

# V64: Load restraint

## Information Bulletin

### Introduction

The safe loading and adequate restraint of loads on vehicles is important in preventing injury to people and damage to property.

Insecure loads can also affect the safe control of a vehicle by altering its stability and cause the vehicle to be dangerously over-dimensional with protruding or projecting loads.

All loads must be safely positioned on or in a vehicle and be secured by a load restraint system that prevents the load from moving in relation to the vehicle. These requirements are prescribed in Northern Territory (NT) road law via the [Traffic Regulations 1999](#) (Regulation 24 and 24A) incorporating the [Australian Road Rules](#) (Rule 292 and 292A).

### Why is load restraint important?

Every year people within Australia are injured and killed in crashes caused by unrestrained loads.

This can occur in instances where:

- objects fall from vehicles on to other vehicles or pedestrians
- drivers swerve to avoid falling or fallen items from vehicles
- spillage on roads from lost loads causes vehicles to skid and lose control
- unrestrained loads crash into vehicle cabins during emergency braking
- vehicles overturn because of loads shifting while cornering.

### Important points

- Use a vehicle appropriate for the type of load you are carrying
- Position the load correctly
- Use suitable restraint equipment, in good condition
- Check your load restraint before leaving and during the trip
- Adjust your driving to suit the conditions of your vehicle when carrying certain types of loads
- Unload safely
- Projecting or over-dimensional loads may require a permit of exemption
- Failure to restrain a load correctly on a vehicle may result in legal action being taken against any persons involved, including the driver, operator and/or loader of the vehicle.

### Further information

[Appendix A - Loading performance standards](#)

[Appendix B - Vehicles over 12 tonne GVM carrying loose bulk loads](#)

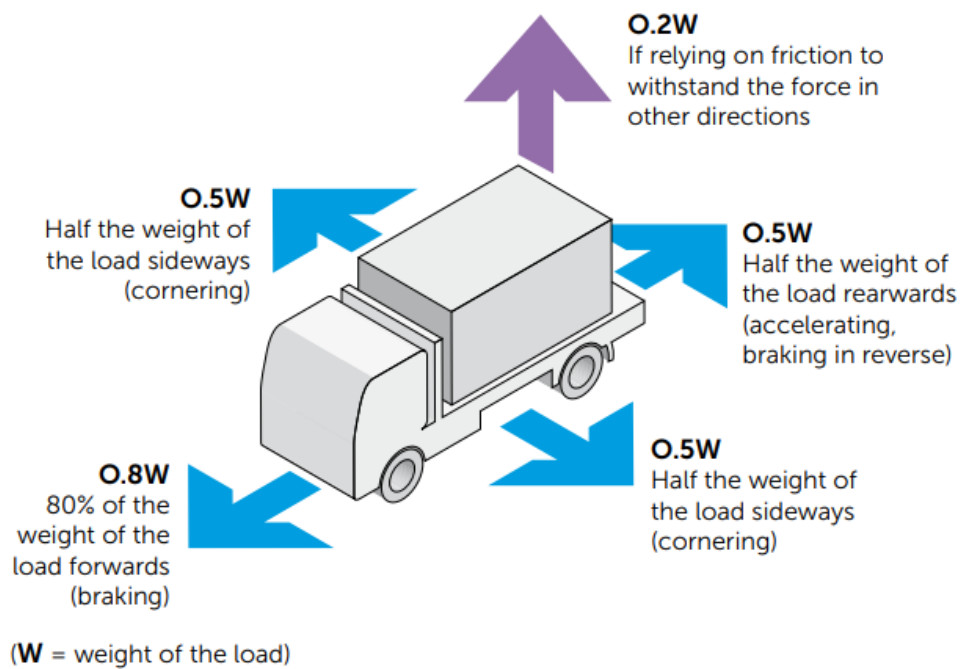
[Appendix C - Transporting pre-cast "tilt-up" concrete panels](#)

## Appendix A

### Loading performance standards

The performance standards are prescribed in NT road law via the [Traffic Regulations 1999](#) (Regulation 24 and 24A) incorporating the [Australian Road Rules](#) (Rule 292 and 292A).

Restraining a load will meet the load restraint performance standards if the load doesn't move in relation to the vehicle when subjected to following forces:



*Graphic used with permission from the National Transport Commission*

- 0.8 g deceleration in a forward direction
  - 0.5 g deceleration in a rearward direction
  - 0.5 g acceleration in a lateral direction
  - 0.2 g acceleration in a vertical direction if relying on friction to withstand forces in other directions.
- g means gravitational acceleration or 9.81 m/s<sup>2</sup>*

### National guide

The [Load Restraint Guide 2018](#) and [Load Restraint Guide 2018 for Light Vehicles](#) as published by the National Transport Commission provide basic safety principles which should be followed for the safe carriage of loads on vehicles.

## Appendix B

### Vehicles over 12 tonne GVM carrying loose bulk loads

The NT [Traffic Regulations 1999](#) (Regulation 24A) make it an offence for a person to drive, or permit a person to drive a vehicle - including truck and trailer combination - with a Gross Vehicle Mass (GVM) greater than 12 tonnes that is carrying a loose bulk load unless the load is fully covered by a load cover that is suitable for securing the load.

