2024 Safe Freight Guide

Sadleirs Transport Co. (NSW) Pty Ltd
ABN 19 000 936 194

Contents

1. Purpose

This Guide sets out the Sadleirs transport standard for safe freight movements. Sadleirs transports freight right across Australia via rail and road, including to remote communities and mine sites. Much of the freight travels significant distances and can pass through multiple depots before reaching its final destination.

Insufficiently packed consignments present a high risk to the freight becoming damaged in transit and a serious hazard to drivers, freight handlers and on road users.

Sadleirs have developed the Safe Freight Guide to ensure:

- Compliance with Legislation in relation to Chain of Responsibility, in particular Load Restraint, Dangerous Goods and Road Traffic Legislation; and
- Customer's freight will travel and arrive safely at its destination; and
- The freight can be safely handled by our Forklift Operators and Drivers; and
- The freight can be safely loaded and unloaded on or off road and rail vessels. Under Chain of Responsibility, Sadleirs reserves the right to quarantine or reject any freight that is identified as unsafe to travel or in contradiction with the following:
  - **Sadleirs Safe Loading Standard;**
  - **Load Restraint Guide**
  - **Australian Dangerous Goods Code**

The following guidelines are to be adhered to by all employees, suppliers, contractors and clients who supply to and/or handle freight on behalf of Sadleirs.

If you would like a copy of this, please ask your local Sadleirs representative.

2. Unitising (Packing)

Key Requirements

When consigning freight for transport the supplier must ensure that all the items in the consignment are prepared, protected, and marked in accordance with the following clauses:

- All packaging must be capable of withstanding road or rail transport over short, medium, and long distances;
- All packaging must be suitable to endure multiple handling. Freight can be handled multiple times in the transport chain before it reaches its final destination; and
- All packaging must be robust enough to cope with lifting on and off transport vehicles and being safely transported without rolling, tipping, sliding or spilling.

Packaging methods used must ensure safe delivery of the freight to the site. They must consider the value of the item and the weight and size limits of cargo that is to be transported.

All items that are to be lifted by Forklift are required to have standard Forklift access points for the tines. The tines are 210mm wide x 80mm high.

Freight consignments are to be generally packaged in an upright and secure position unless they can travel in a flat configuration.

Freight must not be contaminated with vermin, soils, mud, grease, oils, or other process contaminants. Where timber is used, either internally and externally, it must be free of bark and insect infestation. Freight, particularly into Western Australia, is required to be contaminant free and must be cleaned before transport to prevent any environmental or biological incident.

Items of load can be bound together to form a single unitized load to simplify the restraint requirements.

Unitising methods include banding, strapping, gluing, stretch wrapping and shrink wrapping.

Ensure unitising systems are independent of load restraint, can withstand the forces described in the Performance Standards and are robust enough to withstand handling (e.g. being handled by forklifts, transported by rail or road).

3. Commonly Detected Packaging Issues

Two of the most common issues with freight identified as unsuitable or unsafe for transport are pallet selection and applied restraint.

Pallet Selection

Selecting a stable foundation for loading freight is essential for freight to safely reach its destination and is a common area of failure.

Please refer to the Pallet Specification Guide to determine if pallets are safe to travel.

Not all pallets are created equal, and poor-quality pallets pose a risk of both freight damage and personal safety, so it is important that each pallet is checked and evaluated before we accept possession of the freight.

The Pallet Specification Guide

This guide highlights some of the main differences between pallet types and their capacities to assist in highlighting safe loading practices.

Please note this is a general guide only, it is up to each driver and loader to inspect and assess the pallet for the likelihood of pallet failure. Pallet quality can be impacted by many factors such as moisture, age, timber, & general wear. The type of freight and way it has been stacked or strapped/wrapped will also impact the pallets ability to be safely transported.

The selected pallet Safe Workload (SWL) must be capable of successfully supporting the loaded weight. When selecting pallets, consideration should be given to items' centre of gravity, height, and distribution on pallet. The use of flimsy pallets or small skids for heavy freight often fails, resulting in damage or resupply, and delivery fees.

Fit for purpose

Pallets must meet the below minimum standards to be deemed safe for use.

