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*beautiful products
for thriving landscapes*

LOAD RESTRAINT GUIDE

ver 2020.08

As a manufacturer and supplier of products that require transportation by heavy vehicles, Anston has an ongoing commitment to provide a safe working environment to all those operating within the supply chain, promoting safe and responsible practices that minimise harm to all personnel and the public.

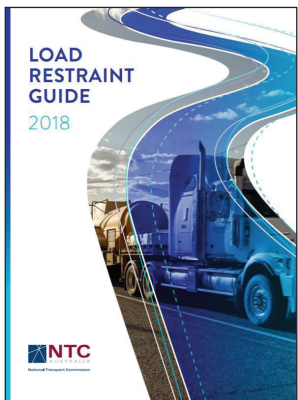
*This document provides a guide for drivers and contractors involved in the transport cycle of our business, whom are required to comply with **Chain of Responsibility** (CoR) requirements as defined by the **National Heavy Vehicle Regulator** (NHVR).*

RULES ON LOAD RESTRAINT

As the controller of a heavy vehicle, you are legally responsible for restraining your load so that:

- It does not come off your vehicle under normal driving conditions, including heavy braking and minor collisions. If the load is dislodged from your vehicle, this is evidence that you have not restrained the load correctly and have breached the law.
- It does not negatively affect the stability of the vehicle, which could cause the vehicle to roll over or swerve uncontrollably, potentially causing an accident.
- It does not protrude from the vehicle in a way that could injure people, damage property or obstruct others' paths.

In addition, you must pick up any fallen load if it is safe to do so, or arrange for someone to retrieve it.



The [Load Restraint Guide 2018](#), published by the **National Transport Commission**, sets out Performance Standards for load restraint as required by law. These Standards set out the minimum amount of force a restraint system must be able to withstand in each direction.

This guide provides examples of how to safely secure palletized loads of Anston product. Alternative load restraint methods may be used, provided you can show that they meet the Performance Standards. The best way to do this is to get your load restraint system certified by a qualified engineer.

LOAD RESTRAINT SYSTEM

Drivers should use load restraint methods that are most suitable for their vehicle and load. Loads can be restrained by two basic methods: **tie-down** or **direct restraint** (i.e. containing, blocking and attaching).

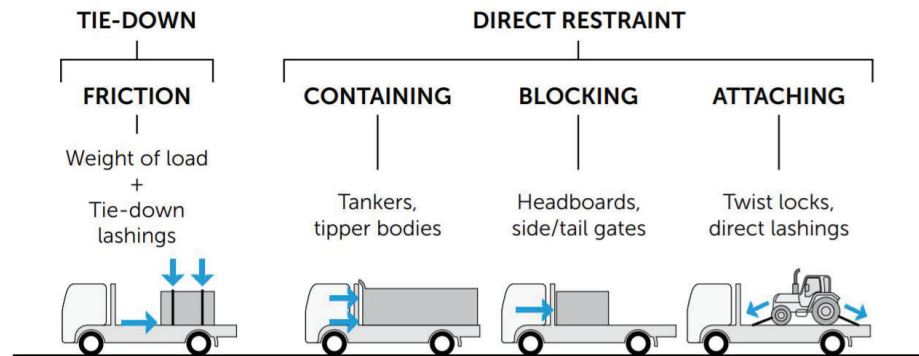


Image: Different restraint methods, Load Restraint Guide 2018

Anston products are wrapped securely with bubble wrap and strapped onto pallets before transport. We recommend using the tie-down restraint method to secure palletized loads.

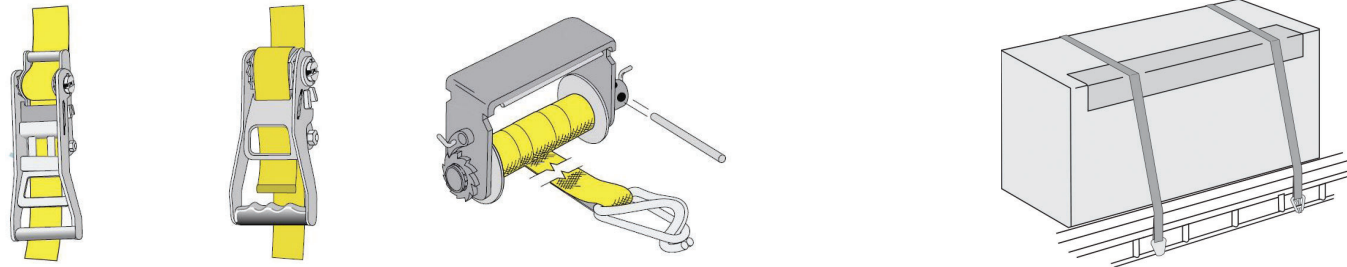
Make sure you are using enough lashings of sufficient capacity if using the tie-down restraint method. You'll need to take into account the weight of the load, whether the load is blocked or unblocked and the amount of friction between the surfaces of your load and the vehicle deck.

For loads that are difficult to tie down, use the direct restraint method. Using direct lashings to attach a load is especially suitable where there is little or no friction between the load and the loading deck.

LASHING OF LOADS

All equipment used in loading and load restraint must be rated and regularly maintained. Check your lashings before use; even minor wear and damage may considerably reduce performance compared with the lashings' rated capacity. Check all locking and latching mechanisms to ensure they are fully functional.

