removed. Anti-slip mats have to be placed on top of the wedges and in case of wooden wedges also underneath.

6.4 Loading of a transport unit

6.4.1 Preparation

The driver needs to ensure that the transport unit passes the inspection and is ready for loading. This includes having the truck stationary and opening the cargo space in such a way that the forklift driver can easily access and load the cargo unit. The driver is to sweep the trailer, prepare the approved lashing materials (edge protectors and anti-slip mats) and make them well visible.

6.4.2 Load planning

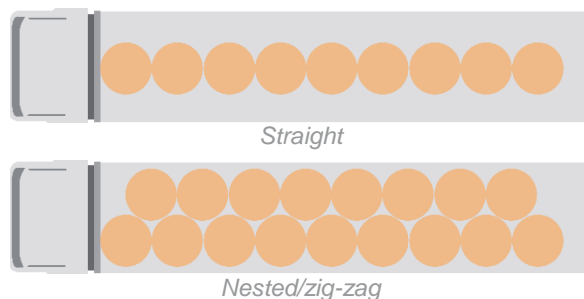
The load planning must always be carried out in accordance with the maximum permissible weight stipulated by each transit country. The same goes for the overall weight distribution and maximum axle load per axle. The maximum payload is legally defined per country and must be adhered to at all times. More detailed and updated information is available on <http://www.internationaltransportforum.org>

6.4.3 Loading patterns

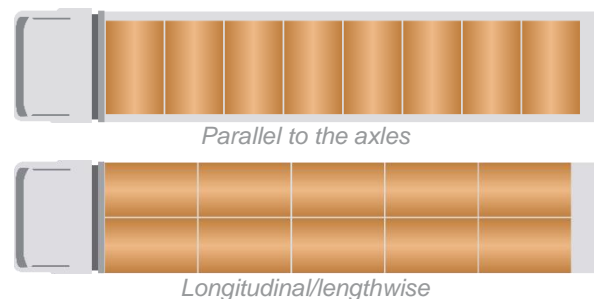
6.4.3.1 Reels

Reels can be loaded in various ways, for example:

Standing reels

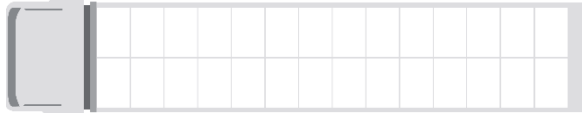


Laying reels

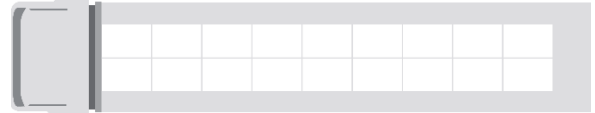


6.4.3.2 Pallets

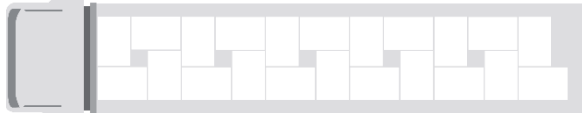
Pallets can be loaded in several ways depending on pallet sizes, customer requests or other reasons:



Long sides of pallets in parallel with the trailer's axles



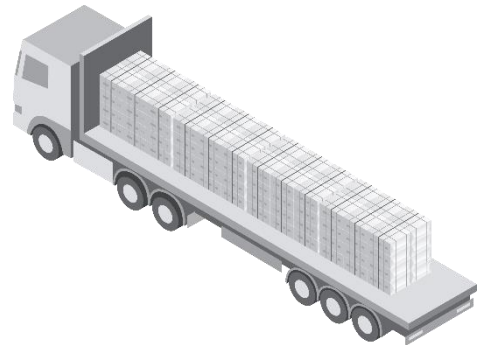
Short sides of pallets in parallel with the trailer's axles



Pallets placed alternately, forming blocks (block formation)

6.4.3.3 Pulp

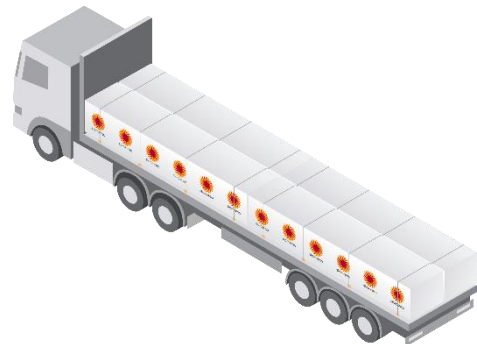
Pulp must be loaded with long side parallel to axles on the centreline of the trailer.



6.4.3.4 Timber

Timber is always loaded lengthwise against the headboard of the trailer. Before loading, it must be ensured that packages are in sound condition (wrapping and straps).

A suitable amount of dunnage must be placed on trailer floor and between packages in order to enable safe forklift handling. The dunnage should preferably be equal in width and height to maximize stability.

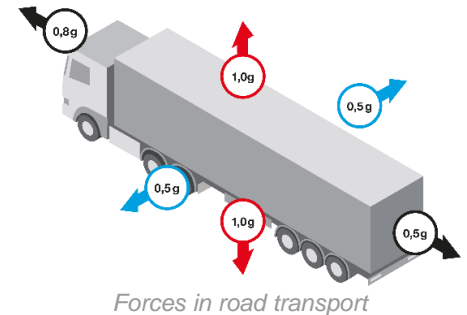


6.5 Cargo Securing

The supplier is always and ultimately responsible for the usage of cargo securing material. He must thereby ensure that the material used is fulfilling its purpose and are in compliance with any recommendations, laws or regulations, national or international.

The European standard EN 12195-1:2010 is applicable for all European road transports carrying Stora Enso products. Transports passing through Germany and Austria must also be in accordance to VDI 2700.

The cargo must be prevented from sliding and tipping by lashing/strapping or blocking or by a combination of methods in order to withstand the accelerations, deceleration and centrifugal/lateral forces generated during transport. Securing must be done in such way that the material used for cargo securing does not damage the products.



If reels or pallets are loaded partly in multiple layers, sliding must be avoided by using threshold or panel blocking.

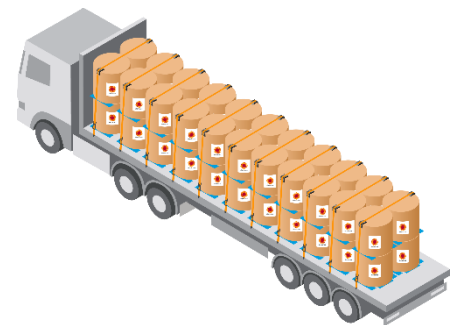
The securing of cargo units must be checked regularly during the journey. In addition, the securing must also be checked after heavy braking or other abnormal situations during the trip. Cargo securing must also be verified after additional loading or unloading during the journey.

6.5.1 Reels

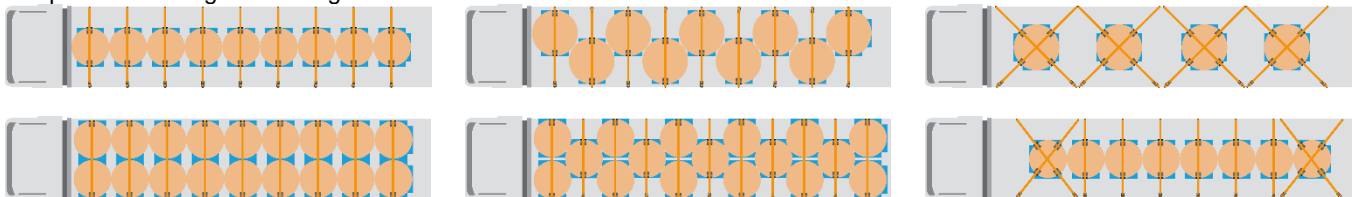
6.5.1.1 Standing reels

Standing reels must be secured with one or two lashing belts/unit, depending on the position and weight of the reel or section.

Two or four edge protectors (depending on number of belts) and, where required, two anti-slip mats must also be used per reel.



