Logistics Safety Guideline
Loading and Unloading of Trucks

1. About this Guideline...

- This guideline is intended to remind all workers (eg. supervisors, truck drivers and loading staff) of key safety points when loading and unloading steel products.
- There may be other risks and loading/unloading problems that are not covered by this guideline, so **TAKE TWO** minutes to stop and think about potential problems **before you start!**

2. Four Key STEPs to Loading/Unloading Safety

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Site

3. Site Induction

- Every site has different risks, problems and procedures. All sites must require all workers to be **site inducted** for that site. Sites need to make sure they are aware of the times when new drivers are being used, rather than their regular drivers.
- Ask about a site induction, **BEFORE** you arrive at the site.

4. Personal Protective Equipment (PPE)

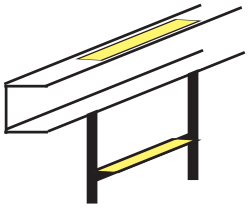
- Have the right PPE for the site e.g. Hard hat, Safety glasses, Reflective vest etc...
- PPE requirements must be clear for all sites. Drivers need to be made aware of PPE requirements before they arrive on site.

5. Falling Off Trucks

Be aware that every time you are up on the tray of the truck you are at risk of a fall. Falls off trucks are one of the greatest sources of truck driver injuries. For more details refer to the ASI Transport Safety Guideline *"Preventing Falls Off Trucks"*.

Best Practice Hints:

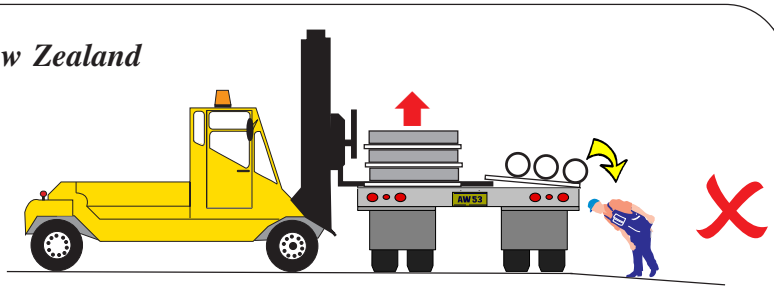
- *Try to avoid the need to access the trailer.*
- *Use Hi-Visibility, anti-slip paint on the deck of the trailer. Then trip hazards such as dunnage, chains & product are visibly contrasted in poor light such as inside gloomy warehouses and open yards at night.*
- *Place anti-slip tread tape on all edges where drivers may need to access the trailer.*



- *Order built in steps/ladders when purchasing new trailers, retrofit steps/ladders to old trailers.*

Case Study 1 - Fatality in New Zealand

In New Zealand, a truck driver died when a number of large round bars crushed him during loading.



After loading large rounds on the driver's side of the trailer, the forklift driver returned to place a slit coil on the kerb side of the trailer. Not seeing the truck driver around, he assumed the driver had gone to the nearby office or amenities. He continued to load the slit coil. Lifting the slit coil to adjust its position, the far end of the forklift tyne accidently lifted one end of the dunnage under the long rounds.

This caused the large rounds (over 500kg) to roll off the truck on the drivers side. Tragically the truck driver was in fact bent over getting equipment from his tool box at that location.

The large rounds fell on top of the driver and he was crushed as they fell.

Key Issues:

- ***Lack of compliance with exclusion zones** around the danger areas during loading (section 6).*
- *Loading teams should operate on the basis of: **"Can't See? - Can't Work!"** (section 14).*
- ***No one had identified the risk** of the round bars rolling (section 7). Suitable side pins may have been an appropriate way of managing this risk.*