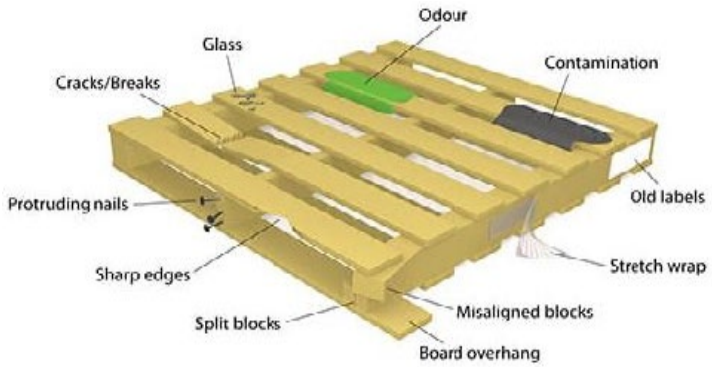
Nails	Nails cannot protrude more than 5mm from the surface of the pallet	
Boards	Boards must be at least 20mm thick, they cannot have full depth splits over 300mm long or cracks over the whole width. Boards with a 25mm chip that is less than 600mm in length or boards that have a split 300mm or less are still within standard. Leading edge boards must be within 15mm from the end of the bearer.	 
Bearers	Bearers must be at least 60mm wide and capable of having boards secularly fasted to them.	
Splintering/ debris	Major splinters & debris must be removed from the pallet prior to wrapping and transport	 

Poor Quality Pallets will not be accepted by Sadleirs.

Pallets must not have:

- Poor timber quality or other brittle/soft material - cardboard, polystyrene, laminate planks etc
- Exposed nails
- Incorrect size
- Poor construction
- Cracked or split bearers
- Evidence of infestation by pests - termites or other wood borers

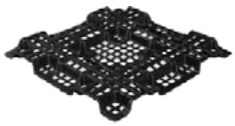
The following are examples of poor quality pallets, including but not limited to:



Static weight capacity vs pallets in motion

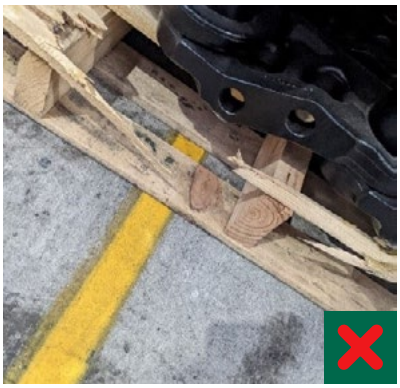
Each pallet type is rated to safely hold up to a certain weight. This is called the static weight capacity.

When pallets are stacked the total weight must not exceed this static capacity for the bottom pallet. When a pallet is in motion the tolerable weight capacity will be lower than the maximum rated limit, as other forces put pressure on the pallet. A pallet loaded to the maximum weight rating is not suitable for transport.

Pallet Type		Characteristics	Dimensions	Rated Capacity	Stackable Height
Loscam A grade		Pine pallet, solid bearers full length of pallet - Rackable 2 way entry points 85% surface coverage—boards	1,165mm x 1,165mm	2,000kg	Single—1.8m Multi –2.4m
Chep A grade		Hardwood pallet, solid bearers full length of pallet Rackable 2 way entry points 85% surface coverage—boards	1,165mm x 1,165mm	2,000kg	Single—1.8m Multi –2.4m
Plastic pallet A grade		Moulded high density food grade polyethylene 2 way entry points 100% surface coverage	1,165mm x 1,165mm	1,000kg	Single—1.8m Multi –2.4m
Plain stringer pallet B grade		Pine or hardwood pallet, solid bearers full length of pallet 2 way entry points, often not rackable Minimum of 50% surface coverage—boards	1,165mm x 1,165mm	1,800kg	Single—1.8m Multi –2.4m
Block pallet B grade		Pine or hardwood pallet with solid or particle block bearers 4 way entry points, not rackable Minimum of 50% surface coverage—boards	1100mm x 1100 mm	1,500kg	Single –1.6m Multi –2.1m
Composite / ex pooled pallet C grade		Recycled mixed wood types with solid full length bearers Rackable 2 way entry points Minimum of 50% surface coverage—boards	1,165mm x 1,165mm	1,500kg	Single –1.8m Multi –2.4m
Export / euro pallet C grade		Pine pallet with solid or particle block bearers 4 way entry points, not rackable Minimum of 50% surface coverage—boards	1,200mm x 800mm	1,200kg	Single –1.3m Multi –1.7m
Export / 4 bearers pallet C grade		Pine pallet with double centre bearers 2 way entry points, not rackable Minimum of 50% surface coverage—boards	1,100mm x 1,100mm	1,200kg	Single –1.6m Multi –2.1m
BHA Bag Pallet		Moulded high density food grade polyethylene 4 way entry points Minimal surface coverage, suitable for bagged freight only	1,100mm x 1,100mm	3,000kg	Single –1.6m Not recommended for multi stack

If you believe a pallet is unsafe, either the pallet itself or the way it is loaded, you should refuse to take possession and contact your supervisor or the fleet team for further instructions.

