

Move it - the GBMA Way

**A Guide to Safe Site Delivery of
Plasterboard and Associated Products**



Contents

Contents

Introduction and Purpose of Safe Site Delivery	3
Training	3
Background.....	4
A Plasterboard Ready Site.....	5
Confirming a 'Plasterboard Ready' Site	6
Placing a Plasterboard Sales Order to a Sales Office	6
Working Together to Achieve a Successful Delivery	7
On-Site Communication	7
Pre-Delivery Site Safety Check.....	9
Pre-Dispatch Process and Transport to Site	12
Load Make-Up	12
Load Configuration and Transport Chain of Responsibility (CoR)	13
Loading at Distribution Centre	15
Delivery Truck Requirements.....	16
On-site Job Execution.....	16
Arrival On-site	17
Site Risk Assessment for Delivery Personnel.....	17
Scaffolding/Restricted Access	18
Rubbish on Ground	18
Sharp Objects.....	18
Trenches.....	18
Insecure Planks.....	18
Use of Elevated Planks	18
Risk of Falling.....	19
Slippery Areas	19
Wind	19
Overhead Power Lines	19
Machinery Operating On Site	20
Unloading truck on site.....	20
Warming up.....	20
Board Carrying Limits	21
Personal Protective Equipment (PPE).....	22
Working at Heights	21
Unloading the Truck.....	21
Delivering Plasterboard to the Construction Site	24
Ground floor delivery / storage	24
Horizontal or Flat Stacking of Plasterboard.....	25
Timber Floors	25
Concrete Floors	25
Vertical or Edge Stacking of Plasterboard	26
Timber Frames	26
Plasterboard Restraints	27
Steel Frames.....	29
First Floor Delivery and Storage	30
Plasterboard Pass-ups – Internal.....	30
Plasterboard Pass-ups - External	31
Leaving the site after delivery.....	32
Glossary	33
Appendix	35
Appendix A – Site Risk Assessment Form	35
Appendix B – Safe Work Method Statement.....	36

Introduction and Purpose of Safe Site Delivery

Welcome to the Gypsum Board Manufacturers of Australasia (GBMA) guide for the “Safe Site Delivery of Plasterboard and Associated Products”.

GBMA is the industry body for plasterboard manufacturers. Members include BGC, CSR Gyproc, Etex (Siniat), Knauf and Winstone Wallboards who are committed to health and safety at every stage. This includes the manufacture and use of Gypsum board, related products and the practices associated with installation.

As a result of this commitment, the GBMA is actively working to provide information to address the safety challenges faced on a daily basis within the wall and ceiling industry and collectively, across commercial and residential construction sites.

The purpose of the GBMA “A Guide to Safe Site Delivery of Plasterboard and Associated Products” is to minimize hazards associated with the delivery and on-site storage of plasterboard.

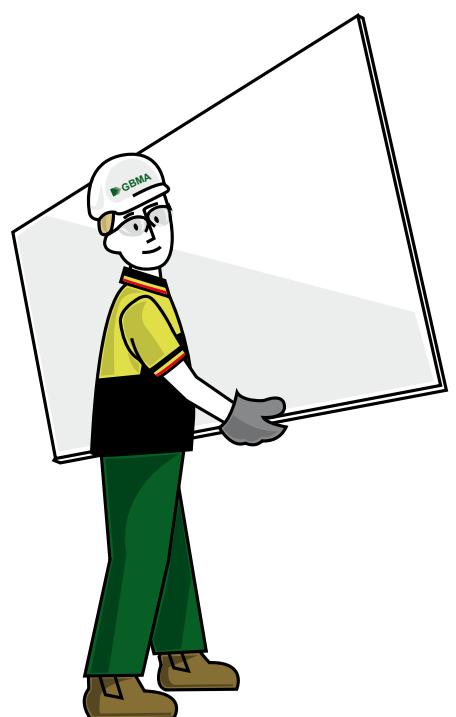
The guide builds on, and is complemented by, the GBMA’s most recent resource guide “Move it the GBMA way – A Safe Manual Handling Guide for the Plasterboard Industry”.

Through a thorough risk assessment process conducted by the GBMA’s occupational health and safety team, this information seeks to address the many risks or hazards that may potentially be faced in our industry.

It is worthwhile noting that the guide does not in anyway provide a guarantee against hazards or the inherent risks associated with industry tasks and does not compel GBMA members or others to supply or not supply to any particular operator. Instead, it does offer a quality resource for an industry best practice approach.

Subsequently, the GBMA recommends the guide should be considered by residential and commercial builders, plastering contractors and cartage principals as a tool to assist with providing safe workplaces and practices.

The GBMA would like to acknowledge the contribution and support of the Association of Wall and Ceiling Industries of Australia & New Zealand in the development of these guidelines.



Introduction and Purpose of Safe Site Delivery

Training

The GBMA recognizes that on-going training in safe site delivery techniques will lead to improved safety on site. This guide will form part of a training package that will include the following elements:

- Full version of the guide for industry contractors.
- DVD.
- Pocket guide for carriers covering site based activities.
- Training PowerPoint presentations.
- Trainer's guide.

Background

The wall and ceiling industries are concerned about the safe on-site delivery and storage of plasterboard.

Experience has shown that improperly handled and stored plasterboard can represent a safety risk.

Manual handling, including fixing, of plasterboard can be hazardous. And in extreme situations, incorrectly stored plasterboard has been known to fall over and injure people.

Every site principal, builder and plastering contractor has a duty of care to ensure the provision of a safe workplace. The failure to provide such a safe workplace is an offence which could attract severe penalties. Implementing the work practices in the guide can assist you to demonstrate that you have exercised proper 'duty of care'.

This guide has been adopted by GBMA members as representing the best practice standard to be followed in the delivery, storage, and handling of plasterboard on both commercial and residential building sites.

A Plasterboard Ready Site

Is the site ready to receive plasterboard?

To a large degree, the safe delivery and storage of plasterboard depends upon the builder/client providing the plasterboard carrier with a site that is ready to receive the material.

It is important that the site is easy to access to minimize the risk of injury to plasterboard carriers and as a consequence, the potential liability to the builder.

What is a 'plasterboard ready' or 'plaster ready' site?

A 'plasterboard ready' site is one that has clear and unobstructed access.

This means that:

Externally

- All rubbish is removed to allow a clear place for the truck to park and a clear pathway for the plasterboard to be carried.
- The truck parking location needs to be as close to the building as possible to enable passing of plasterboard straight to the building.
- Any trenches are covered with suitable ramps.
- The walk-way is clear and is not blocked by other tradespeople or equipment.

Internally

- Hallways are clear of rubbish and obstacles.
- The storage floor area is clear of any rubbish and obstacles.
- As far as possible there are no other tradespeople working in the hallways and storage room area.

It also means that plasterboard can be stored in a safe place where it is unlikely to be damaged. This typically means that:

- the roof is installed,
- the building is water/weather proof,
- the floor area where the plasterboard is to be stored is clean, clear, dry and free of obstacles.

Sites that are not 'plasterboard ready' can increase the risk of injury and product damage.

If risk assessment performed by the delivery carrier indicates that the site is not 'plasterboard ready', the GBMA recommends that delivery of plasterboard not go ahead until a 'plasterboard ready' site can be confirmed.

Look at the photos overleaf to see examples of sites that are 'plasterboard ready' and some which are not.

