Taylor Wimpey Uk
Site HSE Manual

Section 6
Superstructure, Mid Floors and Roofs

Document Owner

Craig Schwarze	Head Of HSE

Table of contents

6.1 Traditional Construction - Brick & Block

Brickwork construction presents significant health risks if not properly managed. Exposure to silica dust during cutting or drilling can cause serious respiratory diseases such as silicosis, COPD, and asthma. Manual handling of heavy materials often leads to musculoskeletal injuries, while prolonged contact with mortar may result in dermatitis. Noise and vibration from tools contribute to hearing loss and vibration-related disorders. Contractors' Supervisors and Site Management Teams must ensure effective control measures are in place.

Brickwork construction poses several safety risks that must be carefully managed. Key hazards include falls from height when working on scaffolding or elevated platforms, there's also the risk of struck-by injuries from tools or falling materials, and collapse of structures during incorrect loading of materials, ensuring the correct access arrangements, segregation, and management of materials is essential in maintaining a safe working environment through supervision and management by the Contractors Supervisors and Site Management Team.

Brickwork construction contributes significantly to construction waste. The process generates waste from excess materials, off-cuts, damaged bricks, and mortar residues, much of which can be bulky and heavy. Waste generated from brick work activities must be managed by the Contractor and Site Management Team, ensure packaging, off-cuts, and spent mortar are segregated at source for effective recycling

The build sequence for traditional construction is summarised below along with the necessary control measures:

Stage	Description	Section
1	Construct brick and block walls from ground level to mid floor level	6.1
2	Install mid-floor structure (joists, decking, or pre-cast concrete floors)	6.3, 6.4, 6.6, 6.7
3	Continue brick and block construction from mid-floor level to wall plate	6.1
4	Construct roof structure and coverings (including prefabricated systems)	6.8, 6.10, 6.11

The construction of the external structure / finish of houses /apartments, etc. is carried out from an external scaffold working platform.
Note: Blockwork/Brickwork must only be laid to a maximum of 6/12 courses in one day to ensure the stability and allow for adequate curing time.

Loading Out of Materials:

- All loading out of bricks, blocks, or materials onto timber mid-floors or scaffolds must strictly follow the detailed procedures set out in Section 6.3 Installation of Mid Floors
- Only approved materials (e.g., Aircrete blocks) may be loaded out, and only in the configurations specified.
- Never load materials onto temporary stairwell protection systems or sacrificial joist areas.
- The "Authority to Proceed: Loading Timber Mid-Floors" form (F2.04) must be completed and approved before any loading out begins.
- For full details, diagrams, and manufacturer-specific requirements, refer to Section 6.3 Installation of Mid Floors

6.1.1 Construct Brick and Block from Ground Level to Mid-floor

The construction of the external walls, i.e., inner blockwork skin and external skin can be carried out from ground or slab level for the initial lift of brick/blockwork. Then a suitable working platform must be used to provide safe access to allow construction up to the first floor, floor plate.

The following working platforms are approved for use:

External Brick/Block work

- An external perimeter scaffolding

Internal Brick/Block work

- Bricklayer's hop-ups.
- Proprietary working platform.
- Scaffold working platform; and
- Podium steps (e.g., remedial works).

External Scaffolding Working Platform - Category 1: Standard Temporary Works

The construction of the external skin of brickwork (or blockwork) must be carried out from a suitable external scaffold, except for the first lift which can be constructed from ground level.

Safe Loading of Scaffold

- Brick guards must be fitted to protect against falling material.
- Position stacks of material (bricks) adjacent to the standards.
- Standard tube and fitted scaffolding are constructed to allow a maximum load of 200kgs per bay.
- Leave a passageway of at least two boards to allow access.
- Not stacked higher than the second handrail

6.1.2 Access for Construction of Internal Walls - Bricklayers Hop-ups

Category 1: Standard Temporary Works

A bricklayer's Hop-up can only be used internally if:

- On a firm, solid, flat base e.g., ground floor slab or, for upper levels, a supported deck.
- If hop-ups and boards in good condition.
- To a maximum height of 500mm.
- The platform is minimum four boards wide (the two inside boards kept clear from material to

facilitate clear access).

- Scaffold boards supported at least every 1.2m; and
- Inspected before use by the Site Manager/supervisor of the trade using it and recorded on F2.06 Working platform/scaffold register.
- in addition, the equipment must be inspected weekly, and recorded on F2.07 Work equipment inspection register

Note: Bricklayer's Hop-ups are not permitted for use on scaffold working platforms. If used externally, hop-ups must be on some concrete, paved, tarmac or slabbed base.

6.1.3 Proprietary Working Platforms with Handrails

Category 1: Standard Temporary Works

Where a working platform height of more than 500mm above the floor level (either ground or mid-floor) is required, then either a 'proprietary working platform' or 'scaffold working platform' must be used with double handrails and toe-boards.