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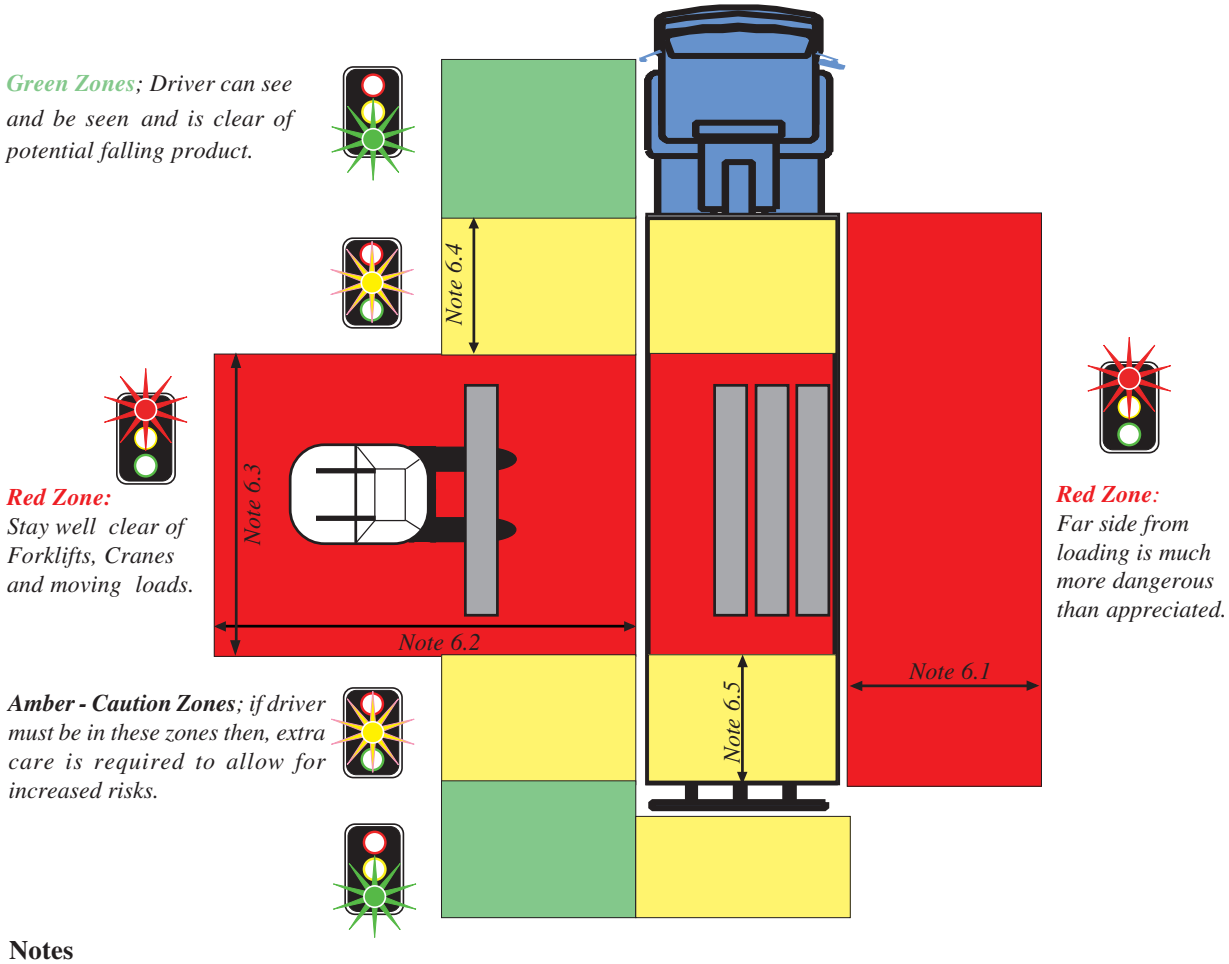
6. Exclusion Zones (Shown with load positioned mid-trailer)

- All workers including truck drivers and loading staff should always reduce the risk of injury by standing well clear of forklifts, cranes, moving loads and product stacks which may tip over.
- It is recommended that all sites adapt exclusion zones to suit their products and situations. Many sites choose to simplify exclusion zones by only having red and green zones.
- No workers should be allowed in these exclusion zones during loading or unloading, (including truck drivers chaining loads), unless there is no alternative e.g. removing chain slings. Persons removing slings or doing other essential actions should not enter exclusion zones until the crane, forklift or product has ceased all movement, and the loader has signalled that it is safe to enter the exclusion zone.