A Plasterboard Ready Site

'Not Plaster Ready'



Scaffolding obstructing the building access



Poor housekeeping increases the risk of injury



No clear access

'Plaster Ready'



Good access to site



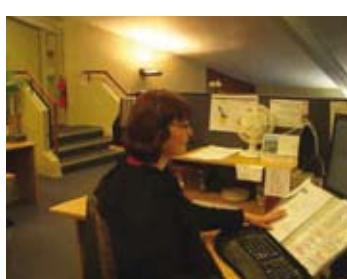
Excellent housekeeping



Clear internal access

Confirming a 'Plasterboard Ready' Site

Placing a Plasterboard Sales Order to a Sales Office



When placing a plasterboard order, there are a number of items that you should confirm to assist with delivery planning. These are:

- The site is 'plasterboard ready.'
- Site address.
- Site contact name and phone number.
- Product requirements.
- Service requirements.
- Delivery timeframes.

During the order process, the builder's representative may be required to confirm that the site is 'plasterboard ready' which means that the site has been checked and is free of hazards, thereby meeting the GBMA Safe Site Delivery recommendations detailed in this guide.

A Plasterboard Ready Site

During the order placement process it may be identified that a pre-delivery site inspection is required. This can occur when the 'plasterboard ready' status of the site cannot be confirmed or where there are unresolved issues with site access.

Other issues may include:

- When there is constraint of access to site,
- When there are site requirements for safety management plans,
- When labour is required for upper level placement,
- Delivery by crane,
- Commercial and multi unit sites.

Working Together to Achieve a Successful Delivery

On-Site Communication

To assist in achieving the objectives of a Safe Site Delivery, it is important to have effective communication between the driver and the builder's representative throughout the delivery process.

Ideally, before delivery of plasterboard and associated products, the driver should contact the builder's representative to complete the Site Risk Assessment sheet before delivery begins.

However, if the delivery team arrives on site and is unable to contact a builder's representative and the site is unattended, the Site Risk Assessment should still be completed and if requested, a copy left for the building site contact.

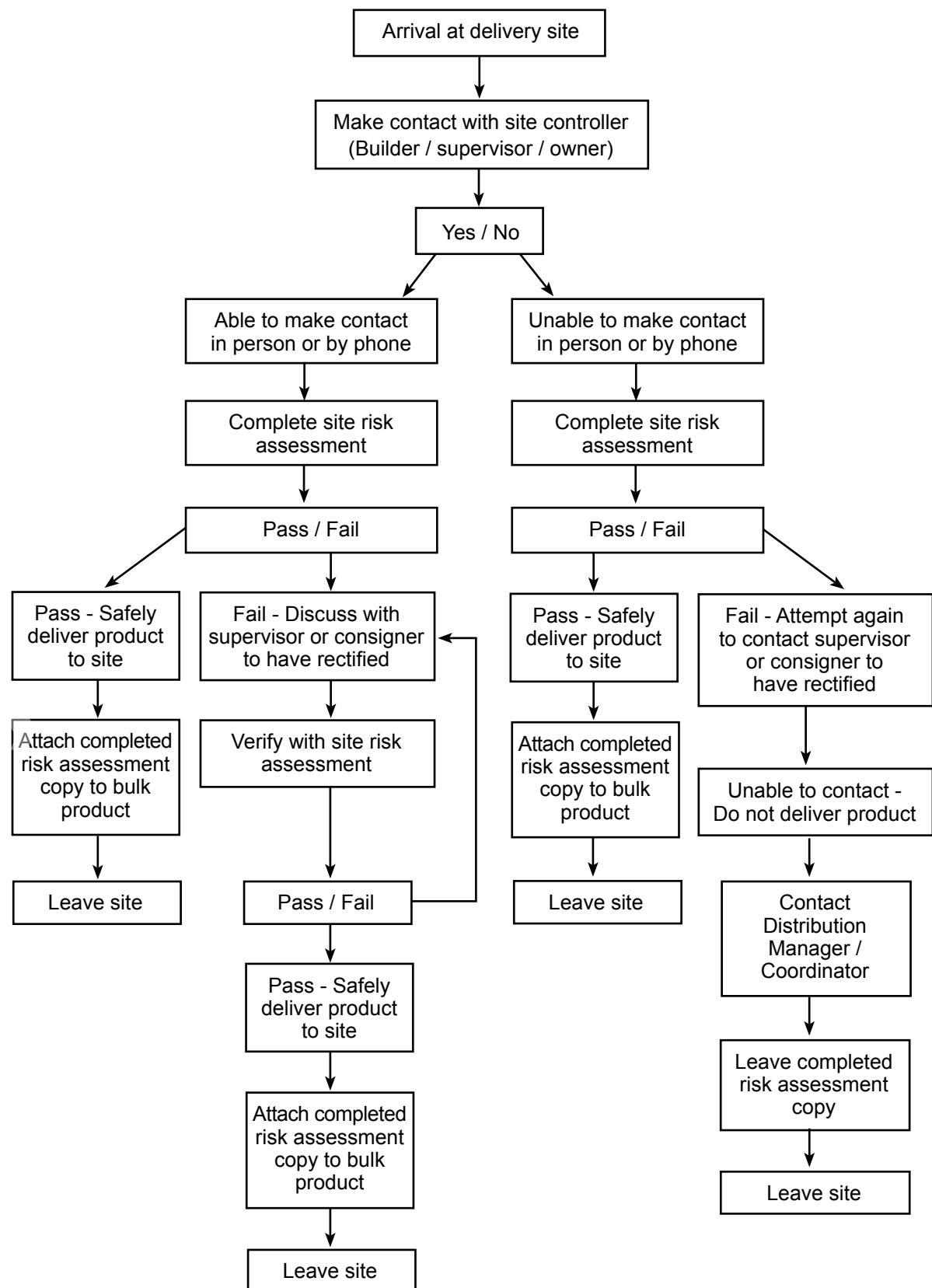
In the event that a site is not deemed 'plasterboard ready' on arrival, the driver should contact their Despatch Office to liaise with the customer on arrangements for site rectification or redelivery. A copy of the risk assessment should also be left on site with contact details provided.

Where the 'plasterboard ready' status of the site can't be confirmed or where there are unresolved issues with site access, a pre-delivery site inspection should be undertaken.

It is important that building sites are 'plasterboard ready' to ensure a safe working environment for carriers. Carriers normally only get paid upon delivered plasterboard, so it is vital, not only for their health and safety, but also their financial wellbeing that the building site is 'plasterboard ready'.

A Plasterboard Ready Site

Safe delivery to site – flow chart



A Plasterboard Ready Site

Pre-Delivery Site Safety Check

A pre-delivery site safety check helps to ensure the trouble free delivery of plasterboard where there are known to be issues with a delivery, multiple deliveries or complexity in site conditions which may require changes in the level of service.

For commercial sites, a pre-delivery site safety check is recommended. It may also need to be performed on residential sites where a 'plasterboard ready' site cannot be confirmed.

The purpose of the pre-delivery site safety check is to identify the service requirements of the delivery. Once these are confirmed, a hazard identification and risk assessment are completed to determine how the delivery can be achieved in a safe manner.

It is typically attended by either the builder or plasterer and plasterboard distributor's representative. During the pre-delivery site safety check, advice should be given to the builder or plasterer on what they should do in order to achieve the 'plasterboard ready' site standard using the GBMA Site Risk Assessment form. This in turn, forms the basis of the delivery team's safety and work.

Risk management is an important way to help protect your workers and your business, while at the same time assist you in complying with the law. It helps you to focus on the risks that really matter in the workplace – the ones with the potential to cause real harm.

The law does not expect you to eliminate all risks, that is not always achievable, no matter how desirable it might be. However, you are required to protect your workers as far as reasonably practicable. Risk management is one of the tools available to you to help achieve that standard. This is even more so where there is high risk construction work being performed.