Proprietary Working Platforms with Handrails can be used where:

- Operatives erecting the specific system are trained in their use.
  A copy of the manufacturer's instructions is available on site.
- Operatives, erecting the specific system must provide a 'handover certificate'.
- Weekly inspections are carried out and recorded in the Working Platform/Scaffold Inspection Record Sheet, Folder 2 F2.06; and
- Before each use, a visual inspection is to be made by the authorised user.

6.1.4 Podium Steps

Category 0: Standard Temporary Works
Podium steps can provide a suitable access platform for working at a height e.g., for making good, joist work and sacrificial joist work.

The operative must have received instruction / briefing in the safe use of the Podium Steps, and have a copy of the manufacturers instructions.

Podium Steps must be visually inspected prior to use, and inspected on a weekly basis and record

6.1.5 Construct Brick and Block to roof (wall plate)

Once the mid-floor is complete, the superstructure can be continued either up to the next mid-floor (for three-storey houses) or roof level (for two-story houses).

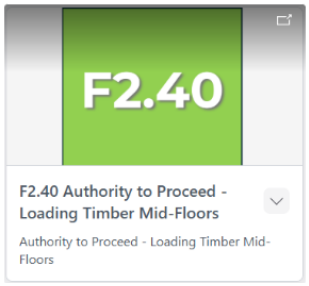
In most cases, the work is carried out from the external scaffold working platform to construct the superstructure walls. Where there is a requirement to work directly from the mid-floor:

- Construct party walls
- Perimeter walls, or
- Install a fall protection system

Before loading out blocks onto timber mid-floors, the “Authority to Proceed: Loading Timber Mid-Floors” form (F2.40) must be completed and approved by the Site Management Team and the Bricklaying Contractor or Operatives (if direct).
For detailed loading out procedures and requirements, refer to Section 6.3 Installation of Mid Floors.

Relevant SSBs for Section 6.1 (including 6.1.1 to 6.1.5):

- SSB 06: Safe Manual Handling
- SSB 07: Safe Use of Mortar Silos
- SSB 12: Noise
- SSB 13: Hand Arm Vibration (HAVS)
- SSB 14: Dermatitis
- SSB 27: Power Tools (if power tools are used during brick/blockwork)
- SSB Health 01: Silica Dust
- SSB Health 04: Manual Handling



6.2 Internal Fall Prevention Systems

Using proprietary decking systems significantly reduces fall-from-height risks. These systems provide a stable, continuous working platform, eliminating gaps and uneven surfaces that often lead to accidents. They are engineered for strength and durability, eliminating the risk of fall from height, whilst providing access during superstructure construction.

Once a suitable Access and Working Platform /Fall Prevention/Protection system has been installed, for example: Proprietary Decking System or Birdcage Scaffold, it must be inspected and handed over by the installer prior to the platform being accessed/worked from.
Once inspected and handed-over, subsequent tasks can therefore be carried out safely e.g.:

- Install joist and/or masonry hangers Section 6.3.1
- Install decking and 'sacrificial' floor area Section 6.3.3. and Section 6.3.5
- Install floor joists, including 'sacrificial' joists and bracing Section 6.2 and Section 6.3.5
- Install Temporary access hatch Section 6.3.6.
- Roof Construction Section 6.8.

6.2.1 Safe use of Access and Working Platforms

This section sets out the key requirements for the provision of safe Access and Working Platforms to assist the construction of timber mid-floors and roof structures.

Four options are available for providing Access/Working Platforms:

1. Birdcage Scaffold Platform (see Section 6.2.1)
2. TRAD Safety Systems, decking system (see Section 6.2.2)
3. G&M Safe Deck, decking system (see Section 6.2.2 and Section 6.2.3)
4. Rhino Deck (Sayfa Systems UK), decking system (see Section 6.2.4 and Section 6.2.5)

Prior to the installation of an Access and Working Platform, plots must have clear access and adequate working space and be clear from debris, materials, and other trades.

The above systems are mainly designed to provide access and a working platform. Where loading is required on the working platform, for example the construction of the party wall, this must be undertaken in line with the controls set out further in this section.

Following the installation of an Access and Working Platform, access below the system is strictly prohibited unless authorised to do so by the Site Management Team. The Platform must be re-inspected prior to use, after any access below to confirm the stability and integrity of the system

Note: In circumstances where Decking or Birdcage Scaffolding is not appropriate, a soft-landing system may be used after an assessment and confirmation with the RHSEA. (See Section 6.2)

6.2.2 Storage of Materials

Consideration must be given to the storage of proprietary decking systems when not in use.

These must be stored in a suitable stillage and returned to an adequate storage area when not in use.