Notes

6.1 This Red Exclusion Zone should be at least as wide as the height of the load above the ground. Minimum 2.0m.

6.2 This distance from the trailer should be enough to allow the forklift to back away from the trailer and turn in any direction.

6.3 The Red Exclusion Zone should be as large as required to keep people at least 2.0 metres from any forklift, crane, or moving load.

6.4 If a driver must go into the Amber - Caution Zone, they should not go any closer than 2.0m clear of any moving load, i.e. for a full length load such as 12m long beams, the whole trailer could become a red zone.

6.5 If the driver must get on the trailer, the size of the Caution Zone will be dependent on the length of the load. This diagram depicts a load positioned in the middle of the trailer.

It is recommended that drivers always stay at least 2.0m clear of any moving load. Only approach a load, for operations like removing slings, **after** the load has stopped moving.

6.6 Exclusion zones apply for all vehicles, private vehicles such as utes must still comply.

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Take Two

7. Think of the Risks

Before you plan the Loading or Unloading, ***Take Two*** minutes to think about and check the risks of this task. If you have had a problem, it is essential you stop and *Take Two*, before trying to correct the problem.

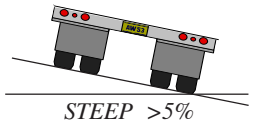
One way of doing this is to consider all the local energy sources.

Moving (Kinetic) Energy**	⇨ Moving vehicles - forklifts, cranes, trucks or other adjacent vehicles; ⇨ Loads being brought to, or from, the trailer; ⇨ Slips and trips, on or off the truck; ⇨ Loads moving in transit due to poor load restraint; ⇨ Chains thrown over the trailer.
Gravity (Potential) Energy**	⇨ Loads or objects falling off cranes or forklifts; ⇨ Loads falling off the trailer to the ground; ⇨ Packs falling off stacks; ⇨ Workers falling off the trailer.
Stored Energy	⇨ Tight chains being released suddenly ("releasing dogs"); ⇨ Slipping during tightening of a binder ("dogging down").
Electrical Energy	⇨ Overhead Power Lines, crane feed wires or electrical power boxes.
Chemical Energy	⇨ Batteries, oils or other chemicals being carried on the same load or stored nearby where they might be impacted.

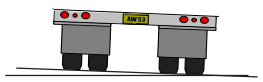
** During loading and unloading, the first two types of energy are usually the biggest fatality risks.

Side Slope

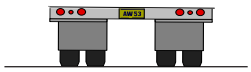
Loading or unloading when the trailer is on a side slope is always a significant risk. If the side slope is greater than 5% (i.e. 1 in 20 or 3 degrees) it warrants extra precautions, e.g. side pins, exclusion zone on downhill side etc.



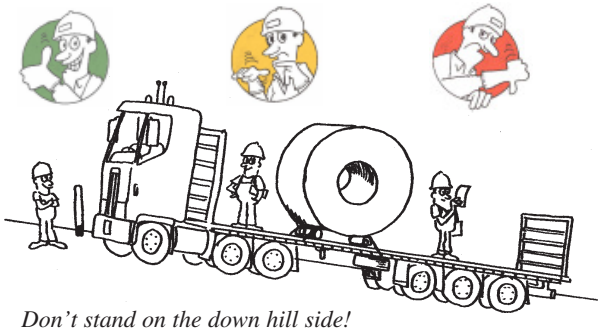
STEEP >5%



TYPICAL <5% or 3 degrees
(e.g. Cross fall on typical road)



LEVEL



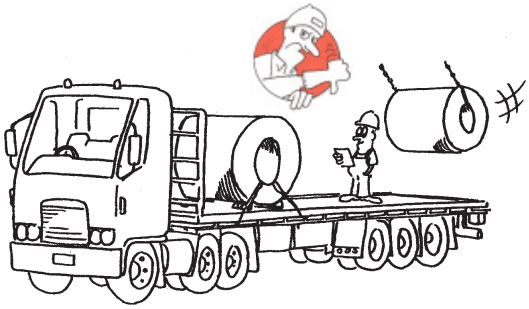
Don't stand on the down hill side!

