

Drive it - the GBMA Way

**A Pocket Guide to Safe Forklift Operation
in the Plasterboard Industry**



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1. Introduction to GBMA and Purpose of Safe Forklift Operations

Welcome to the Gypsum Board Manufacturers of Australasia (GBMA) pocket guide to the 'Safe Forklift Operation in the Plasterboard Industry'.

GBMA, the industry body for plasterboard manufacturers operating in Australia and New Zealand, is strongly committed to health and safety. Members include BGC Plasterboard, CSR Gyproc, Etex (Siniat), Knauf and Winstone Wallboards.

The GBMA is committed to presenting a unified and co-ordinated approach, actively working towards addressing the safety challenges in our workplace to promote a safe and healthy work environment.

One of the key challenges the GBMA faces is ensuring safe forklift operations. Forklifts are used extensively in the plasterboard industry to lift, stack and transfer product. The GBMA acknowledges the important role forklifts play and recognises the considerable impact poor forklift safety practices can have on individuals, families and businesses.

As part of the commitment to promote and raise the awareness of safe forklift practices, the GBMA hosts an annual "GBMA Safety Challenge". This event has been running since 2001 and pits our safest and most skilled forklift operators against each other in a series of tests to demonstrate an excellence in safe forklift driving.

While this is an important event in our annual calendar, it is imperative that we focus on everyday forklift driving behaviours in order to improve and maintain safe practices and prevent any potential incidents.

This pocket guide provides practical guidance on managing risks associated with operating forklifts. Please take your time to familiarise yourself with the contents and keep it handy as a valuable reference.

We would like to acknowledge the assistance provided by National Industrial Skills Training Centre.

We hope you find it useful.

2. About This Guide

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This document has been produced as a Pocket Guide to Safe Forklift Operation in the Plasterboard Industry. We will go through important forklift driving behaviours to remind and help you stay safe both on and around your forklift. No matter how long you have been driving, it is the poor forklift driving practices that will put you and your mates at risk, so it is important we try to improve these habits, and in turn, improve forklift safety.

Small step changes in behaviour can deliver significant safety improvements. Just 1% can make a huge difference with a huge reward. Imagine this, the performance difference between 1st and 2nd place in the Melbourne Cup is just 1%, yet the difference in prize money is about 400%!

So be aware of safe practices and always consider and observe the things that we know will make a difference - speed limits, stop signs, wearing correctly fitted seat belts, slowing down, and sounding your horn.

3. Training Material

The GBMA recognises that on-going training in forklift driving techniques will lead to improved safety in our workplaces. It is intended that employees use this guide as a reference, both for themselves, and to assist when training forklift drivers.

This guide assumes that forklift operators hold a current high risk license or are under supervision. In NZ you must be 'OSH' certified and have a driver's license with an 'F' endorsement if driving on a public road.

A 'Safe Forklift Driving – Operational Checklist' can be found at the rear of this guide. Operators should regularly review this checklist to assess their current driving behaviours.

Other associated GBMA training materials include:

- The Safe Manual Handling Guide for the Plasterboard Industry
- Safe Site Delivery (Industry guide and pocket guide for carriers)
- The GBMA Load Restraint Guide.

4. Background

Forklift Safety is a challenging area for our industry and is a major focus for the GBMA.

Forklifts must be respected. While they appear small and quite nimble, they can weigh the same as an adult elephant, and a fully laden 2 tonne forklift can weigh more than 5,000kg – that's more than 3 times the weight of an average car!



Forklifts therefore, can be a major cause of serious injury in the workplace. They are heavy, powerful, and can be inherently unstable. We all know to get out of the way of a car and yet we do not necessarily exercise the same safety precautions around forklifts.

Every year around 1,060 (refer Safe Work Australia Study) people are injured by forklifts in Australian workplaces, and 8 – 10 people are killed. This makes forklifts one of the most dangerous pieces of equipment in the work area today.

5. Employer Responsibilities

While it is up to the employees to drive safely, it is the employer's responsibility to provide a safe work environment. All GBMA companies aim to provide well maintained forklifts, effective training, a traffic management plan, policies and procedures, and effective supervision to reduce the risk of forklift-related incidents.

6. Supervisors

Supervisors play an important leadership role in maintaining safe behaviours in the workplace.

Supervisors will exhibit the right forklift operation behaviours, and will not tolerate poor behaviours from operators.