High risk construction work includes working at or near:

- Heights of 2 metres or more.
- Electrical installations or services.
- Demolition.
- Roads or railway in use by traffic.
- Removal or disturbance of asbestos.
- Trenches or shafts deeper than 1.5 metres.
- Temporary supports for structural alterations.
- Telecommunication towers.
- Pressured gas distribution mains or piping.
- Chemical, fuel or refrigerant lines.
- Powered mobile plant.
- Explosives.
- Tunnels.
- Tilt-up or pre-cast concrete.
- Water that poses risk of drowning.
- Confined Spaces.

A Plasterboard Ready Site

1. Identify the risks - the first step in the risk management process is to identify the risks.

2. Conduct a risk assessment - A risk assessment evaluates the likelihood of an injury occurring, along with its probable impact or consequence. A simple risk matrix, which cross references likelihood and impact, enables risk to be assessed against these two factors and identified as one of the following:

- A critical risk.
- A high risk.
- A moderate risk.
- A low risk.
- A very low risk.

Risk Rating Matrix		Likelihood				
Impact		Rare	Unlikely	Possible	Likely	Almost Certain
Catastrophic	Moderate	Moderate	High	Critical	Critical	
Major	Low	Moderate	Moderate	High	Critical	
Moderate	Low	Moderate	Moderate	Moderate	High	
Minor	Very Low	Low	Moderate	Moderate	Moderate	
Insignificant	Very Low	Very Low	Low	Low	Moderate	

Urgent action is recommended for risks assessed as Critical or High risk.

A Plasterboard Ready Site

11

3. Conduct a Risk Control Hierarchy - Having established the relative importance of dealing with the identified risk, the risk control hierarchy ranks possible control measures in decreasing order of effectiveness. Risk control measures should always aim as high in the list as practicable. Control of any given risk generally involves a number of measures drawn from various options.

Hierarchy of controls

1	Eliminate the hazard	– remove it completely from your workplace. <i>if this isn't practical, then...</i>
2	Substitute the hazard	– with a safer alternative. <i>if this isn't practical, then...</i>
3	Isolate the hazard	– as much as possible away from workers. <i>if this isn't practical, then...</i>
4	Use engineering controls	– adapt tools or equipment to reduce the risk. <i>if this isn't practical, then...</i>
5	Use administrative controls	– change work practices and organisation. <i>if this isn't practical, then...</i>
6	Use personal protective equipment (PPE)	– this should be the last option after you have considered all the other options for your workplace.

4. Safe Work Method Statement - Once you have conducted your risk assessment it can then be inserted into your Safe Work Method Statement (SWMS), if required. The SWMS details how specific risks in the workplace will be managed. Therefore, the SWMS is prepared to cover a variety of tasks. A new risk assessment should be performed whenever the work site changes or when new hazards may be introduced. A generic SWMS will only meet the requirements if it has been reviewed in light of the hazards and risks on the site and amended as necessary.

Once the SWMS is developed and all employees are made aware of the steps within the SWMS, the SWMS must be signed off and followed. The SWMS creates an agreement for employees and contractors to adhere to whilst working.

Pre-Dispatch Process and Transport to Site

The purpose of this process is to encourage warehouse teams to include the customer's service requirements into the order preparation. This may assist the delivery team in achieving a safe site delivery.

12

Load Make-Up

Once both the plasterboard order has been confirmed and the site is deemed 'plasterboard ready', the order can be actioned.

It is recommended that warehouse teams check the order for any special order preparation standards that may be required. These may include:

- delivery order sequence of multiple drop loads,
- on-site board placement instruction,
- product placement instruction and positioning,
- pack size constraints for crane lifts and upper level floor loadings,
- product wrapping or strapping requirements.

Safe manual handling guidelines for the plasterboard industry are referenced in "Move it – the GBMA Way".

pre-dispatch
transport

Pre-Dispatch Process and Transport to Site

Load Configuration and Transport Chain of Responsibility (CoR)

Plasterboard and related products are loaded prior to delivery in many different configurations. All loads must conform to the Transport Chain of Responsibility requirements. Typical load configurations are shown below.

The Chain of Responsibility (CoR) legislation is made up of four sections that require compliance:

1. Load Restraint

All personnel involved in the loading operation are to ensure that all loads comply with load restraint requirements: -



- The transport contractor and transport driver are required to provide 50mm webbing straps with a minimum of 2000kg lashing capacity. Ropes are NOT recommended to secure loads, other than for small quantities of accessory products.
- The transport contractor and transport driver are required to strap ALL loads prior to leaving the distribution yard in accordance with the CoR requirements.
- All lashing equipment should be marked with the manufacturers minimum load rate lashing capacity which should not be less than 50mm x 2000kg rating straps (Refer to Australian and New Zealand Standard AS/NZS 4380 - 2001).
- It is the responsibility of the driver and loader to ensure that any dunnage used is fit for purpose, correctly positioned and restrained.

Pre-Dispatch Process and Transport to Site

2. Mass Management

All personnel involved in the loading operation are to ensure that all loads comply with mass management requirements of the CoR legislation: -

Under the CoR legislation, each trip undertaken by a heavy commercial vehicle (over 4.5 tonne) needs to comply with individual axle weights as well as Gross Vehicle Mass (GVM) or Gross Combined Mass (GCM) limits.

14

3. Load Dimensions

All personnel involved in the loading operation are to ensure that all loads comply with dimensional requirements. Specifically, 1350 mm and 1200 mm wide plasterboard cannot be loaded side by side.

4. Fatigue Management

All personnel should avoid incentives or demands that may cause fatigue or breaches of work/rest hours.

Pre-Dispatch Process and Transport to Site

Loading at Distribution Centre

It is a general OH&S requirement that all delivery team members be inducted and adhere to the safety and Personal Protective Equipment (PPE) standards of their respective sites.

Prior to loading the site delivery order, the dispatcher will issue work instructions for the planned delivery to the delivery team.

Consideration should be given to the following.

Prior to loading	During Loading
<ul style="list-style-type: none">• Review the delivery plan.• Review the completed GBMA Site Risk Assessment if available.• Review any site instructions.• Confirm the route plan.• Check for any special safety requirements such as use of hard hats or inducted staff.• Ensure you have sufficient time for the delivery plan.• Allocate specific responsibilities to delivery team members.• Communicate the delivery plan to the team subject to the completion of the GBMA Site Risk Assessment on arrival to site.	<ul style="list-style-type: none">• Adherence to site PPE and loading platform safety standards.• Work at height risks observed and complied with.• Check the correct loading of product description and quantity.• Loading for delivery sequence.• Weather protection covers applied, if required.• Load restraint applied and checked.

Delivery Truck Requirements

Plasterboard and related products require delivery trucks suitable for the task. Trucks should carry appropriate equipment to ensure that the task of transporting, unloading and delivering plasterboard and other products is carried out in a safe manner.

This can include the following recommendations:

- Safety railing.
- Independent height adjustable steps.
- Permanent foot rail fixed to the side of the truck to assist in unloading. Alternatively, a rail could fold down from under the tray.
- Adjustable leg trestle steps can be used as an alternative to built in foot rails.
- Trolleys used in accordance with Manufacturer's recommendations.
- Adjustable/expandable planks.
- Temporary hand rails to allow safe access to the rear of the truck.
- Ladders either inbuilt or attached to the tray to access the truck tray.



Side gates open, accessories restrained to head board.



Trolley, trestles and adjustable plank.



Compounds restrained by side gates.

On-site Job Execution

The delivery and storage of plasterboard and associated products on-site can be a hazardous operation involving manual handling and work at height risks. These risks may be increased when the site is not 'Plasterboard Ready'. The information contained in this section provides guidance on how to minimize the risk of injury to carrier/personnel delivering and storing product on site.