Long Slope

Loading or Unloading product which may roll is a significant risk on sites with slope along the truck. Always stand uphill and/or away from the direction of any product movement.

Product Movement

Always be aware of product movements during loading or unloading and **never stand in the path of the product. Never place any part of your body under a suspended load.**



Don't stand where a moving load could trap or crush you!

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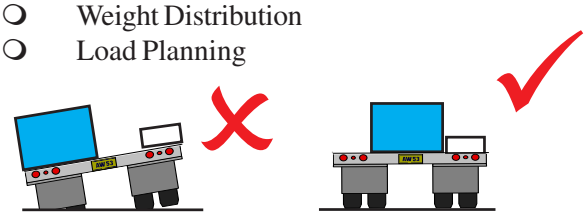
8. Planning

Workers including drivers and loaders need to talk to each other to plan and discuss issues with the load. It is part of the sites chain of responsibility obligation, to refuse to let a truck leave the site if it is deemed unsafe.

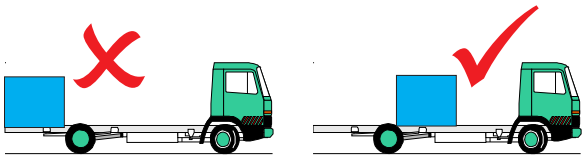
Truck Drivers

In most cases the truck driver has ultimate responsibility for the performance of the vehicle. So his or her advice should be taken on vehicle related matters such as:

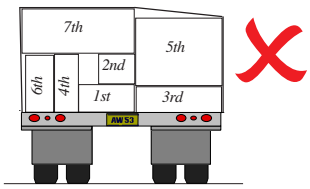
- Weight Distribution
- Load Planning



Even Weight Distribution

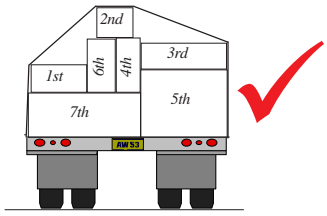


Axle Weight



Delivery Schedule

A poorly planned load - This load requires unpacking & repacking at each delivery point.



A well planned load - Consider this load and how it maintains a rough pyramid even after the early deliveries are unloaded. All bundles are always clamped and this greatly assists with load restraint!

Loaders

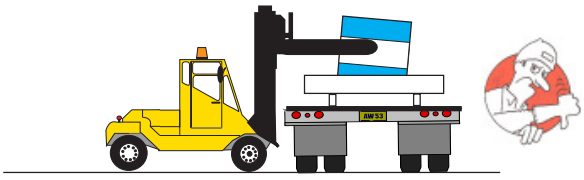
In most cases, the site based loading workers are responsible for all matters of how to load the truck. In particular they should plan the safe loading/unloading operation and explain it carefully to relevant workers, such as the truck driver or relevant loading crew.

Load Plans should clearly identify:

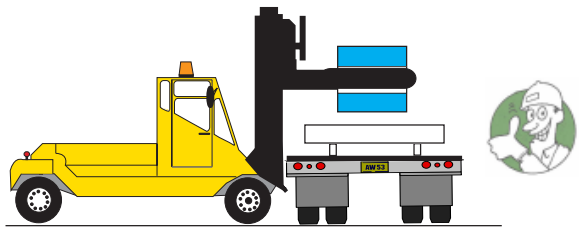
- The packs of product to be carried.
- Equipment and loading/unloading practices required.
- Special measures or procedures taken to address all of the identified risks.

Typical problems include:

- Ensuring the crane slings or forklift ratings are suitable for the weight.
- Ensuring that forklift ratings and tynes or prongs are adequate for loading to the centre of the vehicle not just at the minimum radius where the name plate rating is measured.
- Ensuring tyne extensions/ jibs are rated for the weight. The safe working load of all tyne extensions/jibs must be approved by an engineer.



One of the most common bad practices is trying to use forklifts at reaches outside their rated limits, or with loads balancing on on the ends of tynes.



In order to safely handle a load at the centre of the trailer it may be necessary to use a larger forklift to achieve the required reach and tyne length.