Images below identify these common issues and failings:



Pallet rated to 500kg, freight weighs 1240kg, pallet has collapsed – Not Acceptable

Careful consideration of pallet selection must be applied before accepting freight for transport.

Note that pallets might not be the best way of transporting a load. Always check the load weight before choosing a pallet as a way of transporting a load.

Freight on Pallets

When packing freight onto a pallet make sure the total weight of the freight placed on a pallet is not greater than what the pallet can support through transportation, handling and distribution.

Check and remove major splinters and debris from the pallet prior to wrapping and transport.

Strapping in addition to stretch wrapping should be considered for palletised freight to prevent movement.

If straps are used, consider using a minimum of two straps in all directions to secure Freight to its pallet and at least three straps if the Freight is 1.3 meters long or longer. Try to keep the maximum spacing between each strap.

To protect freight, consider the use of horizontal edge protectors to prevent straps cutting into edges.

Consider substituting plastic strapping as this is less hazardous to freight and people if practicable.

Freight Restraint

Common areas of failure include:

- Reliance of plastic shrink-wrapping as a sole method to restrain heavy items:
- Plastic shears during transport voiding restraint;
- Items are able to dislodge from plastic and fall from trailers or during unloading operations - presenting issues to other road users and client personnel operating forklifts; and
- Coloured plastic (black in particular) does not allow visual confirmation that freight is secured to the pallet and / or whether Dangerous Goods are present.

Below are examples of common failures.

4. How to Hand Stretch Wrap a Pallet

1. The pallet load should be stacked tightly so that there is minimum space between the objects for any lateral movement.

2. The pallet should have optimum load stability and, for that, you should place the outer face of the film towards the product to be wrapped.

3. If the pallets are wrapped incorrectly with the outer face of the film away from the pallet, they will become prone to inter-pallet adhesion and loose tails.

4. Apply a minimum of three complete layers of the film around the base of the pallet before moving upwards.

5. Stretch the film until there is an obvious resistance but do not overstretch it. Maintain a distance of approximately 300 mm away from the load as you walk around it.

6. Continue to work upwards with a layer overlap of at least 25%. Wrapping the corners requires care as this is where the maximum stress is placed on the film.

7. Upon reaching the top of the pallet, secure the load with two complete layers.

8. Upon completing the final layer, cut the film off approximately 30 cm from the corner of the pallet. To finish off, smooth down the film tail by pressing it gently to the pallet. The end of the film should be tied to the corner of the pallet with a simple knot.

Step 1 – Secure Film to Pallet

Step 2 – Wrap bottom layer of freight to pallet

Step 3 – Wrap from the bottom to top

Chains

Chain is commonly submitted for transport on pallets fitted with a cardboard sheet and strapped with shrink wrap. The weight of chain, and in-transport vibration, often causes the links to wear away the cardboard bottom and fall through the pallet slats. Chain also escapes from under the plastic and presents issues with loading and unloading.

Transportation of chain is more effective if placed in steel drums or wooden crates and then the drum or crate is strapped to the pallet to ensure secure.

Another effective method is to have a board placed on the pallet and the chain situated within the protection of a wooden collar.

5. Dangerous Goods

Dangerous Goods are delivered in all types of quantities and sizes which understandably, makes it difficult to adequately restrain on pallets.

Packing Dangerous Goods

The packaging, marking and transport requirements for the carriage of dangerous goods by Road and Rail shall be in accordance with the latest issue of the **Australian Dangerous Goods Code.**

All Dangerous Goods shall be declared on an acceptable Transport Shipping Document, showing the correct shipping name, UN Number, Quantity, Type, Packaging Group, and must be packed in full compliance with the directives of the ADG Code and must be suitable for transport by road or rail.

Dangerous Goods are exactly that: dangerous. Every effort must be made to ensure that Dangerous Goods are well packaged and cannot move, leak, dislodge or get damaged in transit.

Below are examples of common failures when restraining Dangerous Goods.

Below are examples of acceptable Dangerous Goods packaging.



Drums

These specifications are for the packaging of drums for transport.
Drums are to be strapped and preferably edge protected. Stretch wrapping alone is not an acceptable form of unitisation.

Pallets must be of solid deck hardwood and anti-skid surface, ideally CHEP, Loscam or an equivalent plain pallet.