Arrival On-site

Site Risk Assessment for Delivery Personnel

OVERVIEW

This process has been developed to assist in improving consistency in assessing health and safety hazards that may exist on delivery sites. The focus is to provide delivery personnel with a checklist that can assist in the identification of those hazards that require additional care and attention by the team during the delivery process.

PROCESS

Upon arrival at the delivery site or during team brief, the team should nominate one person to supervise the delivery process eg: Delivery Supervisor. This individual can then conduct the Site Risk Assessment using the guidelines specified in this manual.

Under no circumstance should scaffolding or stair void protection be removed or tampered with.

It is strongly recommended that the builder's site representative be contacted first regarding the removal of any non-certified safety railing. Any non-certified railing that is removed is to be returned to the original condition at the end of the work and the builder's site representative notified.

Examples of Site Hazards

Scaffolding/Restricted Access

Teams should seek access ways that minimise the risk of injury. Scaffolding is NOT to be removed or dismantled by any members of the team – only certified personnel are permitted to carry out this action.



Rubbish on Ground

Walk-ways need to be free of rubbish and other items that can lead to trips or falls.



Sharp Objects

Take care to identify potential hazards such as nails/screws/reinforcing steel and other sharp objects.



Trenches

If you need to cross any form of trench or gully on site, ensure that a secure and strong bridge-way is in place.



Insecure Planks

Often walk-ways will comprise of a builder's plank or other timber. If you are required to carry board over such walk-ways, make sure the plank is robust, and securely fastened.



Use of Elevated Planks

The use of elevated planks can lead to an unsafe act and is not consistent with working at height guidelines.



On-site Job Execution

19

Risk of Falling

Assess the area where a potential fall could occur. Is the height greater than the legislated maximum height?

For example: Aus 2.0 metres, NZ 3.0 metres. If 'yes', then staff are not permitted to operate closer than 2.0 metres from the unguarded edge without fall restraint measures in place.



For any other unguarded edge occurring where there is less than the legislated maximum height, it is essential that operators observe the following:

- The operator must not walk within 500mm of edge while carrying plasterboard.
- Operate with extreme caution.
- Plasterboard placement must not narrow any walk-way below 800mm.

Slippery Areas

Check the footing you and your team are likely to confront BEFORE you have plasterboard in your hands.



Wind

Plasterboard becomes a significant 'sail area' when carrying in windy conditions. Ensure that an additional team member is on the down-wind side to support those who are carrying the board when conditions are windy.



Overhead Power Lines

Overhead power lines represent a hazard particularly where cranes or pass-ups may occur. Check that the path way is clear of any overhead power lines.



Machinery Operating On Site

Often, other machinery operates on site whilst a delivery is taking place. This is especially true of some of the larger commercial sites. Ensure the walk way is clear of machinery and ALWAYS be aware of machinery on site.



Unloading Truck On-site

It is recommended that when unloading plasterboard off the truck that workers carry within their own personal carrying capabilities. The use of board carrying devices is an acceptable practice.

Evaluate the lifting task, ensure the travel way is clear and that wind is not a risk factor. Hold the board at the top and bottom or both hands at the bottom edge and carry close to your body.

A co-ordinated effort is required to prevent injury. Where possible, have two people matched in height, and nominate one person to control the lift.

Warming up

Lifting, lowering, pushing, pulling, carrying, moving, holding, restraining objects and repetitive work tasks such as moving objects from one location to another.

These are all manual handling tasks which involve using your own muscular strength to move or support an object that places a manual handling load on your body.

To prepare your body for the manual handling tasks ahead, it is recommended that you should warm up and stretch at the start of every shift and before lifting heavy objects.

Here are some typical warm up exercises. For further information refer to “Move it the GBMA Way” – a manual handling guide for the plasterboard industry.



Shoulder Stretch

- Clasp your hands behind your back.
- Gently raise your arms up and hold for 10 seconds.
- Relax.
- Perform gently three times.



Arm Stretch

- Extend your arms up overhead.
- Link the fingers with the palms turned upwards.
- Hold for ten seconds.
- Relax.
- Repeat three times.

This stretches the arms, upper back and shoulder muscles.



Thigh Stretch

- Bend your left leg and grab your toes.
- Extend your right arm for balance or hold onto a support.
- Hold for ten seconds and repeat for the other leg.
- Do it three times.

Unloading Truck On-site

Board Carrying Limits

Repetitive lifting of heavy weights can have a long term detrimental impact on the back. Every Operator should only carry the number of sheets they are comfortable carrying.

Deliveries to site should be carried out in a professional manner. Care should be taken to avoid any damage to products or property and that the delivery is to the customer's satisfaction.

When carrying board in teams, it is important that the capabilities of the team members are matched. For further information on manual handling techniques refer to the "Move it the GBMA Way – A Safe Manual Handling Guide for the Plasterboard Industry", produced by the Gypsum Board Manufacturers of Australasia, and "It's not a Board Game" produced by the Department of Education, Employment and Workplace Relations, marketed through the Association of Wall and Ceiling Industries of Australia & New Zealand (AWCI).

Personal Protective Equipment (PPE)

Any Personal Protective Equipment (PPE) that is site specific must be worn at all times whilst on the site.

The GBMA recommends the following items of PPE as a minimum PPE standard:

- Safety footwear.
- Safety Glasses.
- Safety Hi-Vis vest.

Working at Heights

When passing plasterboard down from a truck to ground level or when using platforms and ramps that are above ground level, the use of the following equipment may help to improve safety on site:

- Safety harnesses.
- Temporary safety barriers.
- Handrails to assist in getting up and down from truck trays.

Unloading Truck On-site

Unloading the Truck

Before lifting plasterboard, make sure that you have a secure foothold when lifting as well as a stable platform from which to work. Where the load height permits, the carriers shall slide the plasterboard sheets off the top of the load and carry them to the plasterboard storage location (refer to “Move it the GBMA Way”).

Where the load height prevents the top boards being accessed from ground level, the carriers should employ safe methods of removing the board and delivering it safely to ground level. It is important that fall from height protection is incorporated to assist in performing the task safely.

22



Unloading Truck On-site

Below is another example where the use of built in foot rails can assist the carrier to retrieve top boards from the stack of plasterboard sheets. The foot rails can be fixed or retractable and stored up under the truck tray.



Note the trestles have independent adjustable legs for stable footing on all surfaces.

Delivering Plasterboard to the Construction Site

delivering

24



Unlike most building materials, plasterboard and associated products are delivered inside the building.

This practice has long been accepted as normal.

However there are potential hazards associated with the delivery and storage on-site which may include:

- Plasterboard stacked on edge (can fall and cause injury, also board damage).
- Flat stacked plasterboard overloading flooring.
- Placement of plasterboard in confined space.
- Delivery of plasterboard into second storey buildings.

Note: To ensure that plasterboard is stored safely, securely and to protect it from damage: GBMA strongly recommends that plasterboard be stored horizontally.

Ground floor delivery / storage

Before delivering the plasterboard to the building, the following steps should be undertaken by the carriers:

1. Complete site risk assessment to identify potential hazards.
2. Ensure appropriate corrective actions are implemented.
3. Ascertain floor structure i.e. concrete or timber.
4. Consider the placement of plasterboard and hazards it may create i.e. trip hazard, confined space, overloading the floor or if on edge, falling of board. All plasterboard delivered to site must be left in a safe and secure manner. The default and most stable position for stacking of board is flat and on even surfaces.
5. Using a coordinated approach, systematically deliver the board to each area of the building minimising obstacles along the way.