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8. Planning *(Continued)*

Customer Unloading

All companies should try to carry out site inspections at every customer's site.
(Refer to the ASI website www.steel.org.au: "Australian Steel Industry Logistics Safety Code")

If you have concerns upon arriving at the unloading site that cannot be addressed to your satisfaction, you should contact your company supervisor immediately.

See Section 7. **Think of the Risks**

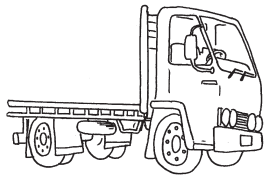
Once unloading is complete, drivers and loading staff must physically check the truck is empty and all workers are clear prior to moving off.

If you are only dropping off part of your load, also check that the remaining load is restrained correctly. Make sure you check for loose straps and dunnage.

"Get Out and Check It Out!"

Equipment

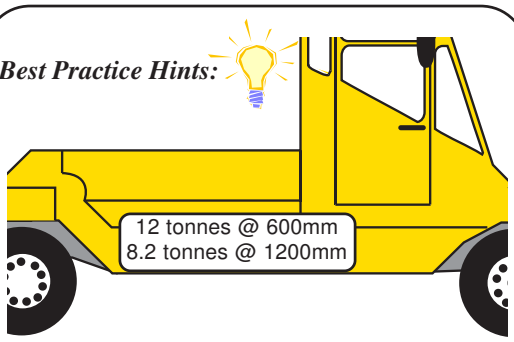
9. Trucks



Transport operators are responsible to ensure that all trucks and trailers are:

- Only operated by trained and licensed truck drivers.
- Operating in accordance with all legal and site based rules during loading/unloading at a particular site.
- Appropriately selected and equipped for the requested task.
- Properly maintained at all times.

Best Practice Hints:



Forklifts should have their ratings clearly marked on their vehicles. It reminds operators of the machine's limits and to allow for the reduced lift at greater reach.

10. Forklifts & Cranes

Site management shall ensure:

- Only trained and licensed forklift and crane operators are used.
- Forklift and crane operators are always operating safely within appropriate procedures.
- Forklifts and cranes are safely maintained.

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11. Load Restraint Equipment and Guidelines

- All load restraint equipment must be maintained and checked to ensure it is in good working order e.g. "dogs" do not have slack at worn pins; chains and webbings do not have wear, cuts or abrasions greater than 10% of their cross section; etc...
  Load binders can be used as an alternative to "dogs" to minimise the risk of injury.
- Refer to equipment manuals to make sure that all equipment is in good working condition and within the manufacturers guidelines.

People (Workers)

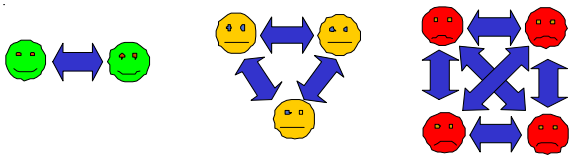
12. Loading Crew

The ideal Loading Crew is considered to be **2 workers only,** usually this would be:

- A loader (such as a crane/forklift driver) who is trained and aware of the site risks such as crane or forklift lifting limits, special product pack types etc... and;
- The truck driver, who understands the transport and delivery issues like weight distribution on the vehicle, load restraint, delivery order etc...

Three or more workers in a crew is not recommended for normal situations because:

- It is much harder for there to be a common understanding of the task and risks;
- It is more difficult for crane/forklift drivers to keep everyone in clear line of sight.



The more workers in your loading crew, the more chance of misunderstandings or losing sight of each other.

Working Alone

This is always a risk factor, but in some delivery situations, it appears unavoidable. Drivers working alone should:

- Be specifically trained to do so;
- Work steadily, not rushing and never cutting corners;
- Know when to get help rather than continue, e.g. Long packs being unloaded with a truck mounted crane in high wind - too risky!
- Be supported by supervisors & management for stopping if it was unsafe to continue.

No Passengers

Companies should consider a **"No Kids in Cabs"** policy all year round, this also applies to other unauthorised passengers and pets. This policy is for the safety of your passengers and yourself.