Lashing tensioners provide pre-tension to the lashings used in tie-down or direct restraint; most lashings (other than rope or small webbing) require greater tensioning than can be applied by hand. The pre-tension generated by the lashing tensioner can remove slack from lashings used in direct restraint. Pre-tension capability of a tensioner is critical for the tie-down capacity of lashings used in tie-down restraint.

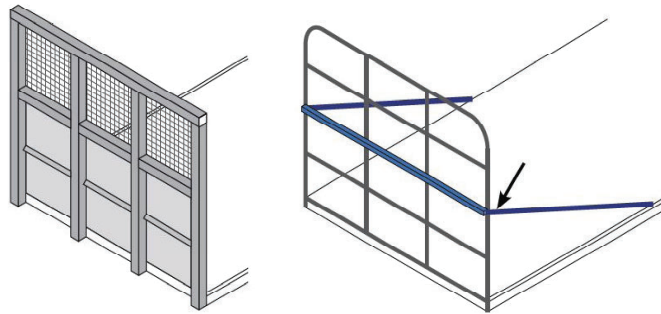


Images left to right: Pull-down hand ratchet / Push-up hand ratchet / Truck webbing winch

Above: Protecting lashings from sharp edges

Webbing straps can be easily cut on sharp edges. Sharp edges and rough surfaces prevent the lashing tension from equalising on both sides of the load. Smooth rounded corner protectors can protect straps and enable high tension on both sides of the load, thereby increasing load restraint.

HEADBOARDS & LOADING RACKS



Left: Typical rated headboard

Right: Reinforced 'pipe gate' style loading rack

Rated headboards have been certified to withstand a certain force. They are designed based on accepted limits on strength and deflection for the load weight and design G-force.

A loading rack is a pipe gate that has been reinforced by direct restraint chains. Plywood, metal sheeting or mesh can be used behind a loading rack to spread the load and support product packaging.

If there is no rating stated on the headboard or loading rack, it is assumed to be unrated.

Use headboards and loading racks to provide some or all of the **forward** restraint, depending on whether they are rated, reinforced or otherwise.

- Additional restraints will be required for other directions.
- Most headboards and loading racks that are not rated are not strong enough to fully restrain heavy loads under heavy braking.

Use **rated headboards** to provide some or all of the forward restraint (depending on rating), as follows:

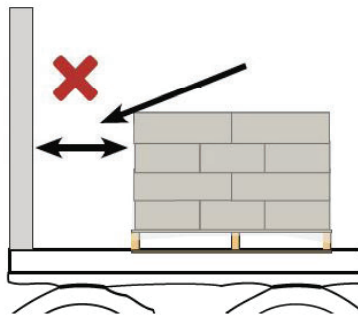
- as part of full blocking systems, where the load is blocked sideways, and
- rearwards by other means of restraint, or in combination with tie-down restraint to reduce the number of tie-down lashings required.

HOW TO USE HEADBOARDS & LOADING RACKS

Position the load as close as practical to the headboard or loading rack.

A load is generally considered blocked if it is within 200mm of the headboard.

Make sure the load does not sit above the height of the headboard, unless the packaging is of adequate strength to contain the product against the full forward force.



If using rated headboards, check that the rating is suitable to restrain the load before loading the vehicle. If needed, use additional restraints for forward blocking.

Left: Unblocked load

When the front row(s) of product is blocked forward by the headboard, any subsequent row(s) not blocked by a secured loading rack or movable barrier will require the front pallet(s) to have two cross over webbing straps and one tie-down webbing strap. **The angle of the strap to the deck must be $\leq 45^\circ$.**



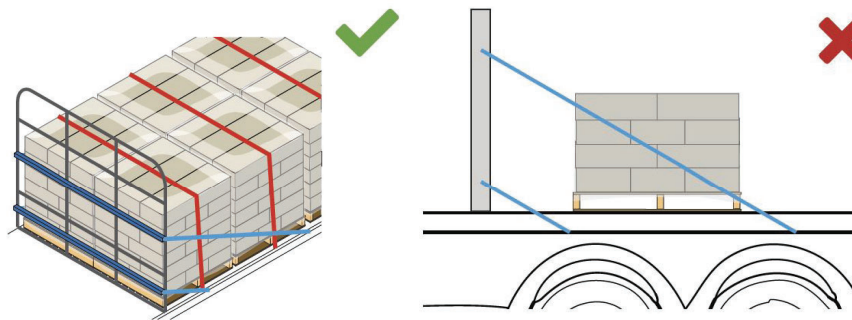
Left: Crossover webbing straps on unblocked load

BARRIERS

Barriers are moveable blocking devices, also known as ‘intermediate headboards’.

Use barriers when there are gaps between loads along the length of the truck, and the rear part of the load needs to be blocked in the forward direction.

Use barriers to restrain the rear part of a load that is separated into two parts to maintain correct axle weight limits.



Left: Load correctly placed against barrier versus a load incorrectly placed with a gap between the load and barrier

Make sure that there is no gap between the load and barrier. Barriers are usually placed against the load after loading; chains are then applied to lash the barrier.

Make sure that the barrier and its support chains are strong enough to block the forward forces from the load. Chain the barrier to the tie rails on both sides, near the top and bottom.

Barriers can restrain the load against all the forward forces or act together with tie-down lashings to provide all of the forward restraint.