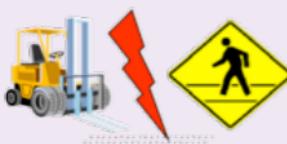
WHS/OH&S Legislation places a legal obligation on management at all levels to maintain a safe workplace and safe systems of work.

Pedestrian and Forklift Separation:



What Managers and Supervisors Must Do

- Abide by, and enforce, workplace policies and procedures
- Supervise operations to ensure forklift operators and pedestrians (including truck drivers) observe exclusion zones/designated safety zones at all times
- Take appropriate action (in line with policies and procedures) to address any breaches of controls by forklift operators, other workers, or contractors/visitors (including truck drivers)
- Engage all workers and contractors/visitors in consultation with developing or reviewing policies and procedures that achieve physical separation of pedestrians and forklift operations



6. Supervisors

Supervisors should assess the forklift operational behaviours in their workplace (Safe Forklift Driving - Operational Checklist found at the back of this guide). It is important to observe how the members of each team operate their forklifts.

Where possible, and using the completed Operation Checklist, supervisors should review driving performance with the operator at the end of each shift. Discuss areas for improvement and positively reinforce correct behaviours.

Never walk past an unsafe behaviour without correcting the behaviour.

7. Why Are Forklifts So Dangerous?

Forklifts are inherently unstable – small and heavy. They are designed to lift, stack and transfer product and to achieve this, they need to be easily manoeuvrable. Their compact design allows them to easily fit through narrow spaces and travel up ramps.

7.1 Forklift Stability

Forklift stability is a key issue. Even stationary forklifts can pose a risk with an average stability rate of 30 – 50%. With a load down, the stability margin is around 30 – 40%. And when fully elevated, the margin drops to as low as 15 – 20%, creating the possibility of the forklift tipping over. These stability rates are even lower when moving.

forklifts dangerous

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7. Why Are Forklifts So Dangerous?



Stationary forklift with load down (30-40%)



Stationary forklift with
fully elevated load
(15-20%)

7. Why Are Forklifts So Dangerous?

Overturning forklifts are a leading cause of fatalities involving forklifts, accounting for 20% of forklift related deaths. An operator who jumps or is thrown from an overturning forklift usually ends up trapped underneath.

Forklifts can tip easily if you:

- accelerate quickly in reverse
- brake too quickly – especially if loaded
- brake or accelerate while cornering or driving down a slope
- carry a load facing down a slope
- carry an unevenly balanced load
- collide with another vehicle
- drive across inclines or uneven ground/potholes (particularly with a height difference greater than 20mm across the front wheels)
- drive with tyres raised too high (with or without load)
- strike low doors or overhead structures
- turn too quickly

Most overturning incidents involve unloaded forklifts, which are much more unstable than a loaded forklift with a load carried low.

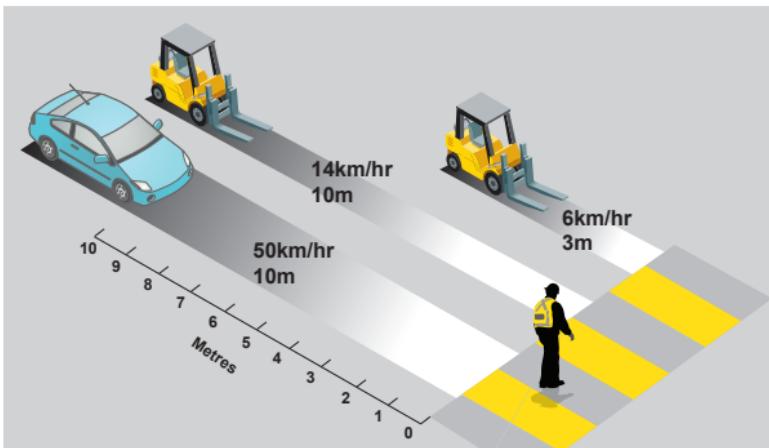
Forklifts dangerous

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7. Why Are Forklifts So Dangerous?

7.2 Braking

According to Worksafe Victoria, when driving at 14km/hr, a forklift requires 10 metres to stop safely. At walking pace of 6km/hr, a forklift needs up to 3 metres to stop.