Examples of securing of standing reels:



6.5.1.2 Laying reels

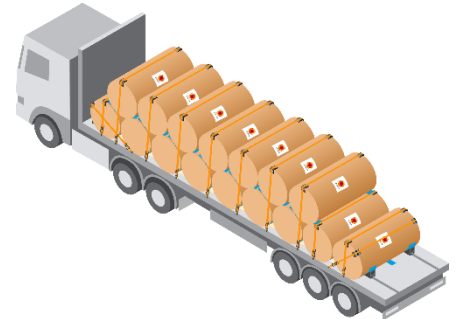
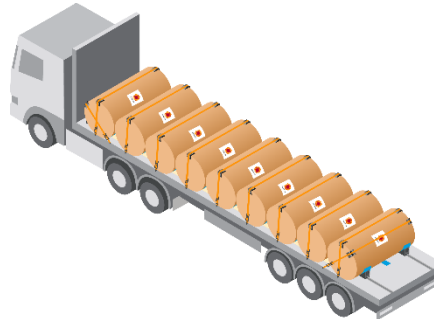
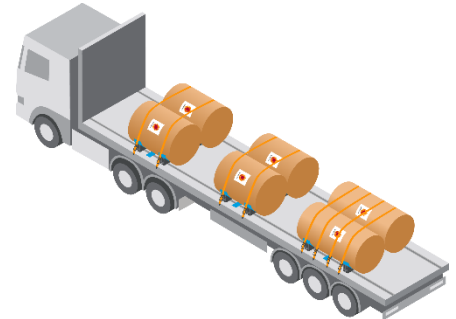
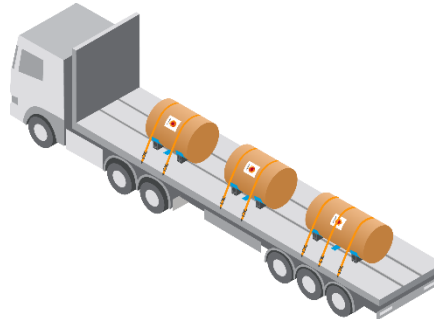
When reels are laying lengthwise (longitudinal/shotgun), at least two belts/unit must be used to secure the reels.

The weight of the cargo being secured determines the number of belts needed according to the following:

Weight of cargo (kg)	No of belts
< 5000	2
5000 – 7500	3
7500 – 10000	4
>10000	5

When reels are laying in parallel with the axles, they must be secured with minimum one belt per unit and two edge protectors.

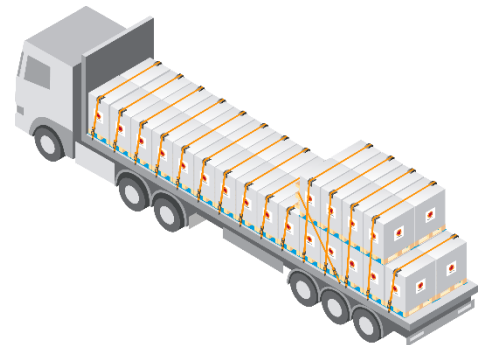
If there are two layers of laying reels, anti-slip mats must be placed between layers. Wedges must be placed to prevent rolling towards the front and/or back.



i. Pallets

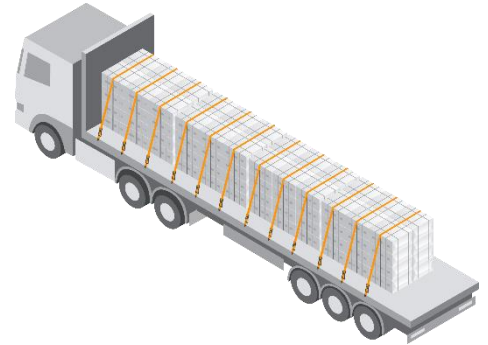
Two or four edge protectors (depending on number of belts) and, where required, two anti-slip mats must be used per pallet.

Empty spaces between pallets must be eliminated and if this is not possible, fillers are to be used in gaps, e.g. empty pallets.



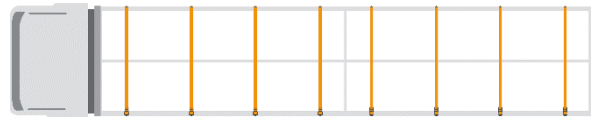
ii. Pulp

Pulp units are secured by using top over lashing using minimum one belt per unit.



iii. Timber

Timber packages must be secured with top over lashing, using edge protectors for sensitive products. If loaded in two or more layers, each layer is to be lashed separately. A minimum of one belt for every meter of timber package is recommended. If packages are not loaded against the headboard, alternative methods such as spring lashing are to be used to prevent movement forwards.



Always ask personnel at the loading location for detailed instructions.

7 CONTAINER TRANSPORT

A container is a standard size unit base for carrying cargo in a uniform manner. Dry cargo containers are widely used for transporting forest products. Transport by container vessel begins with the ordering of the correct container followed by inspection, correct loading and securing of the cargo.



20' container

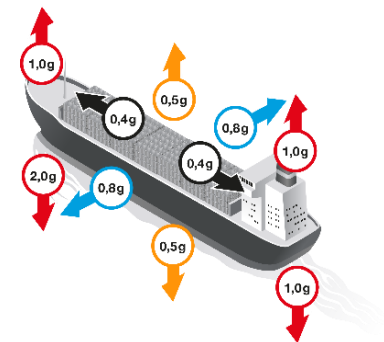


40' container

Containers can be subject to harsh treatment when handled at the container terminal or on trucks, e.g. breaking, sharp turns and driving on uneven ground. Containers may be set down so hard that their load securing device becomes highly stressed before the journey begins. Stresses on the cargo in the container during unloading and loading have increased with the modernization of gantry cranes.

The stresses involved in sea transport pose particular challenges to the safety of the cargo units and cargo securing measures. The effects of bad conditions at sea are similar to those of a truck breaking sharply in normal traffic conditions. The container is subjected to brief peak loads and repetitive stresses, e.g. rolling motions of the vessel that can have an impact on the cargo for days.

In serious cases, some of the cargo in the container may slide into the gaps between the cargos due to rolling motion. If the entire cargo "settles", the existing voids can become one large cargo gap. This can cause the cargo to build up high kinetic energy. After a certain time, the container is no longer able to absorb these continuous forces and becomes seriously damaged. Consequently, the cargo subjected to these conditions can be rendered completely useless.



Forces in sea transport

The quality of overseas transport is determined already when ordering a container. Basic 20' and 40' dry containers are suitable for paper, board, pulp and wood products transportation when Stora Enso quality requirements are met. Also high cube, wide door opening, heavy payload, open top and non-operating reefer containers as well as and flat racks might be requested in case needed. Container dimensions may vary depending on manufacturer. Measures in below table are indicative:

	20' standard (mm)	40' standard (mm)	40' high cube (mm)	45' pallet wide (mm)
Internal				
Length	5 900	12 034	12 034	13 624
Width	2 352	2 352	2 352	2 420
Height	2 393	2 395	2 700	2 687
Door opening				
Width	2 340	2 340	2 340	2 360
Height	2 280	2 280	2 585	2 580
Weight				
	(kg)	(kg)	(kg)	(kg)
Max gross	30 480	30 480	30 480	34 000
Tare	2 230	3 720	3 900	4 980
Max cargo	28 250	26 760	26 580	29 020
Volume	33.2 m ³	67.8 m ³	76.4 m ³	85.25 ³

7.1 Inspection of the container

Stora Enso quality requirements for containers are based on UCIRC (Unified Container Inspection and Repair Criteria) inspection criteria set by the International Chamber of Shipping. In addition to those instructions, industry specific requirements must also be considered when accepting the container for loading.

The aim of the inspection is to safeguard that the receiver will get the goods undamaged but also to comply with AEO requirements for supply chain safety and security. **NB! It is not allowed to load an uninspected container!**

The following items must be checked during an inspection:



Container must be thoroughly checked prior to loading

7.1.1 Water tightness

Water tightness can be easily checked by entering the container and closing the doors. Check the roof, floor, walls, corners and doors carefully! If any light penetrates, then this indicates that the container is not completely watertight. Also spots or stains on the floor might be signs of potential leaking.