6.2.3 Window Infills - Category 1 Standard Temporary Works

Structural openings between working platforms and internal fall prevention systems, including proprietary decking systems require infills.
Infill boards must be securely clipped in place. Where two boards are required, both boards must be clipped at both ends to prevent movement.

6.2.4 Birdcage Scaffold - Category 1 Standard Temporary Works

Scaffold design

Prior to the erection of any Birdcage Scaffold, a scaffold design must have been agreed with the scaffolders and made available to the site management team and the erecting scaffolders. Where loading out is to be undertaken, the permissible loadings must be included as part of the design. The design must be confirmed as appropriate by the Site Manager and Production Manager with assistance from the Regional/Site HSE Advisor.

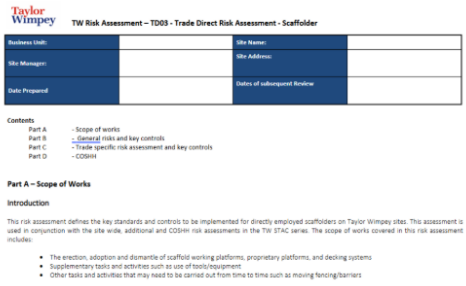
You can find a significant number of Scaffold Designs on the Scaffold Hub page.

Where Birdcage Scaffolds are to be used as a proprietary access platform, consideration must be given to the following:

- House type
- Joist Design and Clear Span
- Sacrificial Joist Area
- Loading requirements

Pre-Installation Checks

A visual user-check to confirm the plot is clean and tidy is to be carried out before birdcage scaffold is erected. Any concerns noted must be raised with the Site Management Team so suitable action can be taken.


Taylor Wimpey

TW Risk Assessment – TD03 - Trade Direct Risk Assessment - Scaffolder

Business Unit:		Site Name:	
Site Manager:		Site Address:	
Date Prepared:		Dates of subsequent Review	

Contents

Part A - Scope of works
Part B - General risks and key controls
Part C - Trade specific risk assessment and key controls
Part D - COSHH

Part A – Scope of Works

Introduction

This risk assessment defines the key standards and controls to be implemented for directly employed scaffolders on Taylor Wimpey sites. This assessment is used in conjunction with the site wide, additional and COSHH risk assessments in the TW STAC series. The scope of works covered in this risk assessment includes:

- The erection, adoption and dismantle of scaffold working platforms, proprietary platforms, and decking systems
- Supplementary tasks and activities such as use of tools/equipment
- Other tasks and activities that may need to be carried out from time to time such as moving fencing/barriers

Installer

Training:

- Scaffolders erecting, altering, and dismantling the birdcage scaffolding must hold a current CISRS Scaffolders card.
- Site Management Team must have completed the scaffolding inspection TWUK core Training.

Evidence of training must be available to the Site Management Team

Risk Assessment

Where Birdcage Scaffolds are used, the Scaffold Contractor must provide the Site Manager with a copy of their Risk Assessment that covers this task. All scaffold operatives involved in the erection/dismantling of birdcage scaffolds are to be briefed on the safe system of work by their employer, with a register of the briefing maintained.

Directly employed scaffold operatives are to be briefed by the TW Site Manager or scaffolding supervisor using their trade risk assessment.

Handover

Once the Birdcage Scaffold has been installed the Scaffold Contractor confirms it has been installed correctly by completing a 'Handover Certificate' and providing it to the Site Management Team.

The Site Management Team must then carry out a visual check to confirm it is fit for purpose.

Directly employed scaffolders must also provide a handover certificate on completion of work.

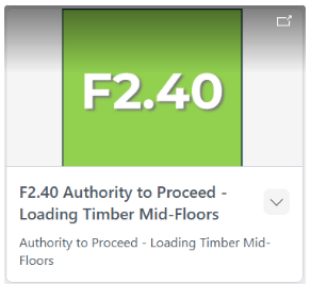
Inspection

Regular statutory inspections of the scaffolding must take place following erection or any adaption and at least every 7 days, or after any event likely to have affected the scaffold's stability such as adverse weather.
Statutory Inspections are recorded on the **Working Platform/Scaffold Inspection Record Sheet, Folder 2 - F2.06**

Dismantling

All dismantling must be carried out by trained and authorised scaffolders. During the dismantling of the birdcage scaffold, access into the plot/area is restricted and an exclusion zone established to avoid unauthorised persons.

Inspection and Monitoring Summary



Checks/Inspections must be carried out as follows.

- Prior to installation, visual user-check confirming the plot is clean and tidy.
- As part of the handover of each installation and prior to use, a handover certificate must be provided. A visual check is then carried out by the site management team and recorded in the **Working Platform/Scaffold Inspection Record Sheet. Folder 2 F2.06**
- Daily visual user-check before use.
- Every 7 days after the date of installation a Statutory Inspection is carried out by the site management team.
- Following adverse weather conditions or adverse impact, Statutory Inspection by the site management teams.
- The site management team regularly monitor the safe use of the platform.