Braking length required for:

Forklift (6km/hr – under 3 mtrs, 14km/hr – 10 mtrs)

Car (50km/hr – 10 mtrs)

Once you combine lower stability with greater manoeuvrability, and then add in uncontrolled traffic areas, it is easy to understand why forklifts pose so many concerns and are involved in so many incidents.

Even at low speeds, forklifts can cause serious injuries, and fatalities.

Remember their weight (equivalent to an elephant or 3 cars) - not even heavy duty safety boots would protect your foot should it be run over by a forklift.

And finally, it is not only the operator who is at risk, pedestrians are also exposed.

8. Forklift Driving Routines

The following safe behaviours are important to ensure a safe workplace. Sometimes you may need to modify these behaviours, so drivers should:

- on a daily basis, fill out a Pre-Operational forklift checklist to check the forklift condition and remind yourself of safe load carrying capacity
- periodically undertake shift thinking about new forklift behaviours
- periodically fill out a Post-Operational checklist and discuss possible improvements with your supervisor

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Always:

- treat your machine with respect
- wear your seatbelt when operating a forklift
- ensure that when parking the forklift, do not block exits or emergency equipment (a designated area should be set up for parking when not in use)
- follow your company policy for removal of keys from forklifts

Most importantly:

- Know your Forklift
- Know your Workplace
- Forklift Driving Skills

driving forklift routines

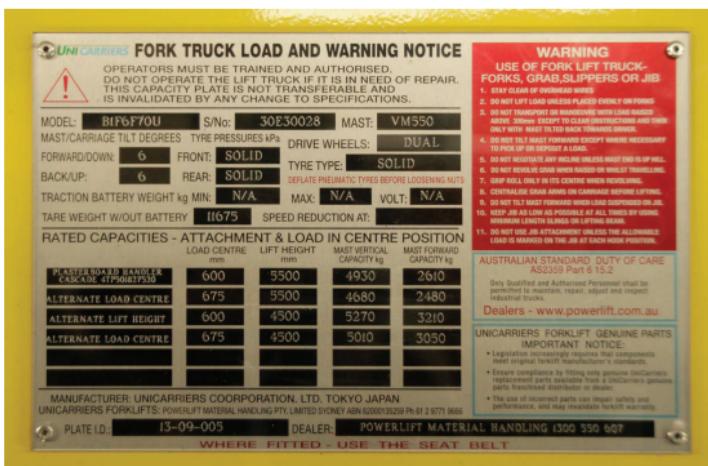
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8. Forklift Driving Routines

A) Know your Forklift

i) Always perform a Pre-Operational Inspection

- Complete the Pre-Op checklist before you begin.
- Be clear on carrying capacities and do not exceed these.
- Even if you work with the same forklift every day, it is a requirement to complete this check at the start of every shift (someone else may also have used it).
- Check tyres, mast, forks, hydraulics, controls, brakes, warning devices, and the capacity plate. If you see any potential issues, damage or problems, report this immediately to your supervisor.
- Never operate a forklift without confirming that the Pre-Op check has been performed.
- Follow your company policy on isolation if the machine is not fit for service.



Forklift capacity plate

8. Forklift Driving Routines

ii) Know what your machine can safely lift

- As part of the Pre-Op check, always review the capacity plate before you start.
Remember the weight, shape and size of a load, affects the way you need to lift it.
- A forklift's capacity (also known as the rated capacity) is the maximum weight it can safely carry at a specified load centre and a specified height. The rated capacity of a forklift must never be exceeded. (Be careful not to confuse the lifting capacity with the forklift model number).

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FORK TRUCK LOAD AND WARNING NOTICE LOAD CONDITIONS								
	MAST VERTICAL				MAST FORWARD TILT 6°			
	FORK LENGTH mm	FORK HEIGHT mm	LOAD CENTRE* mm	SAFE WORKING LOAD kg	FORK LENGTH mm	FORK HEIGHT mm	LOAD CENTRE mm	SAFE WORKING LOAD kg
FORKS	1070	4750	600	2355	1070	4750	600	1550
S.SHIFT	1070	4750	600	2220	1070	4750	600	1470
SLIPPERS	1800	4750	900	1815	1800	4750	900	1190
PAPER GRAB	850	4750	647	1440				
BALE GRAB	1400	4750	700	1200				

* LOAD CENTRE: Maximum distance from centre of load to front of (a) Fork, (b) Ram, (c) Grab Apron

8. Forklift Driving Routines

iii) Know the correct way to mount and dismount your forklift

One in three forklifts related injuries occurs while an operator gets on or off his machine. Therefore, remember the golden rule:

- When mounting or dismounting a forklift or reach, always face toward your machine and ensure 3 points of contact at all times.
- Ensure the parking brake is set, the tynes are lowered, and the controls in neutral.
- Always use grab points.
Do not use the steering wheel.
- Step down, do not leap or jump off.