7.1.2 Floor

The floor of a container must be undamaged, even and dry. The floor may not have stains of oil/water, which can contaminate the cargo. The floor must be strong enough to allow loading/unloading equipment such as clamp trucks and be checked for protruding nails or bolts on the floor. Floor strength must comply with ISO standard 1496-1:2013 as a minimum.

For reel loadings only 5mm difference in height between adjacent floor planks/panels is allowed without extra protective measures. Note that this is an exception to UCIRC Table 3.1 regarding floor planks and panels.

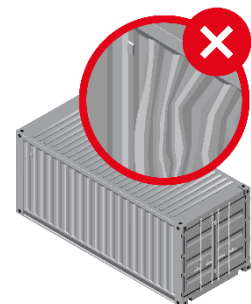
7.1.3 Cleanliness

Container must be clean from any (loose) debris such as wood splinters, stones or dirt as well as ingrained cargo residues such as plastic granules. Special attention is also to be paid to any infestation and insects.

7.1.4 Walls

Deformations such as dents, bends or bows are not acceptable if they reduce the internal width by more than 50mm from the inner corrugation or 70mm from the floor to the roof corrugation.

In addition, deformation of any size is not acceptable if the shape itself creates a risk for cargo damage.

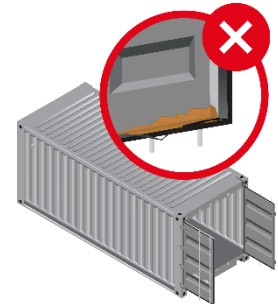


7.1.5 Doors

The doors of the container must close and lock easily. Holes, cuts, tears, breaks or cracks in components or welds, as well as any deformation affecting security and operation of doors, are not allowed.

Door handles must be in proper condition to be secured/closed.

The door gaskets must be in good condition and, to prevent leaking, there may not be any damages of corrosion.

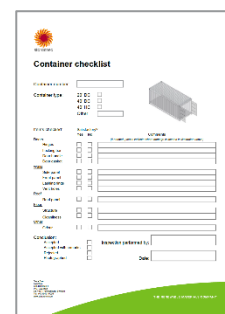


7.1.6 Odour

The container must be odourless if it is not to be rejected. Strong odour from previous cargo, e.g. tea, rubber, perfumes, leather, spices, fish and chemicals may easily adhere to products. Containers must always be equipped with vent holes and it must be ensured that these are not closed by tape or other means.

7.1.7 Container checklist

It is strongly recommended that the *Container Checklist* is used in order to verify and document the condition of the empty transport unit. Deviations should be noted to avoid disputes at later stages in the delivery. The *Container Checklist* is outlined in the appendix and is available on www.storaenso.com.



7.2 Container stuffing

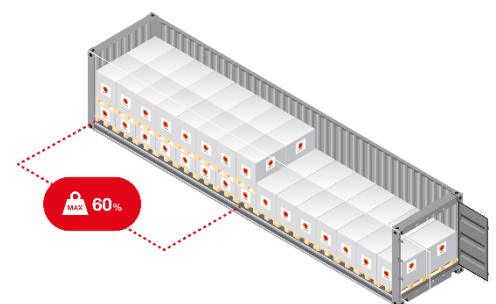
Products must be inspected before stuffing. Damaged products must be reconditioned or rejected according to the instructions in section 5 of this Manual. Reconditioning must be carried out immediately as the contamination of the product is then avoided and the unit will get to its original shipment. Damaged products are not allowed to be stuffed without permission from Stora Enso Logistics.

Prior to stuffing, the supplier must always check if there are market-, customer- or order specific instructions to be considered.

6.5.2 Planning

A stuffing plan should be prepared before operation. The cargo must be stuffed tight into the container and the payload must be maximized according to weight limitations (country, customer or any other limitation) also taking into account the axle weight for the transportation afterwards.

The container must be loaded so that it is balanced lengthwise and sideways (longitudinal/latitudinal). No more than 60% of the weight may be placed in 50% of the length of the container, i.e. gravity point is located +/- 10% from the centre of the container.



Weight distribution in container

7.2.2 Loading patterns

Proper utilization of cargo space has great impact on payload. The loading pattern should always be planned so as to maximize payload.

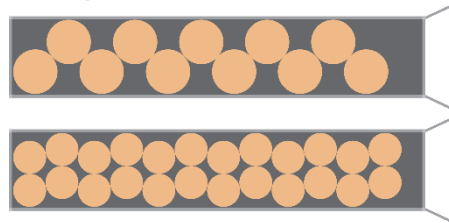
7.2.2.1 Standing reels

Reels are always loaded on their ends (standing) by order, if not otherwise instructed. The below table can be used to determine best possible utilization of cargo space with standing reels. With heavy reels and when whole cargo space cannot be utilized, it is important to spread the load to balance the container while ensuring every reel is still properly locked and secured.

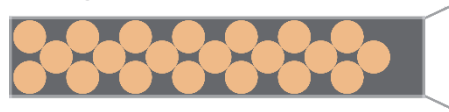
Vertical loading of reels in 40' container (L: 12050, W: 2340 mm)

Diameter (mm)	No of reels Bottom row	Loading pattern
750	48	B
800	44	B
820	42	B
850	41	B
860	39	B
900	32	B
930	29	A
960	26	A
1000	24	A
1050	22	A
1100	22	A
1150	20	A
1200	19	A
1250	18	A
1270	16	A
1300	14	A
1350	12	A
1400	11	A
1450	10	A
1500	9	A
1530	9	A
1550	8	A
1600	8	A
1650	7	A
1750	7	A
1800	6	A
1900	6	A
2000	6	A

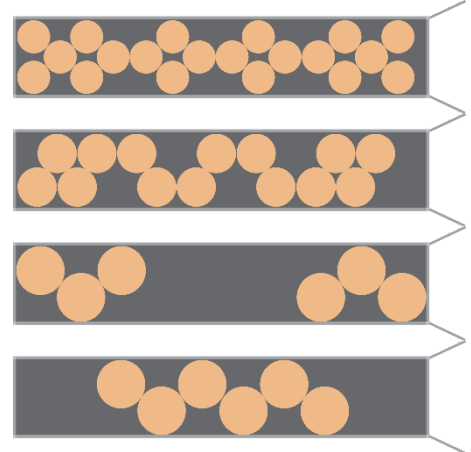
Loading pattern A



Loading pattern B



Special cases to balance container when limited number of reels

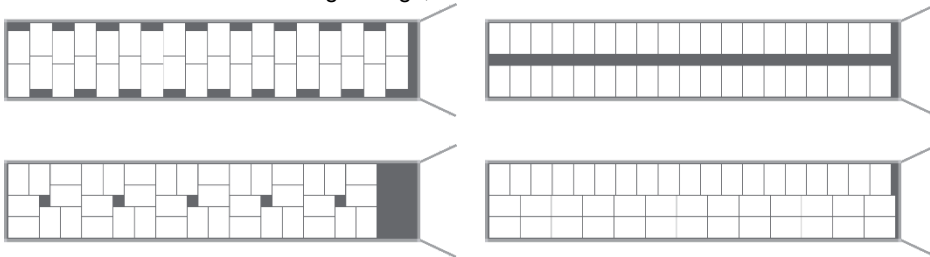


7.2.2.2 Laying reels

In some cases, the customer requires the reels to be loaded horizontally. If proper equipment is not available at the receiving end, unloading requires rolling out the reels from the container and this must be taken into account when loading. The width of horizontally loaded reels must be smaller than the width of the container doorway. Occasionally, also large width reels may need to be loaded horizontally and lengthwise.

7.2.2.3 Pallets

The loading pattern must be designed so that the load supports itself as much as possible. Empty space between pallets and container sidewalls must be minimized and split so that it is equal on both sides of the container. The sum of void spaces in any horizontal direction may not exceed 15 cm. Otherwise, the pallets must be loaded along the container walls with the empty space in the middle filled/secured using airbags, timber or other filler material.