The strapping used must be suitable to restrain the drum in place on the pallet.

The strapping must be positioned to prevent movement of the drums and prevent the board of the pallet being dislodged due to vibration or from applied restraint lifting boards/slats.

The images below identify the use of wooden slats on the top of drums. This practice allows tension to be distributed along the drums - further restraining the freight and avoids metal strapping slipping on drum lids and seams.



Plastic Shrink Wrapping of Drums (and over-size pallets)

The use of plastic wrapping of heavy drums is not acceptable and does not effectively restrain 205 litres.

If the Plastic wrapping is applied too low, it will not account for the load's centre of gravity and internal product weight.



6. Plate Steel

Packaged sections of plate steel need to have sufficient applied restraint to prevent lateral and vertical movement.





Note: Sole use of plastic wrap or shrink wrapping is not an accepted method of restraining freight to pallets. Freight must have either metal or plastic strapping applied otherwise freight will be rejected and will not travel.

7. Hoses

All hoses supplied for transport must be strapped / restrained to pallets for transport. Hoses should be banded together with the use of either metal or plastic banding and restrained under the pallet bearers to ensure safe transport.

8. Products Containing Oil / Chemicals

All freight designated for travel by Sadleirs must be certified oil free, bounded and all outlets / drainage / discharges must be adequately prepared for freight to ensure no leakage of oil or fluids.

Used machinery and plant must be drained of all fuel and oils.
Any occurrence of leaking freight will be highlighted to the vendor and all associated environmental clean-up costs charged to the vendor.

Note: Sadleirs does not have the ability for vendors to decant products if containing vessels are damaged. Damaged vessels will be required to be picked up by an approved chemical courier for transport back to vendor's premises for rectification.

Caps of IBC's should be secured with either security tags or cable ties to ensure lids remain on the bladder.

9. Equipment in Transport Frames

Tie down points for Heavy Equipment must be clearly identifiable.

For metal frames it is preferred to have bolts and nuts to prevent vibrating loose during transport, they need to be tightened to ensure equipment is restrained to the frames.

For wooden frames they need to be in good condition with no visible damage and able to sustain the weight of the freight during transport.

Transport frames need to be suitable for the designated freight and able to accommodate loaded weight. For example, motorcycles, engines, machinery, mining equipment, etc.

It is a requirement that all pulleys be provided in metal transport frames. One time / wooden frames are not deemed acceptable for the transport and safe handling of these cylindrical items.

10. Coil & Cylindrical Items

Coils & Rollers should be restrained to prevent lateral and vertical movement while in transit.

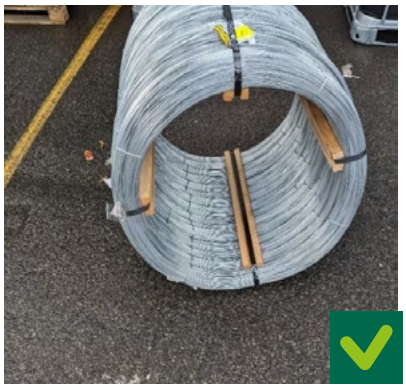
Freight needs to loaded onto suitable hardwood or metal pallets and must be elevated and wedged with appropriate dunnage to allow forklift access.



11. Lumber, Pipes and Steel

All bundles of Steel and Poly pipe must be strapped together to ensure safety for loading and transport. Noting common lengths of these products, sometimes it is not practical or essential to provide this type of freight palletised however any such freight must be elevated with dunnage to allow forklift access.

Large bundles can be removed at delivery and placed on wooden dunnage prior to loading onto trailers.

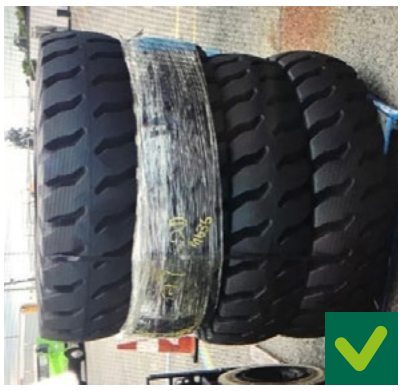





When submitting lengths of Pipe for transport, no smaller gauge pipe is to be placed inside larger sections of pipe. This practice does not allow for correct load restraint, does not restrict pipe movement, and can have disastrous consequences if for example the item in question was heavy round bar.