8. Forklift Driving Routines

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iv) Know what attachments can be used with your machine and make sure they can be properly secured with a safety chain.

- Pins, chains or locking mechanism must be in place and correctly fitted.
- Forklift capacity plate must have the details of the attachment listed to ensure Safe Weight Limit (SWL) is understood.



Safety pin securing the spreader bar

8. Forklift Driving Routines

B) Know your Workplace

- i) Check your surrounds before using a forklift**
 - Before operating a forklift, look around for pedestrians, stationary equipment/objects, or any moving vehicles or equipment. Always maintain the required separation between your forklift and pedestrians.
 - Pedestrians: Always make eye contact and give way.
 - Other vehicles: Always make eye contact with the driver and if in doubt, give way.
 - Ensure that you always drive at a safe speed for the conditions in the warehouse.

- ii) Reversing your machine**
 - Before reversing your forklift, remember to look over both shoulders, ensuring you sweep the full 360 degrees. Remember, pedestrians and other traffic can approach from any angle.
 - Never rely solely on mirrors. By looking around you will also cover potential blind spots and gain a full picture of your surrounding area.

8. Forklift Driving Routines

iii) Pedestrians

- Pedestrians and forklifts do not mix. Almost half of all people injured by a forklift are pedestrians, and in many cases the forklifts were barely moving.
- Pedestrian exclusion zones must be enforced (refer to your company policy on forklift separation). This distance should be increased when the height of a load or the speed of the forklift increases. If a person approaches a forklift, ensure you turn off the forklift and apply the handbrake.
- All pedestrians/visitors should be walking along the dedicated pedestrian walkways. If you see this practice not being followed, slow down, stop and advise them to move to a walkway. You may need to use your horn to attract their attention. Do not continue until the pedestrian has adhered to this request. If they do not follow your instruction, turn off your machine, dismount, and speak with them personally.
- At no time can a pedestrian be lifted by a forklift, unless in an approved safety cage. In some cases they may also need to be attached to the cage by a harness.



Forklift waiting for pedestrian to cross

8. Forklift Driving Routines

iv) Using your horn

Always sound your horn when approaching corners and intersections, and driving through doorways.

When 2 forklifts meet (rounding a corner, or down an aisle), both drivers slow (or stop), acknowledge each other (eye contact), and indicate the direction they intend on travelling before proceeded.

v) Visibility

- There are times when visibility is poor and extreme care must be taken when you cannot clearly see your intended route. This may happen when:
 - a) the load obstructs your view while travelling up an incline
 - ask a colleague to act as a spotter to guide you
 - b) you are driving in reverse as a bulky load obscures your forward view (note – a load must lead when travelling up an incline)
 - ask a colleague to act as a spotter to guide you
 - c) there are hazards or obstructions on the floor
 - stop your forklift, dismount and remove them – make sure it is safe to leave your forklift and report the hazard to your supervisor immediately
 - d) you drive between light and dark areas
 - slow or stop your machine, allowing your eyes to adjust
- Be aware of blind spots created by the mast and other parts of the forklift. Even small parts may block out large areas of your view.
- If you know there are other people working or visiting the area, ensure you know their whereabouts at all times. If you lose sight of them – STOP immediately.
- Always work and park in well-lit areas to ensure the safest possible conditions.

forklift driving routines

8. Forklift Driving Routines

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Forklift driver using a spotter to assist on an incline