Loading pattern pallets in container

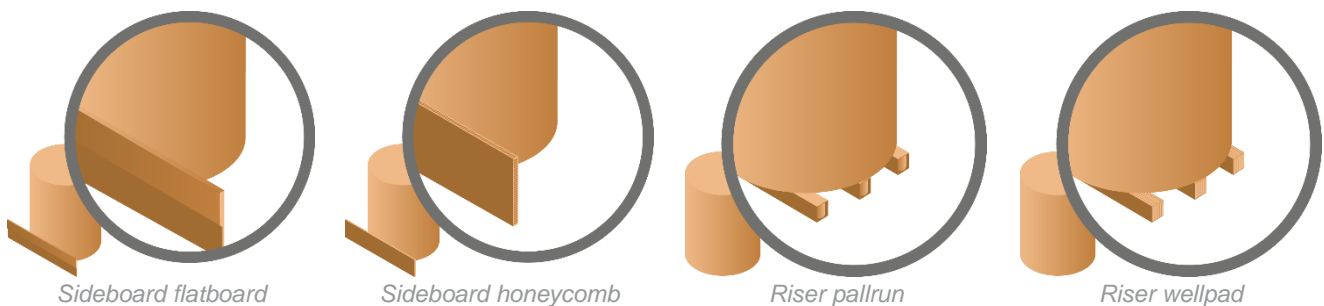
7.2.2.4 Pulp and timber

The same principles must be considered with pulp as with palletized products. Standard timber packages are loaded against container front and side walls, and packages usually fill the whole cargo space.

7.2.3 Cargo protection

Paper and board reels are often damaged by bottom rails and lashing rings of the container when loaded against these. The cargo must be protected along the container sides by using sufficiently strong material, such as plywood, honeycomb board, hardboard or corrugated board.

- The first reels or reel stacks against the front wall must be loaded on raisers, pallet runners or similar. Risers and pallet runners must be placed lengthwise in container. Used material must be approved by Stora Enso prior to loading.
- Hardboard, honeycomb board or similar are always to be placed on sides if reels are not loaded on risers!
- Check customer, order and country related special instructions and limitations



7.2.4 Securing of the cargo

During transport the container may be subjected to vertical, longitudinal and transverse accelerations, which cause forces to each cargo item proportional to its mass. These forces may easily exceed the capability of static friction and tilting stability, so that cargo items may slide or tilt over. The securing of cargo must aim to reduce the risk of sliding or tilting.

Securing needs to be particularly effective if the products do not fill up the whole of the container space. Good planning of the container loading pattern considerably reduces the need for securing. The securing method depends on the cargo and cargo

mix in the container, and must always be considered on an individual basis. Securing must be done so that the material used for securing does not damage the products.

The Code of Practice for Packing of Cargo Transport Units (CTU Code), jointly developed by the International Maritime Organization (IMO), the International Labor Organization (ILO) and the United Nations Economic Commission for Europe (UNECE), addresses these concerns through a non-mandatory global code of practice for the handling and packing of cargo transport units for transportation by sea and land.

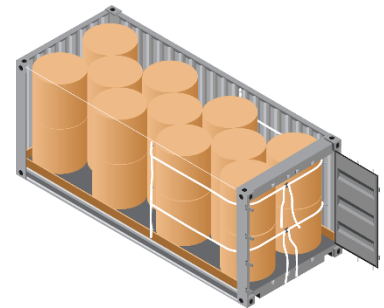
The CTU Code provides comprehensive information and references related to all aspects of loading and securing of cargo in containers and other intermodal transport, also taking into account the specific requirements of all sea and land transport modes.

7.2.4.1 *Standing reels*

Vertical belts are first attached to the cargo securing loops, after which a sufficient number of horizontal belts are used to keep the cargo in place. The evaluation of sufficient securing arrangements must be done based on cargo characteristics and strength of the used material.

Single use belts with removable tensioning and locking devices are the most commonly used belts. Lashing capacity (LC) of the used material must always be taken into account when calculating necessary securing arrangements.

Step-down can be used when reels of equal width are loaded in two layers in part of the container. Securing can be done by lifting the adjacent reel higher by placing pall runs or respective raisers underneath it. The adjacent reel secures the top layer. The container must always maintain its balance. The risers must not overlap the reel diameter otherwise, damage is caused to adjacent reels. Step-down securing alone is not sufficient, and belts must be used to prevent the cargo from moving.



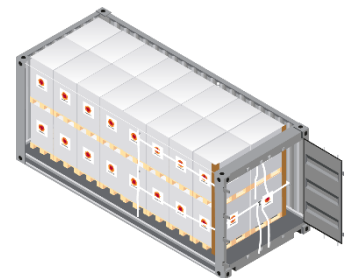
7.2.4.2 *Laying reels*

There is a high risk that horizontally loaded reels move during transport. The principle securing method is to use chocks in every row in addition to belts which are extended over the load. The height of the chocks must be at least one-eighth of the reel diameter.

7.2.4.3 *Pallets*

Horizontal belts are fastened to the container's fastening loops and every pallet layer is kept in place with horizontal belts. Corner profiles must be used between the belts and pallet edges.

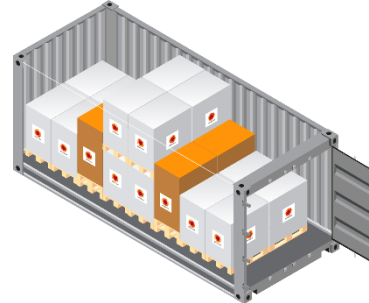
When pallets are loaded partly in one, and partly in two layers, the uppermost layer must be secured with belts, or alternatively blocked using timber or boards. Where the space between the pallets and container sidewalls is greater than 15 cm, the empty space must be filled/secured. When loading in two layers, it might be necessary to use plywood boards between layers to stabilize the stowage.



For palletized products there are different ways to block an incomplete second layer when necessary.



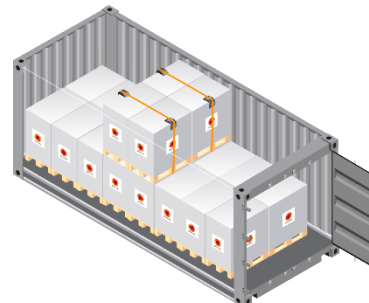
Threshold by height. High pallets used to secure cargo.



Threshold by elevation. Pallets raised to secure cargo.



Threshold by pane. Board used to block pallets.



Round turn lashing used to secure stacked pallets.

7.2.4.4 Pulp and timber

Pulp units are stuffed in one layer only and, if loaded against container walls, only rear end must be secured with lashing belt.

Standard timber packages are loaded against container front and side walls. Packages usually fill the whole cargo space; thus, no additional securing is needed.



Pulp stowage



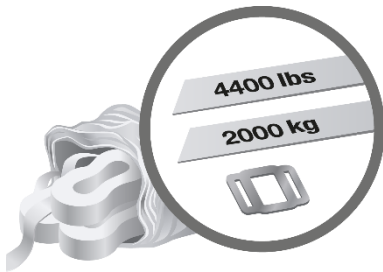
Timber stowage

7.2.5 Protection and securing material

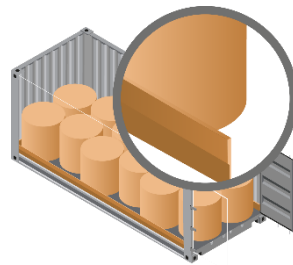
Basic protection and securing materials for containers include flat- or honeycomb board, wellpads or pallruns and lashing belts with a capacity of at least 2000 kg.

Material to be used for cargo protection and securing must always be stored in a dry and clean place.

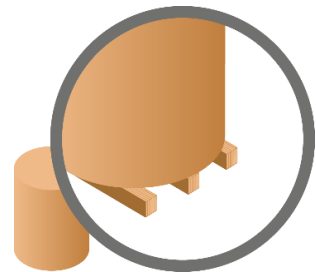
If a container is destined to a country where wood treatment quarantine regulations apply, care should be taken that all wood in the container, packaging and cargo complies with the International Standards for Phytosanitary Measures, No. 15 (ISPM 15). This standard covers packaging material made of natural wood such as pallets, dunnage, crating, packing blocks, drums, cases, load boards and skids. Approved measures of wood treatment are specified in Annex I of ISPM 15.