Horizontal or Flat Stacking of Plasterboard

Load restrictions apply to the number of plasterboard sheets that can be stacked horizontally.

The size of the load is dependent upon the type of floor material. Based on a standard floor live load capacity of 1.5KPa the following information applies for both timber and concrete floors.

Timber floors

20 sheets maximum (approx. 200mm) with no other material stacked within 1 metre of the plasterboard stack (whether ground floor or subsequent levels).

Concrete floors

Ground Floor

30 sheets maximum (approx. 300mm) with no other material stacked within 1 metre of the plasterboard stack on concrete floors.

Above Ground Floor

20 sheets maximum (approx. 200mm) with no other material stacked within 1 metre of the plasterboard stack on concrete floors.

"In a perfect world all buildings would have plenty of access, be on a level site and be plaster ready!"

Unfortunately we do not live in a perfect world and as a result, compromises do sometimes have to be made. However, one exception that cannot be made is safety! This may mean that a second alternative to flat stacking may sometimes be required.



Concrete floor max stack height = 300mm
Timber floor max stack height = 200mm

Vertical or Edge Stacking of Plasterboard

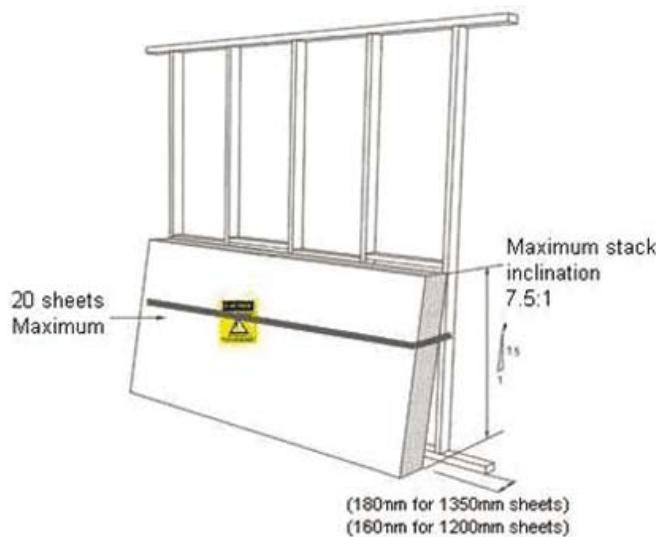
NB: The GBMA strongly recommends that plasterboard be stored horizontal. Only where this option is not available should plasterboard be stored vertically.

26

All plasterboard delivered to site that cannot be stacked flat will need to be secured to prevent it from falling. There are several methods of securing plasterboard and some are shown below.

Timber frames

- For both the ground and subsequent floors, a maximum limit of 20 sheets per pack can be stacked on edge at any one location.
- They should be stacked preferably against structural brickwork, or on internal framed walls which have an intersecting wall at 90 degrees, whereby the load is supported by the intersecting wall.
- The distance from the base of the plasterboard to the vertical wall should be at least 160mm for 1200mm sheets and 180mm for 1350mm sheets.
- All stacks must be secured and should be capable of having the restraint re-applied.
- Edge stacked plasterboard should be labelled with a CAUTION sign similar to example below.



Vertical or Edge Stacking of Plasterboard

Plasterboard Restraints

Securing vertically stacked plasterboard is a higher risk storage method and special attention should be paid to providing an appropriate restraint mechanism. Restraints:

- Must be strong enough to do the job.
- Be easily detached and reapplied.
- Include a CAUTION sign that is attached to the plasterboard.

The following example below is an example of a plasterboard restraint.



In the event that the plasterboard is unable to be secured in the ways described above, then contact should be made with the Builder's representative and an agreement reached on an alternate storage location. Under NO CIRCUMSTANCES should plasterboard be left in an unrestrained condition.

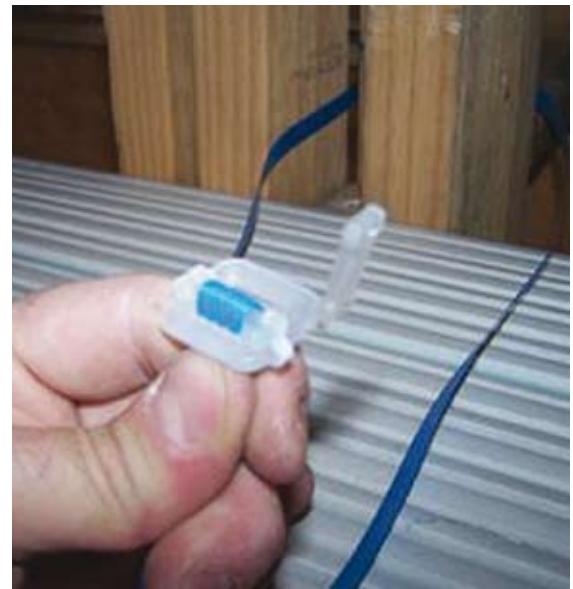
Stacking

Vertical or Edge Stacking of Plasterboard

28



Note the CAUTION sign clearly visible on the front of the stack



Example of edge stacked plasterboard secured by Poly Propylene strapping and buckle.



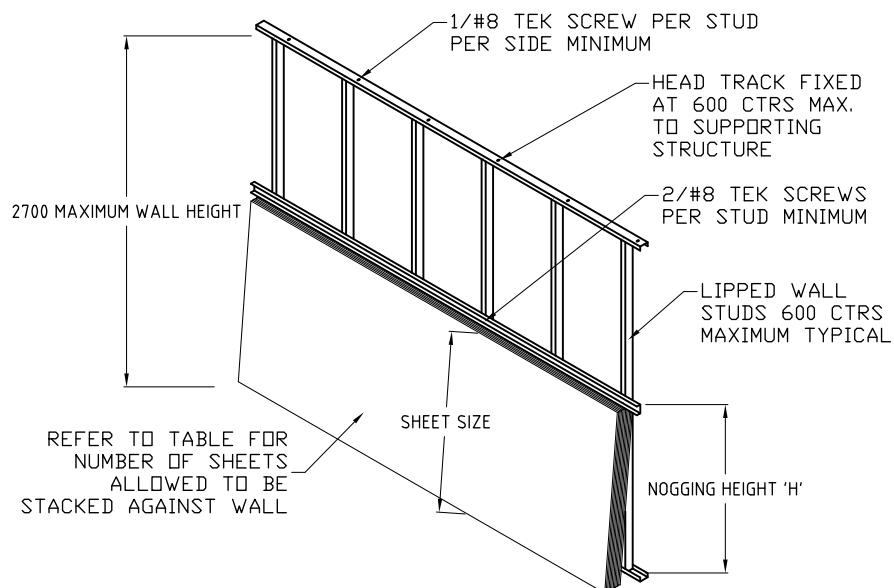
Vertical or Edge Stacking of Plasterboard

Steel frames

It is critical that the plasterboard is placed against the steel frame at an angle that is set by attaching an additional temporary noggin to the steel frame. See photos below.

Steel frames do not have the same structural rigidity as timber until after the plasterboard has been fixed to it. Greater care should be taken when assessing the load carrying capacity of the structure against which the plasterboard will be placed.

A maximum of 10, 13mm sheets, or sheets of equivalent mass, can be placed against steel framed walls.



STACK LIMITS FOR PLASTERBOARD SHEETING AGAINST STUDS		
SHEET SIZE	NOGGING HEIGHT 'H'	No. OF SHEETS
1200 WIDE	1189	10
1350 WIDE	1336	8

In the event that the plasterboard is unable to be secured in the ways described above, then contact should be made with the Builder's representative and an agreement reached on an alternate storage location. Under NO CIRCUMSTANCES should plasterboard be left in an unrestrained condition.