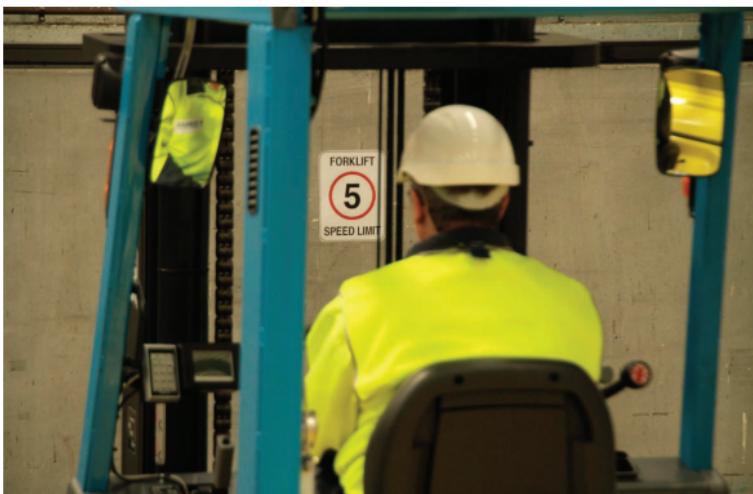
Forklift driver stopping to remove an obstacle

8. Forklift Driving Routines

C) Forklift Driving Skills

i) Always travel at a safe speed

- Obey speed limits and signs.
- Drive at speeds suitable for the ground surfaces and traffic conditions.
- Be aware of weather conditions as driving between wet and dry surfaces will affect tyre grip, braking and stability.



Forklift driving with speed signs visible

ii) Direction of travel

- Always face the direction of travel and constantly check for pedestrians and other traffic.
- If the load obscures your forward travel, you should drive in reverse. Always keep your hands inside the cab.

forklift driving routines

8. Forklift Driving Routines

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Forklift travelling forward



Forklift travelling in reverse (load in front obscuring forward vision)

8. Forklift Driving Routines

iii) Never raise or lower a load while your forklift is moving

- A major cause of forklifts tipping over is when the driver lifts or lowers his tyres (with or without a load) while the machine is moving. This can be made worse if the mast is tilted. A large proportion of forklift fatalities are as a result of a forklift tipping over.
- Given the unstable nature of a forklift, never raise or lower your tyres while moving.
An example when removing or placing product at a storage bay/rack:
 - position your forklift facing the storage location and stop
 - raise the tyres up to the correct position - pick or load away
 - reverse only far enough for the tyres to clear the product and stop
 - lower the tyres fully to the ground before moving away
 - do not reverse while raising or lowering the tyres
- When using the forklift to complete hand picks, ensure the tyres are raised at a safe height (no greater than knee height) providing a good working platform.
- Ensure your position allows you to view your surrounds and allows other traffic to pass.



Stationary forklift lifting product

8. Forklift Driving Routines

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iv) Never travel or turn a forklift while your load is elevated

- Each load must be carried, lowered, and set down according to the manufacturer's recommendations and safe working procedures.
- Ensure your tyres are always lowered before moving. It is not acceptable to drive with a raised load.



Forklift moving with a load lowered

v) Apply back tilt (with lowered load) before moving

- Loads are more stable when the back tilt is applied. This reduces the risk of the load moving forward when braking.
- Forward movement with a load can severely reduce the forklift's stability and increase the possibility of tipping.

8. Forklift Driving Routines

vi) Only use the forklift “as a forklift”

- Forklifts are designed to load, stack and transfer product. They are not people movers.
- Most forklifts are designed for a driver only so unless there is an additional seat, footrest and seatbelt, passengers must not ride on the machine.
- Raising people on tynes or pallets is extremely risky and therefore prohibited. People may only be lifted by a forklift if they are in an approved safety cage, if approved on your site
- Forklifts must not be used to bump pallets, push piles of material, and move heavy objects.

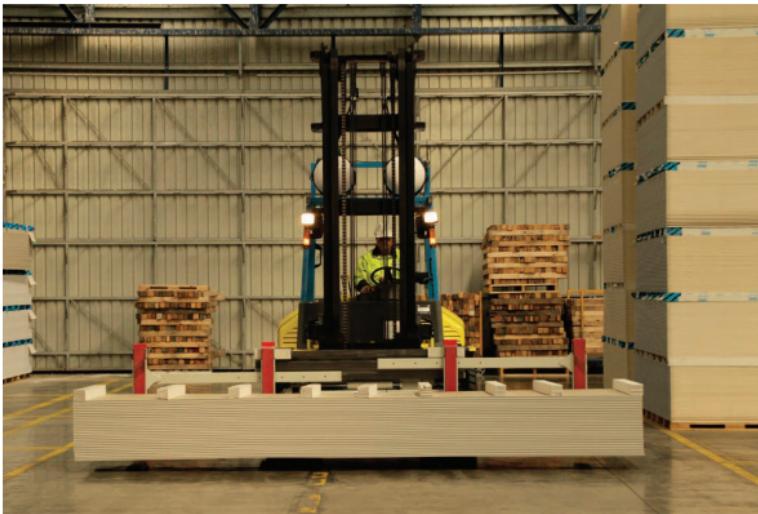


Forklift load with back tilt applied

8. Forklift Driving Routines

vii) Operating with adequate lights

- Forklift lights should be switched on when working in poorly lit areas, dusty environments, or when getting dark. This ensures that other moving vehicles and pedestrians can be seen by you and visa-versa.
- If in doubt – turn your lights on.