Belts for lashing



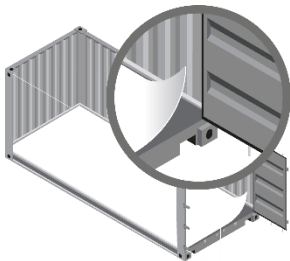
Sideboard of flatboard or honeycomb



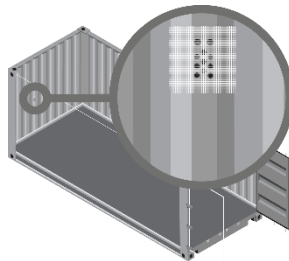
Risers of wellpad or pallrun

7.2.6 Special instructions

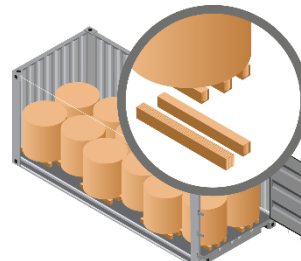
Some of the markets or customer segments served are more sensitive and demanding than others. Special instructions can include requirements such as:



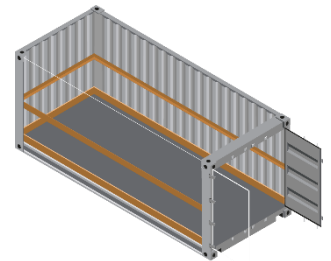
Protective board on the floor of the container



Insect prevention nets on ventilation holes



All reels on pallruns/wellpads



Side protection on container walls

7.2.7 Container sealing

Containers carrying Stora Enso cargo must be sealed using high security seals, i.e. seals marked "H" as defined by the ISO 17712 standard.



8. SEA TRANSPORT

The International Maritime Organization (IMO) develops and maintains a comprehensive regulatory framework for shipping covering safety, environment, legal, technical maritime safety, etc. When transporting Stora Enso products, these regulations and guidelines must be complied with at all times. Additionally, the shipping line's instructions and guidelines must be considered and adhered to.

Different vessel types suitable for Stora Enso products carry out transportation by sea. The type and construction of the ship dictates the method of loading and determines the method of stowage.

The age of the ship must not exceed 15 years if used for the carriage of Stora Enso cargo except when the ship operates scheduled liner traffic. If the age of the ship exceeds these limits, the responsible procurement manager in Stora Enso must approve the use of the vessel.

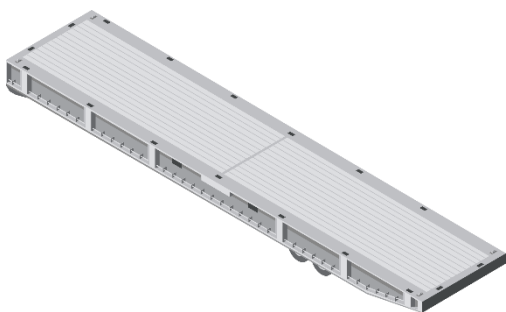
8.1 RoRo (Roll-on/Roll-off)

8.1.1 Transport units

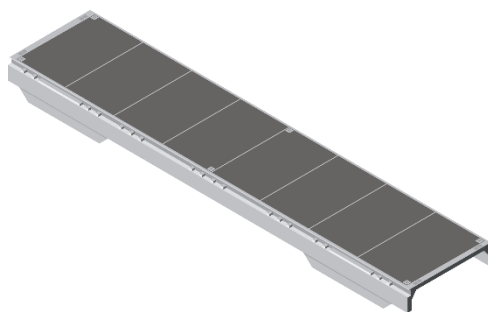
Several types of transport units are used in RoRo traffic, 3 types that are preloaded and driven on board; Mafi's, cassettes and SECU's.

8.1.1.1 Mafi's/Roll trailers and cassettes

The surface of these units can consist of steel or a combination of steel and wood. Several types of Mafi's and cassettes are in use, each with its specific dimensions. The maximum load capacity is always indicated on the side and must be respected.



Mafi or roll trailer



Cassette

8.1.1.2 SECUs

The Stora Enso Cargo Unit (SECU) is a weather-protected cassette and that is handled the exact same way. The SECU system was originally set up so as to not require additional cargo securing. However, to avoid risk of damaging cargo and/or equipment, pallets must be secured at all times. Cargo securing must also be carried out if the SECU is only partly loaded with reels or other cargo.

There are two types SECUs in use, an automatic loading/discharging version with profiles in the floor (grey) and a conventional cassette with even, wooden floor (red).



Grey SECU (automatic)



Red SECU (manual)



SECU – Dimension, weight and loading capacity

<u>Dimension</u>	<u>External</u>	<u>Internal</u>	<u>Door opening</u>
Length	13,800	13,576	
Width	3,600	3,430	3,430
Height	4,375	3,437	3,393

Loading capacity

Volume	160 m ³
Number of Euro-pallets per layer	44 units
Maximum gross weight	93,000
Tare weight (manual)	13,500
Tare weight (automatic)	14,560
Maximum payload sea	79,500 (man)
Maximum payload sea	78,440 (aut)

Maximum payload with SECU positioned on rail wagon (Stax 25t)

Weight railwagon	18,400 kg
Manual	68,100 kg
Automatic	67,040 kg
Floor strength	13,0 t axel load
Floor material	Wood
Lashing rings	Yes

It is of utmost importance that SECUs are handled properly and with great care. When transporting a SECU, the maximum speed limits must be respected. Before tugging, the SECU must be lifted off the ground. The same applies when lowering it, i.e. movement must have completely stopped prior to lowering the SECU. This way the wear and tear of the SECU's feet can be minimized and expensive repair work avoided. The supplier needs to safeguard that after releasing the SECU, doors and bars are properly closed and locked. Any deviations and/or damages must be reported to Stora Enso immediately.

8.1.2 Inspection, loading and cargo securing

8.1.2.1 Inspection

The condition of the roll trailers/cassettes/SECU must be checked before loading starts. The floor must be clean, dry (no ice, water or oil stains), free of protruding and foreign objects, even and without holes. The lashing points must be in good condition and the wheels and tires inspected for damage.

8.1.2.2 Loading

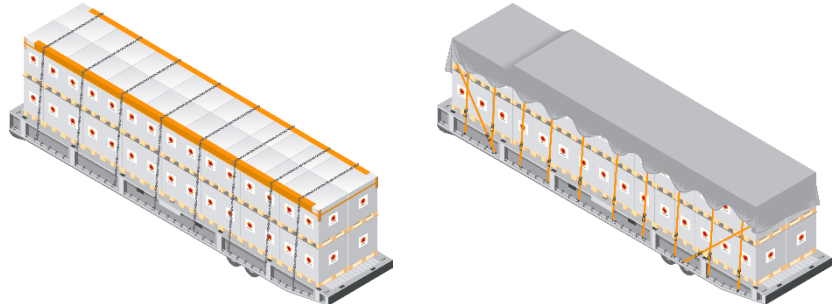
The payload of the roll trailer/cassette is not to be exceeded. The height of the vessel's hold and entrance needs to be taken into account when stowing reels or pallets on roll-trailers/cassettes. To maintain stability, the cargo height may not exceed 3.5m.

If different types of units are loaded on the roll trailer, the lighter units must always be loaded on top of heavier ones. Stowage must be as tight as possible. When loading pallets in more than one layer, plywood boards must be used between layers to prevent damage and to stabilize the load. The load must be built as evenly as possible.

In order to avoid damage, the cargo may not overlap the roll trailer/cassette's edge/limitations. Depending on the reels' diameters and in order to maximize the payload, either a nested or soldier stow is used.

8.1.2.3 Cargo securing

Cargo securing can be done in several ways, depending on the type of transport unit. For cassettes and Mafi's, regular lashing with edge protection can be used. Alternatively, using a tarpaulin system (e.g. FIX Marine) will also protect the cargo to some extent from rain, snow, sun, etc.



Lashing with edge protector and chains or tarpaulin

On board the vessel, RoRo units must be secured firmly to the deck in order to withstand all vessel movements during voyage. RoRo units can be secured either in lanes or by block stowage (cassettes).