Loose bulk loads are defined as quarried material such as (but not necessarily limited to) sand, soil, gravel or rocks, or any other material that is likely to be dislodged by the effect of air flow across the load or rough road conditions.

Correctly fitted tarpaulins, load covers and load nets are an effective means of restraining loose bulk loads in open topped vehicles to counteract the effect of air flow and rough roads. The use of 'wetting' or 'skinning' agents alone is not acceptable, however, may be used in conjunction with a suitable load cover.

Loose loads should never be transported on flat bed or platform type vehicles without sides or gates, or tipper bodies without tailgates. Bodies with poorly fitting sides and gates should not be used to transport fine particle materials such as sand.

## Appendix C

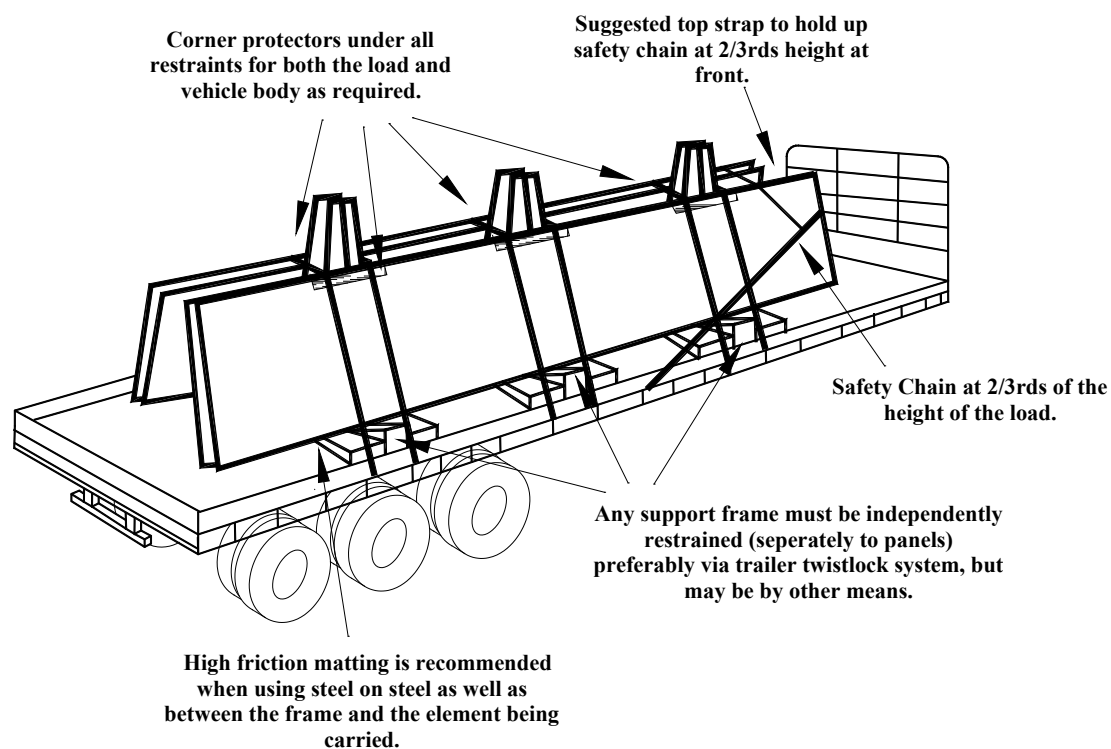
### Transporting pre-cast “tilt-up” concrete panels

Operators with a need to transport concrete panels must consider work, health and safety obligations and transport laws and ensure that panels have a total restraint system that is fit for purpose meeting the prescribed performance standards.

#### A-frames for carrying concrete panels

- Frame systems must be designed and adequately secured to withstand the loads and forces which may act on the system during loading, transportation and unloading.
- Load restraint systems (i.e. A-frames or support frames) may need certification by a suitably qualified engineer to certify compliance with performance standards.
- A-frames must be separately secured to the vehicle (i.e. independent of the concrete panel restraint system) and appropriately blocked to ensure they cannot move around on the deck.
- The support feet on the A-frame should have high friction rubber between them and the trailer floor (except when secured using twist-lock systems).
- Ensure that the A-frames are not twisted or placed on an uneven floor otherwise the load may become unstable and dislodge.

#### Example transport layout option



## General considerations

- Checker-plate steel decks can be just as slippery as smooth flat steel decks.
- Loading directly onto steel decks, or steel A-frames without appropriate friction material in place should be avoided.
- Always consider increasing friction between concrete panels by using wood or rubber material.
- When loads settle, the lashings may loosen and cause a large reduction in tension. The tension in lashings should always be checked soon after moving off, and then regularly during the journey.
- Consideration should be given to using step-deck trailers when transporting tall concrete panels to reduce the height of the centre of gravity of the load.

## Loading

Securely restrained loads on transport vehicles are vital in preventing accidents and injuries when handling concrete panels. Concrete panels should be loaded in a sequence compatible with the required unloading sequence at their intended final destination.

Each concrete panel's placement on a vehicle should be carefully considered as the unloading sequence can lead to instability of loads.

Load restraints may be comprised of chains, webbing straps, a fastening and locking component of an engineered frame or a combination of any, or all of these. The adequacy of a particular method of restraint will depend on the type and size of concrete panel being transported and the type of vehicle being used.

**Don't let this be the outcome of inadequate load restraint!**