First Floor Delivery and Storage

Manual handling of plasterboard carries the risk of injury and these risks may be increased when positioning and storing plasterboard in upstairs locations. The GBMA strongly recommends the use of mechanical lifting devices in the placement of all plasterboard to upper levels.

Plasterboard Pass-ups – Internal

NOTE - The GBMA strongly recommends the use of mechanical lifting devices such as crane trucks and the use of fall arrestor devices, such as harnesses, for all pass-ups.

When passing sheets up or down levels, total control of the board is essential. Designate a leader that controls the lift from the upper level. Co-ordinate your efforts, so that you work as a team.

Sheets should be kept vertical (on edge) to prevent damage. Use a mat to protect the building and the plasterboard.

The team on the upper level is to take control of the board by grasping one end and taking the weight off the team on the lower level.

Long sheets require two operators on the ground level when passing up board. When sheets are passed up on 'the flat', or on their edge, the face or edge of the plasterboard sheets are to be protected in an appropriate manner.

The lead operator on the upper level should be restrained by means of a safety harness when receiving the board from the lower level.

Plasterboard should be neatly stacked to avoid sheet distortion, damage or moisture absorption.

Sheets stacked flat on a concrete floor should be separated from the floor surface by a moisture barrier such as polythene sheet or placed on bearers.

In all instances, flat stacked sheets must not be stacked more than 200mm high.



Example of using a mat to protect the edge of boards



Example of good lifting practice



Example showing the use of a fall arrest harness

First Floor Delivery and Storage

NOTE - The GBMA strongly recommends the use of mechanical lifting devices such as crane trucks to avoid the need for manual external pass-ups.



A good example of truck with safety rails and positioned close to a second storey balcony carrying out a pass up

Plasterboard pass-ups – external

Mechanical lifting devices, such as crane trucks, can significantly improve the on site safe delivery of plasterboard by reducing the amount of manual handling required to deliver plasterboard to the required location on the building site. Manual pass-ups require significant time, effort and labour to perform the site delivery in a safe manner.

Leaving the Site After Delivery

Before leaving the site the following actions should have been completed:

- A copy of the site Risk Assessment is attached to the delivered Plasterboard.
- Plasterboard stacked vertically is secured in accordance with this guide.
- Caution signs have been placed on vertically stacked plasterboard.
- If non-certified safety railing has been removed in order to achieve access, then in the case where the contractor had approval to remove the safety railing, it must be replaced before leaving the site. In the case of certified systems, where a licensed operator is required to remove the safety railing the site supervisor must be notified prior to leaving the site.
- Check that the site is restored to how you found it and that no rubbish or scrap has been left behind on site.
- Check that any mud and/or dirt has been removed from the building and the truck.

Glossary

Builder's Representative

Is the person representing the builder who is responsible for the organisation of goods and services to the site.

Carrier

A transport operator who delivers plasterboard and associated products to site. Sometimes referred to as a Carter.

Chain of Responsibility (CoR)

Means anybody, not just the driver, who has control in a transport operation, can be held responsible for breaches of road laws and may be held legally liable.

Crane

Equipment for lifting and moving heavy objects.

Dunnage/bearers

Timber, plaster or plastic blocks, gluts or billets, on which the load is placed.

They are generally sized and spaced on the load so that forklift trucks can be used to safely load and unload trucks.

Duty of care

Is the responsibility of individuals and organisations to provide safe systems and a safe place of work.

Edge stacking / Vertical Stacking

The placement of plasterboard on its edge, leaning against a vertical wall.

Fastener

A restraining mechanism for the purpose of securing plasterboard in the vertical (on Edge) position.

Fatigue

Tiredness

Flat stacking / Horizontal stacking

The placement of plasterboard on a flat surface, usually a floor.

GBMA

The Gypsum Board Manufacturers Association is an industry group comprising five Plasterboard Manufacturers in Australasia these include BGC, CSR Gyproc, Etex (Siniat), Knauf and Winstone Wallboards.

Hazard

Something that could cause harm to people, property or the environment.

Load Dimensions

The length, width, and height of the load must comply with CoR requirements.

Specifically, 1200mm and 1350mm width plasterboard cannot be loaded side by side.

Load Restraint

The securing of the load in accordance with the CoR requirements.

Mass Management

The total mass of the load and the distribution of the load over the individual axles in accordance with the CoR requirements.

Pass-Up

The manual raising of plasterboard, usually from ground floor to first floor.

Plaster Ready

Site housekeeping has been conducted in preparation for the safe delivery of plasterboard.

PPE

Personal protective equipment.

Risk

The probability or chance that a hazard will cause injury or harm.

Safe Work Method Statement

A SWMS outlines the methods that will be used to do a specific job and outlines how the hazards can be managed.

Safety Harness

Equipment used to prevent individuals falling from height.

Site Risk Assessment

An assessment of the likelihood of something causing harm to people.

Work at Heights

A specific category of safety hazard which requires particular attention once there exists a height differential of more than 2.00metres (Note: Legislation differs from state to state) between the work platform and a surface below.

Appendix

35

Appendix A - Site Risk Assessment Form

Customer Name:		Delivery Document ref:	
The risk assessment check list should be used as a guide when completing this risk assessment.			
Activity	Hazard and Control		
1. Gain access to site	Meet the Supervisor		
2. Access from Truck to Building			
3. Access to Building			
4. Access within Building			
5. Product Placement			
6. Exit from Site			
Site specific Activities, Hazards & Controls			
<input type="checkbox"/> Scaffolding / Restricted Access		<input type="checkbox"/> Wind	<input type="checkbox"/> Insecure Planks
<input type="checkbox"/> Slippery Areas		<input type="checkbox"/> Protruding Objects	<input type="checkbox"/> Machinery Operating
<input type="checkbox"/> Trenches		<input type="checkbox"/> Risk of Falls	<input type="checkbox"/> Rubbish on Ground
<input type="checkbox"/> Overhead Power Lines		<input type="checkbox"/> Stairs	<input type="checkbox"/> Floor Loading Limits
Safety Equipment			
<input type="checkbox"/> Required PPE		<input type="checkbox"/> Crane	<input type="checkbox"/> Required Manpower
<input type="checkbox"/> Trolleys		<input type="checkbox"/> WAH Harness(s)	
Board Storage Locations	Method of Storage	Number of Boards	Hazard and Control

Copy to customer

Appendix

Appendix B - Safe Work Method Statement

SAFE WORK METHOD STATEMENT - SAFE DELIVERY & STACKING OF PLASTERBOARD ON SITE

COMPANY NAME:

WORK ACTIVITY/TASK: Delivery & stacking of plasterboard on site

DATE:

PREPARED BY:

SIGNATURE:

NOTE: This SWMS is designed for the safe delivery & storage of plasterboard to and on site. The GBMA recommends horizontal stacking of board when and wherever possible however recognizes that due to the nature of some building sites eg full brick construction sites in WA, vertical stacking of board may be the only option. In this instance this SWMS must be signed by the relevant contractor and their employees and particular attention must be made to securing the board, Item 5 below.