8.2 StoRo

8.2.1 Condition of holds and decks

The cargo holds must be clean, dry, even and without odour. The walls also need to be checked in order to prevent damages of protruding objects.

In case there are unevenness in pontoon joints, plywood or soft board is to be used. During the winter period, use of protective paper under reels is mandatory.



Protective materials on deck

8.2.2 Loading

A nested pattern is to be formed when storing reels in the holds, leaving no space in between. A tight stow is necessary to avoid any movement of the cargo during sea voyage.

The loading of each new row should be done from the opposite direction than the previous row, as this ensures a tight stow. Overlapping is to be avoided and smaller diameter reels must be placed underneath reels with slightly larger diameters. In case of diameter differences, the front line must be kept as even as possible and free space should be kept in the back. Reels with large differences in diameter may not be stacked on top of one another.



8.2.3 Securing of the cargo

The cargo must be secured in such a way that shifting is eliminated.

There are many ways of securing the last tier. Tarpaulins can be used for lashing the cargo and it must then be installed at the top of the cargo hold with the end secured to the deck. Every layer of cargo at the end tier can also be lashed with horizontal lashing belts.

Step-down securing must be used whenever possible. In this method the final tier is secured with belts and corner protection by securing every single column with a belt fastened to the roof and the deck.

When securing the cargo like this, it is important to finish with cargo that locks the previous tiers.



Cargo securing in StoRo vessel

8.3 LoLo

8.3.1 Condition of the cargo hold

The cargo hold should preferably be box shaped. All irregularities in hold structure increase the risk of cargo damages. Tank top and bulkheads must be clean, even, fully painted and rust free. Protective paper, plywood, timber dunnage or soft board can be used to protect the cargo. Cargo spaces and hatch covers must be completely watertight with gaskets and drainage systems fully operational.

For spot coaster shipments, the *Vessel Checklist* must be filled in by the supplier, signed by the master and forwarded to sea.logistics@storaenso.com. Joint vessel inspections will be arranged for other liner vessels at agreed intervals. Non-conformance must always be reported.

Vessel checklist

Name of vessel: _____ Ballast port: _____

Port of loading: _____ Destination cargo: _____

Load condition: _____ Loading equipment: _____

Weather during loading: _____

Condition of hold items checked:

Coasting ☐ normal ☐ heavy ☐ other _____

Sea ☐ calm ☐ heavy ☐ no swellings _____

Tank top ☐ clean ☐ rusty ☐ no swellings _____

Hatch cover ☐ watertight ☐ not watertight _____

Protection material used ☐ none ☐ dunnage ☐ softboard ☐ other _____

Damage report provided by vessel ☐ yes ☐ no _____

Cargo plan provided by ☐ vessel ☐ master _____

Date of inspection: _____

Signature: _____ Master's representation of report

8.3.2 Loading and securing

8.3.2.1 Reels

Ship movements can be rough during sea voyage. A nested loading pattern is to be kept, leaving no space in between the reels.

Airbags must be used on the top layer for stabilizing and securing the stacks.

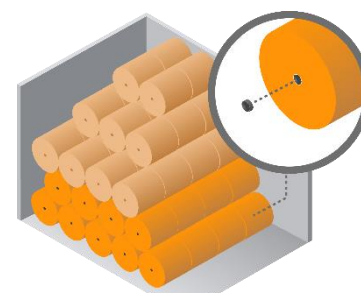


Laying reels must be pre-slung with reusable or one-way polyester belts. A minimum of three layers must always be loaded in order to lock stowage properly and prevent reels from rolling during transport. Three is also the maximum amount of layers if reels are unplugged.

For every extra layer, plugged reels must be placed at the bottom. The maximum number of layers is restricted to five.



Reels laying in the hold



Plugged reels at the bottom

8.3.2.2 Pulp

Steel platforms or trailers should be used on the quay. Placing units directly on the ground is not allowed due to the risk of contamination. The condition of lifting wires must be checked before loading. All lifting wires have to be intact and lifting is not allowed if lifting wires are missing or broken! Lifting of units must be done only using the double hook method and with proper frame/spreader.

Separate orders of pulp must be marked when stowed in hold(s) so that orders can be separated and incorrect deliveries avoided.

Loading must be done in such a way that cargo movement during sea voyage is prevented. This can be achieved by ensuring a proper and tight stowage pattern and with the use of airbags.

Use of protective paper under the units is mandatory year-round. Use of wooden dunnage material with pulp is not allowed due to the risk of contamination. If loading of wood products and other cargo into the same hold is required, pulp has to be separated and covered with tarpaulins.



Stowage of pulp

8.3.2.3 Timber

Lifting is to be done safely with reusable ropes or polyester belts. The use of chains is forbidden. Equipment must be inspected prior to loading operations.

Due to the risk of water damages but also to ensure the safety of staff, the timber packages must be inspected for water and ice. Any water, ice or snow must be removed before loading. For deck cargo, weather protection must be considered, preferably by using tarpaulins.

In case packages are stowed in the hold with a forklift truck and working on top of the cargo is required, packages must be covered by steel plates.

Timber packages must be stowed standing, i.e. are not allowed to be stowed on their sides.

8.3.3 Handling equipment for LoLo

LoLo loading can be performed using either a head clamp with rubber pads or by the use of a protected cage and clamp truck inside the vessel hold. Both require a shore-based crane, from which the operator can see into the hold of the vessel.



9 RAIL TRANSPORT

The supplier must ensure that the dispatched wagons are equipped, maintained and fulfilling the following requirements:

- Wagons must be inspected frequently and repaired by an authorized maintenance company
- Maintenance of engines and wagons are to be performed at regular intervals and in accordance with local rules, legislation and requirements
- All service and repairs are to be conducted in an environmentally sound manner and well documented
- Wagons must be in good condition, adapted to rail track conditions
- Engines and wagons must be in line with local rules, legislation and requirements.

9.1 Inspection of a transport unit

The aim of the inspection is to safeguard that the goods will be received undamaged and in compliance with AEO requirements for supply chain safety and security, i.e. to confirm that the transport unit is not used for any illegal activity, such as smuggling. The inspection may be performed visually or using necessary tools. Any suspicious alterations in the structure of the transport unit must be reported.

If a transport unit does not meet the below listed requirements, it will be rejected until it meets the quality standards. Costs arising in relation to a rejected transport unit will be paid by carrier/transport unit provider. The carrier/transport unit provider will release the empty transport unit according to Stora Enso's standards/request.

9.1.1 Cleanliness

The transport unit must be entirely clean before loading Stora Enso products. This implies that the wagon floor must be swept and cleared from any debris. It is of utmost importance that the cargo unit/space is free from any stones, dust, nails, remains of previous cargo, pieces of wood, etc. that could possibly damage the products.

9.1.2 Water tightness

Stora Enso requires that closed transport units are completely watertight. The cargo space must be and remain dry at all times. Hence, the importance to check the roof, sides, doors and floor for any damages that could make it possible of water entering the transport unit. These damages must be repaired in a professional and durable way before loading Stora Enso products. Dampness of the cargo space will not be accepted and can lead to a rejection of the vehicle.

9.1.3 Floor

The floor also needs to be strong enough to withstand/allow the use of loading/unloading equipment such as clamp trucks. Floors must withstand minimum 5 tons/m².

9.1.4 Sides and roof

The sides and roof of the transport unit must be in good, sound condition and watertight. Furthermore, the sides must be even and free from any protruding objects. For curtain side wagons, also the opening and closing function of the tarpaulin must be in a proper working condition.

9.1.5 Doors

The doors, gaskets and locks are all to be in proper working condition, 100% watertight and assuring that the cargo space can be completely closed off. For certain destinations, the use of seals is required.

9.1.6 Odour

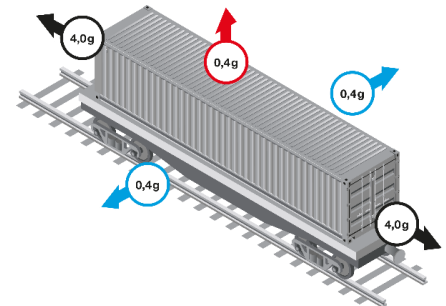
The transport unit must be completely free of any odour/smell, which might contaminate Stora Enso's products.