12. Tyres

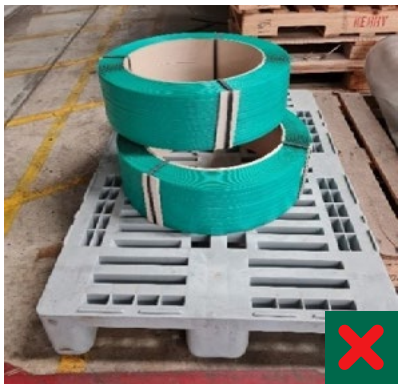
All supply of tyres from vendors must be adequately restrained to pallets. The practice of securing tyres with the use of plastic wrap does not effectively restrain freight and presents hazards in loading, unloading and during the transport phase.



Tyres for transport must be restrained in approved tyre stillages or adequately strapped to suitably sized pallets to prevent movement (below):

13. Restraint Issues (General freight)

The following images identify both good and unacceptable packaged freight. All non-conforming freight in these cases have been quarantined and deemed not suitable for transport, requiring the vendor to rectify.



It is not acceptable to load freight on a pallet and place it over another pallet.

14. Wet Cell Batteries

Batteries must be suitably restrained to pallets to prevent movement and damage during transport and forklift loading and unloading operations.

Strapping with plastic strapping only should be sufficiently applied to prevent movement and possible dislodgement from pallet. It is preferable to protect each layer with “honey-comb” cardboard.

15. Wheeled and Castored Cases / Crates

All freight that is delivered on wheels or castors must be restrained to prevent free movement.

The example above highlights how to effectively limit movement from items supplied on wheels.

These items must be stabilised for transport and the use of pallets underneath loads, with applied straps under the under bearers, is a good example on how to limit movement for safe transport.

16. Windscreens and Glass products

Due to the fragile nature of windscreens, these need to be supplied on acceptable pallets and adequately restrained to ensure safe transit. The image below identifies windscreens packaged for transport on a suitable pallet with straps to restrain the load in place on the pallet.

Fragile and Glass labelling is good practice to let the operator know of the fragile nature of the load.

The use of plastic carton protectors will allow further tension on the restraint to be applied and ensure windscreens are restrained in the upright position.

17. Oversized and Heavy freight

Due to the larger size and weight of these items wooden pallets or frames may not be an effective base for safe transport and presents handling issues.

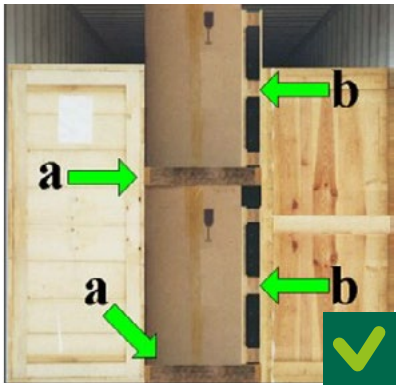
Freight that is not loaded and secured on an appropriate base will not be accepted

18. Loading of Freight in Full Container Loads (FCL)

Freight longer than 2.4 meters will be transported by curtain-sided containers or side door containers and not by end-door shipping containers.

It is essential that loading includes the use of boards, dunnage and load restraint bars inside containers to ensure freight doesn't move in transit.

Load Restraint bars used inside a container.



Space between cargo must be filled with dunnage where reasonably practicable. Dunnage must fit snuggly and securely.

Freight must be loaded stable and secured to ensure it will not fall out of the container when opening the container doors.

Container straps or chains are to be used around the container handles when opening the doors.

Below is an example of what can happen when chains or straps are not used to open container doors and correct dunnage has not used throughout the load or in the doorway. Stretch wrap is not an adequate form of load restraint.

19. Who to Contact

Any questions relating to the interpretation of this Guide should be forwarded to the Sadleirs Safety Team or Operations management.

20. Disclosure

A copy of this Guide is available on Sadleirs Internal Intranet (SIMS or SharePoint).

21. Version Control

Revision	Date	Description	
1.1	June 2022	Guide commenced	
1.2	June 2024	Combined separate Pallet Specification Guide into the Safe Freight Guide	

22. Approvals

Document Owner	Approval Authority	Distribution Level	Next Review Date
Safety	National Safety Manager	Sadleirs Group	July 2027

Contact Us

If you have any questions regarding this document or any other enquiries, contact our Customer ServiceTeam on **(08) 9333 2432**

Or email **customerservice@sadleirs.com.au** and some one will get back to you.

Sadleirs Transport Co. (NSW) Pty Ltd
ABN 19 000 936 194

Sadleirs Head Office
470 Belmont Avenue Kewdale WA 6105 Australia
PO Box 138 Cloverdale WA 6985
T. 08 9333 2444

www.sadleirs.com.au