Forklift with it's lights on

9. Safe Forklift Driving - Operational Checklist

This checklist should be reviewed regularly by all forklift drivers. Supervisors also need to assess the safe forklift behaviours displayed by their team.

What safe operating behaviours am I observing today?

1. Pre-operational checks have been performed on all forklifts at the start of the shift

2. Forklift is stationary when load is raised or lowered

3. Forklift is travelling at a safe speed

4. Forklift driver looks around before moving his forklift

5. Before reversing, the driver looks over BOTH shoulders

6. Forklift driver mounts and dismounts using 3 points of contact and facing the forklift

7. When asked, the forklift driver knows the lifting capacity of his forklift

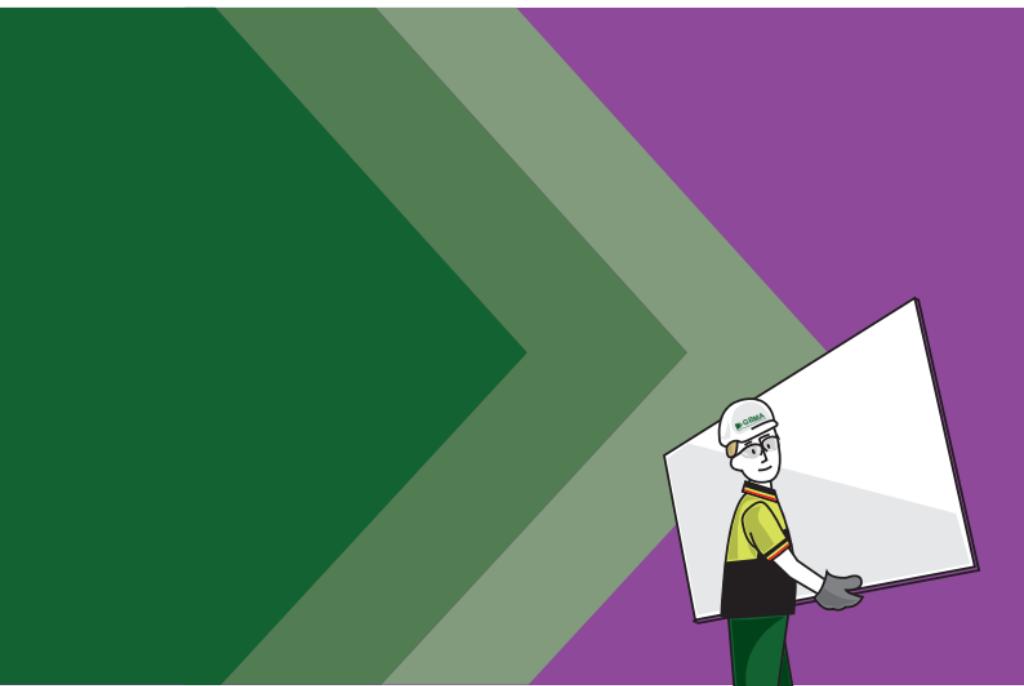
8. When a pedestrian enters the exclusion zone, the driver stops, lowers the load and applies the handbrake

9. When the forklift is moving, the driver faces the direction of travel

9. Safe Forklift Driving - Operational Checklist

10. The forklift driver ensures the route is clearly visible
11. Forklift loads are lowered before the forklift changes direction
12. Back tilt is applied once the load is lowered
13. Whenever a pedestrian approaches a forklift, the driver stops and applies the handbrake before signalling to the pedestrian to approach and turns off the forklift
14. Forklift drivers actively encourage pedestrians to use recognised walkways
15. The horn is sounded whenever a driver approaches a corner or blind spot
16. Forklift drivers use their headlights, particularly in dark or dusty conditions

General Comments/Notes:



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