9.2 Loading of a transport unit

9.2.1 Preparation

The transport unit/railcar must be prepared in such a way that it passes inspection and is determined fit for loading.

Once prepared, the unit must be kept standing still with the doors open. A ramp must then be placed between the loading quay and the railcar to bridge the gap. Where required, anti-slip mats are placed/used for each reel to avoid cargo from moving during transport.



Forces in rail transport

9.2.2 Load planning

The load planning must always be done according to the allowed maximum weight stipulated by each country. The same goes for the overall weight distribution and maximum axle load per axle.

When planning, a safety distance of approx. 10 cm must be kept from doors and walls to avoid damages when opening and closing these.



Loading bridge/ramp and load extender

9.2.2.1 Maximum payload

The maximum payload per transport unit/railcar is mentioned on the unit itself. However, also the national railway regulations must be considered and followed.

9.2.2.2 Weight distribution

The weight of the cargo must be distributed evenly over the entire cargo space. Maximum axle weight is not to be exceeded.

9.2.3 Loading patterns

9.2.3.1 Reels

Standing

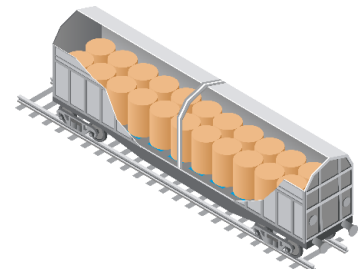
Standing reels can be loaded in several ways:



Straight



Nested / Zig-zag



Laying

Laying reels can be loaded:



Parallel to axles

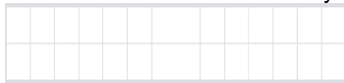


Lengthways

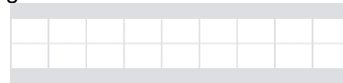
Standing reels filling whole cargo space

9.2.3.2 Pallets

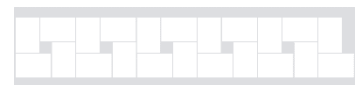
Pallets can be loaded in several ways, depending on the size etc.:



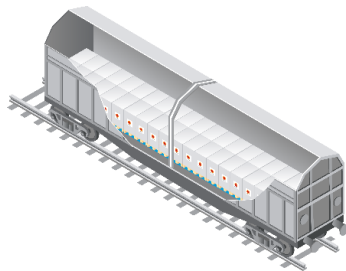
Long sides parallel to the wagon's axles



Short sides parallel to axles



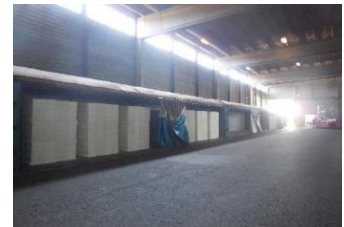
Alternately, forming blocks



Pallets filling whole cargo space

9.2.3.3 Pulp

Pulp bales can be loaded in several ways. The aim is to always minimize the amount of empty space in the wagon.



9.2.4 Timber

Timber is always loaded lengthwise using a suitable amount of bearers. When lashing, as many lashing points as possible must be used. The number of lashing belts used depends on the availability of lashing points in the wagon and must be in accordance with local regulations.

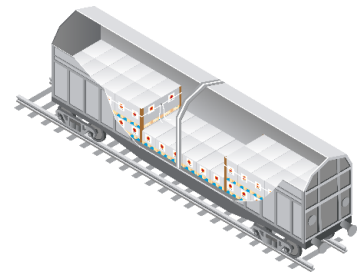
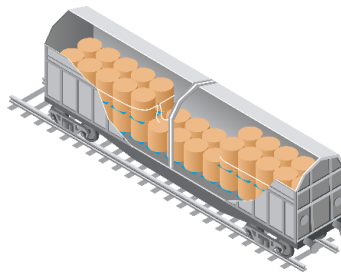


9.3 Cargo securing

During the transportation and handling process, all international or national rules and regulations as well as instructions issued by railway companies must be followed.

Cargo securing can be done by blocking and/or the placing of anti-slip mats or other attributes.

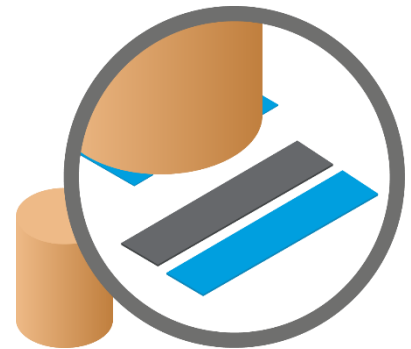
Cargo securing needs to be done at all times as it will prevent the cargo from moving during transport and withstand accelerations, deceleration and centrifugal/lateral forces generated during transport.



Securing second layer of cargo

Two types of anti-slip mats are most frequently used to increase friction and prevent the material from slipping during transport. The heavier 'black' type made from rubber (Regupol®) has a friction coefficient of 0.7μ . A lighter 'blue' type, made of foam (Transpofam®), has a friction coefficient of 0.8μ . Anti-slip mats of other brands are accepted as long as they fulfil our requirement of 0.6μ .

Anti-slip mats (at least 150 mm wide) must be placed on either side of the material lengthwise. The anti-slip mat must protrude approx. 1 cm from underneath the reel/pallet. In case of multiple layers, anti-slip mats are to be placed in between the units.



For certain destinations, the transportation forces are larger than normal, hence more thorough securing is required. Wooden frames, airbags and belts are commonly used in these cases. Various ways of securing cargo in wagons are illustrated below:



10 AEO

(Revised 1 September, 2018)

Valid for goods and services or part of a service within a supply chain with a destination to or from a country outside the European Union.

Background

Stora Enso applies the European Community Customs' AEO certification program to meet stipulated requirements for AEO certificates including Customs Simplifications / Safety and Security. An Authorized Economic Operator is an operator that is committed to assure the common objective of supply chain security, and is therefore entitled to enjoy benefits throughout the Community.

An AEO certificate Customs Simplifications / Security and Safety is issued to any economic operator established in the Community that fulfils the criteria of customs compliance, appropriate record-keeping standards, financial solvency, proven practical standards of competence or professional qualifications, and maintains appropriate security and safety standards. Authorized Economic Operators can only be held responsible for their part in the supply chain, but they are also dependent on the security standards of their business partners to ensure the security of the goods in their custody.

In order to meet the requirements, the entering into a new contractual arrangement with a business partner involves that the AEO certificate holder encourages the contracting party to assess and enhance its supply chain security and, to the extent practical from a business perspective, includes such language in contractual arrangements. In addition, the AEO holder is recommended to retain documentation to support and demonstrate efforts to ensure that business partners meet these requirements.

More information about AEO requirements is provided by European Community Taxation and Customs:
http://ec.europa.eu/taxation_customs/customs/policy_issues/customs_security/aeo/index_en.htm

Requirements for Suppliers

Suppliers must internally, and in relation to their sub-Suppliers, implement required safety procedures according to their role in the international supply chain. The Supplier must monitor, follow-up and take actions in order to comply with AEO requirements. Stora Enso has a right to follow up on the implementation of AEO requirements in the Supplier's organization and in relation to the Suppliers' sub-Suppliers.

The following requirements are applicable to all Suppliers that have access to goods supplied to or by Stora Enso within the international supply chain and with a destination to or from a country outside the European Union.