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Case Study 2 - Injury in Brisbane

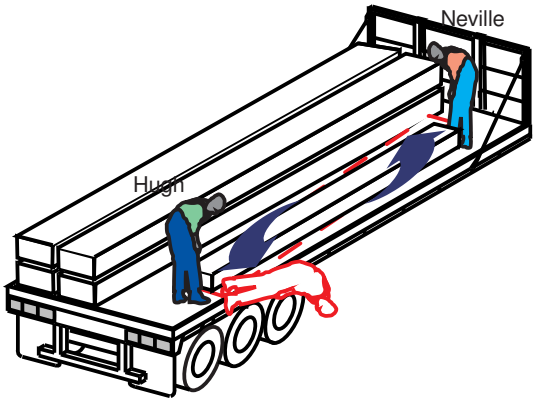
Muddled Communications & Falling Off Trucks

Two workers, Neville & Hugh were manually adjusting a load of 6m purlin packs on the side of a partially loaded truck. They were lifting and sliding the packs sideways to make room for another row of packs.

Neville at the front lifted and moved his end before Hugh was ready. As the front was moved inwards, the pack pivoted about its centre and the rear end moved outwards. Hugh was holding the other end, and with the unexpected movement, he lost his balance and started to fall over the side of the trailer.

As he fell, Hugh tried to grab the steel side pin & coaming rail, but in doing so he fell head first to the concrete floor.

Hugh suffered a fractured skull and was off work for over 3 months.



Key Issues:

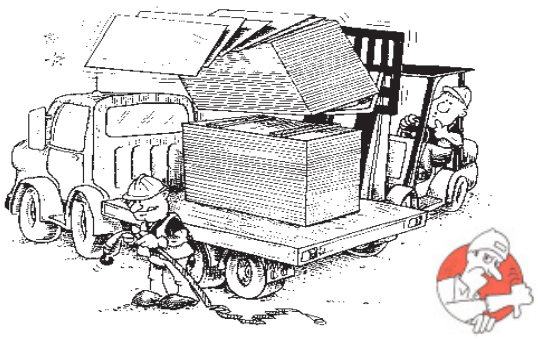
- *Plan to prevent being on the truck..*
- *Talk clearly and watch your loading partner.*
- *Risk Factors - Falling off trucks;*
  - Manual Handling.

People (continued)

13. Clear Communications

Along with a clear plan for the Loading/Unloading comes the need for the crew to communicate simply and very clearly at each step.

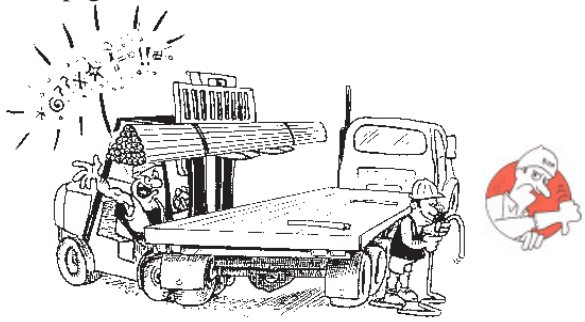
- **Look directly at your work partner** when giving an instruction or coordinating actions. See Case Study 2.
- **Work to the agreed plan, or stop** and inform other workers of the changes.



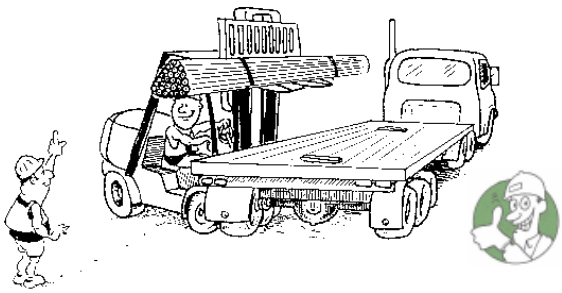
Working without a clear view of others is an unsafe act!

14. Can't See? - Can't Work!

- If you can't see your work partner, you can't be sure they are in a safe position. So stop work until they are visible and safe. See Case Study 1, on page 2.



Loaders should politely refuse to load or unload a truck until the driver is in the right position... "Can't See! Can't Load!".



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