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
1	Parking of Truck	<ul style="list-style-type: none">Building materials or other obstructionsDistance to unload pointUnstable or slippery groundExcess gradientPedestrian and vehicular traffic	<ul style="list-style-type: none">Ensure area is clear of any obstructionsPark truck as close as possible to the unloading pointConduct inspection of ground to ensure sufficient support & traction for vehicleConduct inspection of ground to ensure gradient is within vehicle capabilitiesReport to site supervisor or the person responsible for arranging transport to site; if vision to manoeuvre vehicle obstructed use a person to guide vehicle movements	<ul style="list-style-type: none">Site ManagerTruck DriverTruck DriverTruck DriverTruck Driver

Appendix

appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
2	Determine suitable access and unload point for delivery	<ul style="list-style-type: none"> • Trip, slip and gradient hazards • Climatic conditions eg wind, heat and rain • Manual handling sprains and/or strains due insufficient room to carry and manoeuvre board • Manual handling sprains and/or strains due to the room or area being too small for size of goods eg 6m plasterboard for a 5m room • Collapse of structure due to goods exceeding point loading capacity where they are to be placed. e.g. upstairs on a timber floor • Manual handling sprains and/or strains due to insufficient room between stacks of goods 	<ul style="list-style-type: none"> • Ensure path is free from trip, slip hazards and that gradient is suitable • Ensure sufficient hydration and UV protection is provided in hot &/or humid weather; ensure suitable clothing is provided to maintain body temperature in cold weather; ensure wet weather gear is provided if raining; if winds are excessive, either seek additional assistance or return goods to despatching site • Ensure planned delivery path allows sufficient room to carry goods without compromising safe manual handling practices • Assess the dimensions of area/ room to ensure it is sufficient to accommodate the goods • Seek advice from site supervisor or owner as to suitability of planned staging area for goods prior to unloading. Advice may need to be sought from registered builder or engineer in regard to loading capacity • Ensure sufficient room to follow safe manual handling practices 	<ul style="list-style-type: none"> • Truck Driver • Truck Driver • Truck Driver • Truck Driver • Truck Driver / Site Supervisor • Truck Driver

Appendix

Appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
3	Unload Plasterboard	<ul style="list-style-type: none"> • Fall from height standing on tray of truck • Fall from height standing on goods on tray of truck • Fall from heights >2m (residential sites in Queensland >3m ref: Workplace Health & Safety Regulation 2008 Section 317) • Manual handling sprains & strains • Injury to public 	<ul style="list-style-type: none"> • Three point contact to be maintained whilst climbing on tray of truck • Ensure sufficient room on tray of truck to stand and manoeuvre goods • Risk assessment to be conducted to determine controls to be implemented. eg fall arrest equipment, edge protection/safety rails, scaffolding (if scaffolding used, a licensed scaffold must be sought to install, remove or alter) • Truck drivers/carriers trained in safe manual handling practices; this includes the need to estimate weight of goods and to determine whether able to carry goods and/or need to seek assistance or use of lifting aids • Provide barriers to restrict pedestrian access to work area eg approved warning signs, physical barriers or traffic controller 	<ul style="list-style-type: none"> • Truck Driver • Truck Driver • Truck Driver/ Site Supervisor • Carrier/ Truck Driver • Truck Driver
4	<p>Carry plasterboard to site - Ground floor</p> <p>Note: Horizontal stacking is the preferred option when & wherever possible</p>	<ul style="list-style-type: none"> • Manual handling sprains & strains • If vertically stacked, crush from plasterboard falling when leant against structure 	<ul style="list-style-type: none"> • Ensure truck drivers/carriers have been trained in safe manual handling practices; this includes the need to estimate weight of goods and determination of ability to carry that weight and/or seek assistance or use of lifting aids • When stacking sheets vertically against framed walls pay particular attention to: <ul style="list-style-type: none"> - the structural adequacy of the frame to withstand the weight 	• Carrier / Truck Driver

Appendix

39

appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
		<ul style="list-style-type: none"> Falling Plasterboard sheets when not secured whilst fixers removing sheets 	<p>of the sheets (eg designated wall to be braced by two connecting walls, or split large orders and place against different walls)</p> <ul style="list-style-type: none"> - the safe angle of the sheets (180 mm for 1350 sheets & 160 mm for 1200 sheets from base of wall) to prevent the sheets from falling when unsecured • Sheets to be secured against framework with approved strapping material (plastic strapping is preferred) - screw fix two lengths to the bottom plate and lay out across floor - place sheets on strap, firmly tighten, wrap around and screw fix to studs • Attach approved signage to sheets warning unauthorised persons against tampering with the sheet restraints • Fixers to place 'No Entry' sign whilst sheets are unsecured & that sheets are re-secured when work has finished or leaving site 	<ul style="list-style-type: none"> • Contractor
5	Vertical Stacking of plasterboard on full-brick construction sites	<ul style="list-style-type: none"> Manual handling sprains & strains 	<ul style="list-style-type: none"> • Ensure truck drivers/carriers have been trained in safe manual handling practices; this includes the need to estimate weight of goods and determination of ability to carry that weight or seek assistance or lifting aids 	<ul style="list-style-type: none"> • Carrier / Truck Driver

Appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
		<ul style="list-style-type: none"> Crush from plasterboard falling when leaned against structure Falling Plasterboard sheets when not secured whilst fixers removing sheets 	<ul style="list-style-type: none"> When stacking sheets vertically against structures pay particular attention to: <ul style="list-style-type: none"> the structural adequacy to withstand the weight of the sheets (eg split large orders and place against different walls or pillars if possible) the safe angle of the sheets (180 mm for 1350 sheets & 160 mm for 1200 sheets from base of wall or pillar) to prevent the sheets from falling when unsecured Sheets to be taped together and if against pillar, also tape or tie around pillar Attach approved signage to sheets warning unauthorised persons against tampering with the sheet restraints Fixers to place 'No Entry' sign whilst sheets are unsecured and to ensure that sheets are re-secured when work has finished or leaving site 	<ul style="list-style-type: none"> Contractor
6	<p>Internal Passing Up of plasterboard</p> <p>Note: Horizontal stacking is the preferred option when & wherever possible</p>	<ul style="list-style-type: none"> Manual handling sprains & strains Crush from falling plasterboard 	<ul style="list-style-type: none"> Truck drivers/carriers trained in safe manual handling practices; this includes the need to estimate weight of goods and to determine whether able to carry goods &/or need to seek assistance or use of lifting aids Coordinated lifting between pass up & receiving team members; team members to be trained in conducting pass ups 	<ul style="list-style-type: none"> Carrier/Truck Driver Carrier

Appendix

41

appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
		<ul style="list-style-type: none"> Fall from heights > 2m ie from edge & void (residential sites in Queensland >3m ref: Workplace Health & Safety Regulation 2008 Section 317) If vertically stacked, crush from plasterboard falling when leant against structure 	<ul style="list-style-type: none"> Working at heights risk controls are in place eg harness provided & being worn; team members to be trained in working at heights See reference to vertical stacking 4. above 	<ul style="list-style-type: none"> Carrier/ Truck Driver Carrier/ Truck Driver
7	<p>External Passing Up of plaster-board</p> <p>Note: Horizontal stacking is the preferred option when & wherever possible</p>	<ul style="list-style-type: none"> Manual handling sprains & strains Crush from falling plasterboard Fall from heights > 2m ie from edge (residential sites in Queensland >3m ref: Workplace Health & Safety Regulation 2008 Section 317) Sprains & strains from manually lifting plasterboard over or through scaffolding If vertically stacked, crush from plaster board falling when leant against structure 	<ul style="list-style-type: none"> Truck drivers/carriers trained in safe manual handling practices; this includes the need to estimate weight of goods and to determine whether able to carry goods and/or need to seek assistance or use of lifting aids Coordinated lifting between pass up & receiving team members; team members to be trained in conducting pass ups Working at heights risk controls are in place e.g. harness provided and being worn; team members to be trained in working at heights Removal of sufficient scaffolding to allow delivery and reinstallation of scaffolding at delivery completion to be undertaken by licensed scaffolder See reference to vertical stacking 4. above 	<ul style="list-style-type: none"> Carrier/ Truck Driver Carrier/ Truck Driver Carrier/ Truck Driver Site Supervisor Carrier/ Truck Driver

Appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
8	Carrying plasterboard - Stair delivery	<ul style="list-style-type: none"> • Manual handling sprains & strains • Fall from height > 2m eg off plank when no railing in place; high winds, slippery conditions, or gradient too steep (residential sites in Queensland >3m ref: Workplace Health & Safety Regulation 2008 Section 317) 	<ul style="list-style-type: none"> • Ensure truck drivers/ carriers have been trained in safe manual handling practices; this includes the need to estimate weight of goods and determination of ability to carry that weight and/or seek assistance or use of lifting aids • Railing, edge protection or fall arrest equipment to be used; team members to be trained in working at heights 	<ul style="list-style-type: none"> • Carrier/ Truck Driver • Carrier/ Truck Driver
9	Carrying plaster-board – Plank delivery	<ul style="list-style-type: none"> • Manual handling sprains & strains • Fall from height eg off side of plank • Trip 	<ul style="list-style-type: none"> • Ensure truck drivers/ carriers have been trained in safe manual handling practices; this includes the need to estimate weight of goods and determination of ability to carry that weight and/or seek assistance or use of lifting aids • Risk assessment to be conducted to determine if control measure required eg edge protection, fall arrest equipment, use of mechanical lifting device • Ensure steps or stairway clear of obstacles 	<ul style="list-style-type: none"> • Carrier/ Truck Driver • Truck Driver/ Site Supervisor • Site Supervisor

Appendix

43

appendix

ITEM	JOB STEP (Break the job down into steps)	POTENTIAL HAZARD (What can harm you?)	CONTROLS (What you are going to do to make the job as safe as possible)	PERSON (Who will ensure this happens)
10	Crane Ups	<ul style="list-style-type: none"> • Crush from falling goods during crane lifting process • Parking of truck hazards – refer to 1. above 	<ul style="list-style-type: none"> • Truck driver to stand in designated safe area as determined by a licensed dogman • Parking of truck controls – refer to 1. above 	<ul style="list-style-type: none"> • Truck Driver / Dogman • Truck Driver
11	Product Storage e.g. cornice & metal angles	<ul style="list-style-type: none"> • Trip hazard 	<ul style="list-style-type: none"> • Ensure the cornice/ Angles are stacked close to the perimeter wall away from thoroughfare and doorways 	<ul style="list-style-type: none"> • Truck Driver
12	Removal of structural components of building, including edge protection & noggings	<ul style="list-style-type: none"> • Fall from heights >2m eg from open window, doorway or voids in framework (residential sites in Queensland >3m ref: Workplace Health & Safety Regulation 2008 Section 317) or crush from structure collapse 	<ul style="list-style-type: none"> • If structural components are required to be removed to allow delivery in an area where fall from height >2m is possible, a risk assessment must be conducted to determine the type of working at heights controls to be used eg fall arrest equipment • When noggins are removed they must be reinstalled • Removal and reinstallation of edge protection must only be conducted by a licensed scaffolder 	<ul style="list-style-type: none"> • Site Supervisor/ Truck Driver
13	Audit of Process	<ul style="list-style-type: none"> • Appropriate controls are not in place 	<ul style="list-style-type: none"> • Site Supervisor or Transport Coordinator to conduct and record random site audits to ensure the controls of this SWMS are in place 	<ul style="list-style-type: none"> • Site Supervisor / Transport Coordinator

Appendix

44

Appendix

Appendix

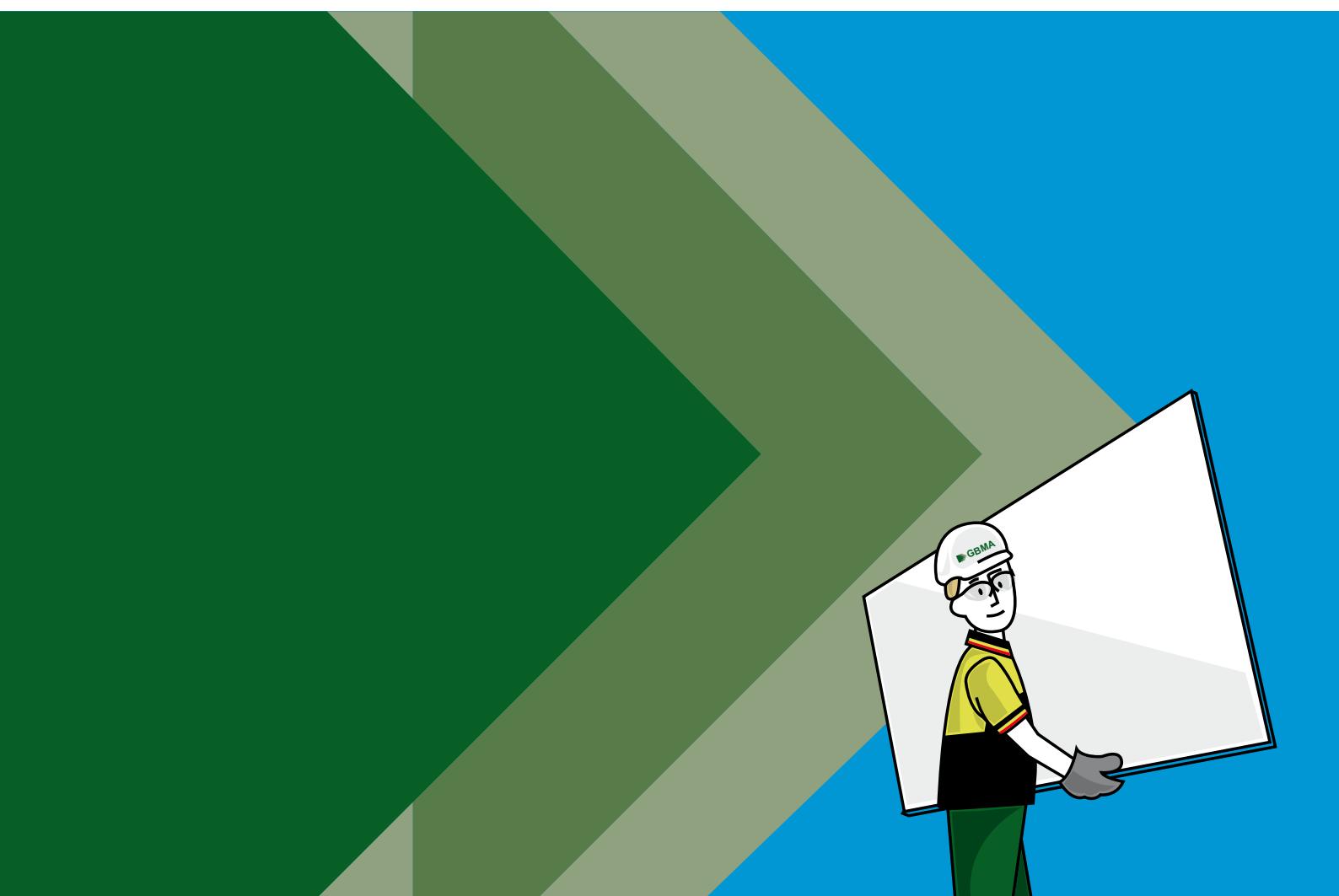
This safe work method statement has been approved to be true and accurate by:

Name (Print).....

Position.....

Name of Company.....

Signed..... Date.....



Produced by:



www.digicast.com.au
Suite 105, 370 St Kilda Road
Melbourne 3004
Ph: 03 9696 4400