No.	Item	Criteria
1	General knowledge about AEO	The Supplier has appropriate knowledge of the AEO program and the requirements of the program applicable to their responsibilities and role in the international supply chain
2	Cargo protection	Cargo, transport units and trade documents are secured against unauthorized access and any illegal activities during production, loading, unloading, storage and transport
3	Information protection	Document archives, computers and IT systems are secured and have appropriate access control measures against loss and tampering of information
4	Recruitment procedures	The identity of all new employees is ensured and security screening is performed on prospective employees working in security sensitive positions
5	Employee procedures	Safety and security training is provided to employees on a regular basis to ensure that employees are aware of security risks related to the international supply chain
6	Contact person for safety and security	The Supplier has appointed a responsible person competent in safety and security related questions
7	Security guidelines	When working or accessing a Stora Enso's mill site, the Supplier's employee must comply with all security instructions provided by Stora Enso

8	Deviation reporting and follow up	The Supplier has procedures to immediately inform Stora Enso's contact person of any security risks or deviations in relation to cargo, trade documents and information
9	Information protection	The Supplier's employee allowed to share information with a third party about Stora Enso's products or materials purchased or delivered only to the extent this is necessary for the delivery. Information may only be shared with a third party related to the specific purchase or delivery. It is prohibited to share any other information.
10	Sub-contractor follow up	The Supplier has appropriate measures of identification and follow-up of their sub-contractors

Requirements for production and storage

The following requirements are applicable to all Suppliers that have access to Stora Enso goods during production and/or storage.

No.	Item	Criteria
1	Facilities	Production, storage and warehouse facilities are built against unauthorized access
2	Access control measures	Appropriate security measures are implemented to prevent unauthorized access to production and storage areas. Such measures may include e.g. fences, security systems, access control etc.
3	Access rights control	Access rights, including keys and access cards, to production, storage and warehouse facilities, where goods are manufactured, stored, loaded and unloaded, must be limited and monitored accordingly
4	Employee procedures	Personnel working in production and storage areas are provided with security instructions and given regular training on security matters
5	Recruitment procedures	The identity, background and work history of personnel working in production and storage are verified

Requirements for loading and unloading

The following requirements are applicable to all Suppliers that have access to goods during loading and unloading.

No.	Item	Criteria
1	Facilities	Loading and unloading facilities are built against unauthorized access
2	Access control measures	Appropriate security measures are implemented to prevent unauthorized access to loading and unloading areas. Such measures may include e.g. fences, security systems, access control etc.
3	Access rights control	Access rights, including keys and access cards, to loading and unloading areas are limited and monitored accordingly
4	Employee procedures	Personnel working in loading and unloading have security instructions and are given regular training on security matters
5	Transport unit security	Transport units are inspected during loading and unloading to detect any illegal activities and unauthorized access. The inspection may be performed visually or using necessary tools. Any suspicious alterations in the structure of the transport unit must be reported. The following parts of all transport units must be inspected: <ul style="list-style-type: none"> 1) front wall 2) left side 3) right side 4) floor 5) inside/outside ceiling 6) inside/outside doors 7) exterior/bottom
6	Handling of seals	Bookkeeping of seals is maintained to ensure that seals are used accordingly
7	Handling of seals	Sealed transport units are inspected before unloading to verify that the seal is intact
8	Recruitment procedures	The identity, background and work history of personnel working in loading and unloading are verified


Requirements for transportation

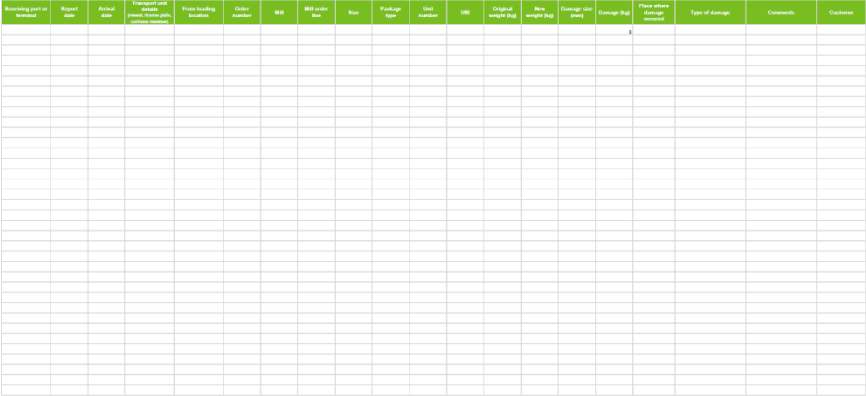
The following requirements are applicable to all Suppliers that have access to goods during transportation.

No.	Item	Criteria
1	Access control measures	Appropriate security measures are implemented to prevent unauthorized access to cargo during transportation
2	Information security	Trade documents are secured during transportation
3	Employee procedures	Personnel working in transportation are provided security instructions and given regular training on security matters
4	Recruitment procedures	The identity, background and work history of personnel working in transportation are verified

Appendix 1: Damage report

The damage report is available via our website: www.storaenso.com.

Damage report



Appendix 2: List of Approved Edge Protectors for reels

(Revised 1 September, 2018)

The below listed edge protectors are approved by Stora Enso (and independent testing and certification organisations) and are to be used when transporting Stora Enso products. This list contains all edge protectors currently allowed for the securing of reels. Stora Enso reserves the right to add or remove edge protectors from this list.

MIKO PLAST A/S

Product name:
Miko Edge Protector HD™
Art. No.: KB-374-003

Contact details:

Miko Plast A/S
Kongsveien 94,
N-1177 Oslo

+47 (0)23 38 47 73

post@miko-plast.com
www.miko-plast.no

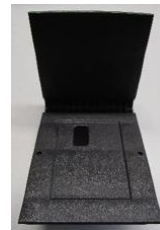
Certification:

Pb. Nr. 226/1605/702073/181-6350824

Weight: ± 370 gr
Colour: Unspecified

K-factor: ≥ 1,8
Material: PP/HDPE

Patent number: /



TRANSPORT TECHNIK GÜNTHER

Product name:
Kantenschützer Art. 1000

Contact details:

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Derchinger Str. 125,
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+ 49 (0)821 543 788 40

info@transport-technik.de
www.transport-technik.de

Certification:

Gutachten Nr. 0185-13

Weight: ± 280 gr
Colour: Black

K-factor: 1,8
Material: ABS PC

Patent number: 199 04 843



TRANSPORT TECHNIK GÜNTHER

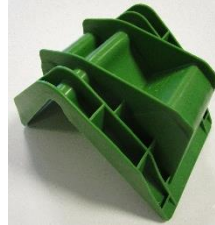
Product name:
Kantenschützer Art. 1015

Contact details:
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Certification:
Kantenschutz Papier Spezial



Weight: ± 285 gr
Colour: Green

K-factor: 1,8
Material: PP

Patent number: 199 04 843

VELTKAMP B.V.

Product name:
CPP60

Contact details:
Veltkamp B.V.
Witte Paal 28-30
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info@veltkamp.pro
www.veltkamp.pro

Certification:
313/40793/703550/1820141635



Weight: ± 255 gr
Colour: Unspecified

K-factor: 1,9
Material: PP/PE

Patent number: 6.045770

Appendix 5: Vessel checklist

Criteria for checking the condition of a vessel:

Cleaning:

- Indicate the method of cleaning

Walls:

- No physical properties that can endanger the cargo. Free from rust, loose paint or previous cargo residues.

Tank top:

- Even and dry surface.

Hatch covers:

- Hatches closing properly to keep out snow, water or ice at all circumstances. Gaskets and drains clean and in good condition.

General remarks:

- Any circumstances affecting loading, e.g. cargo readiness, over-stowage, hold shape, inability to utilize full load capacity, etc.

Vessel checklist

Name of vessel: Built year:

Port of loading: Previous cargo:

Loading commenced: Loading completed:

Weather during loading: Tonnage loaded:

Condition of hold items checked:

Cleaning	<input type="checkbox"/> Washed	<input type="checkbox"/> Swept	<input type="checkbox"/> Other	Score: <input type="text"/>
Sides	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Not satisfactory		Score: <input type="text"/>
Tank top	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Not satisfactory		Score: <input type="text"/>
Hatch covers	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Not satisfactory		Score: <input type="text"/>

Cargo plan provided by: ☐ Stevedore ☐ Captain

Protection material used: ☐ Damage ☐ Kraft paper ☐ Other ☐ None

Damage report provided by vessel: ☐ Yes ☐ No

Remarks:

Date of inspection:

Master: _____ Shipper's representative or agent: _____

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THE RENEWABLE MATERIALS COMPANY