6.2.5 'Trad Deck' and G&M Decking Systems - Category 1 Standard Temporary Works

TRAD Deck and G&M Safe Deck are proprietary access platforms made from composite plastic. Both systems must only be installed and dismantled by trained and authorised installers.

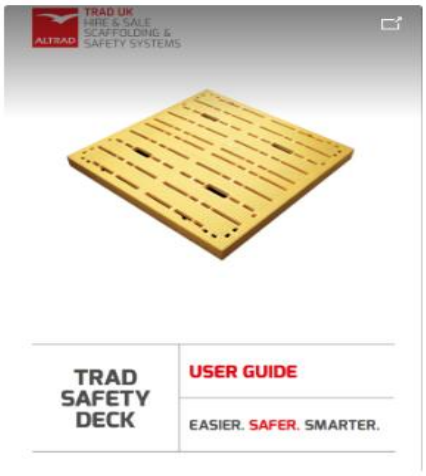
These decking systems are predominantly used as an access and working platform, however, where loading out is required on the working platform, the loading schedule must be followed. See Section 6.3 Metsa and Stair Craft guidance.

Trad Deck

G & M Decking System

Installation Guides

Trad Deck



G & M Decking System

Key Aspects

TRAD Deck relies on blockwork to provide support to the system, consequently the Site Management Team via a visual check must confirm the blockwork mortar has sufficiently cured prior to TRAD Deck is installed..

G&M Safe Deck can be installed 'free standing' if this option is required. (Manufacturer/supplier guidance and design MUST include diagonal bracing)

Note: Installers to must raise any concerns over the suitability of the blockwork, they must make the site manager aware immediately

Pre-Installation Checks

A visual user check to confirm the plot is clean and tidy is to be carried out before either decking system is erected. Any concerns noted must be raised with the Site Management Team

A visual check of all components is made by the installation operatives prior to use.

Any defective components must be marked up, isolated, and not used.

Risk Assessment and Safety Method Statement

Where TRAD Deck or G&M Safe Deck is used, the supplier must provide the Site Management Team with a copy of their Risk Assessment and Safety Method Statement. The installation team involved in the installation and dismantling must be briefed, by their employer, on the safe system of work [note TRAD or G&M Safe Deck or Site Manager for directly employed] with a register of briefing maintained. Evidence of all training must be available to the Site Management Team.

Training:

- **TRAD Deck Employee** must be FASET trained
- **G&M Safe Deck Employee** must be FASET trained.
- **Directly Employed Installer** must be FASET trained and have received product familiarisation for TRAD Deck via TRAD Safety Systems.
- **Scaffolder** must have product familiarisation from TRAD Deck and/or G&M Safe Deck.

Site Management Team must have received TRAD Deck and/or G&M Safe Deck inspection training.

Handover

Once the decking system has been installed the installer must confirm it has been installed correctly by completing a 'Handover Certificate' and providing a copy to the Site Management Team.
The Site Management Team must then carry out a visual check to confirm it is fit for purpose before use.

For TW Employed installers use the **Access / Working Platform – Handover Certificate F2.34a**

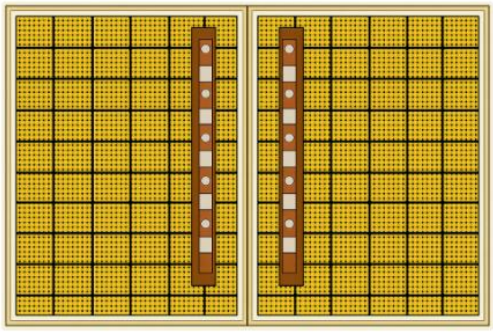
Inspection

Regular statutory inspections of the Decking Platform take place following erection or any adaption and at least every 7 days, or after any event likely to have affected the Decking Platforms stability.

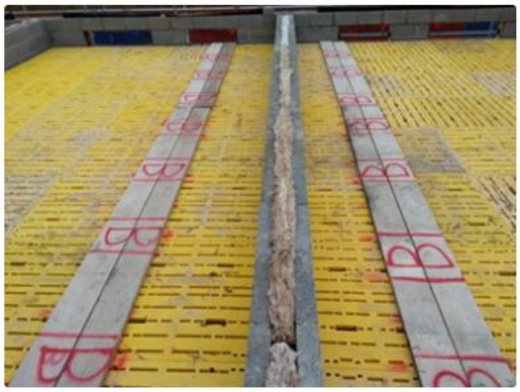
Inspections must be recorded on the **Working Platform/Scaffold Inspection Record Sheet F2.06**

6.2.6 Loading out Trad Deck and G&M Deck Category 1 Standard Temporary Works

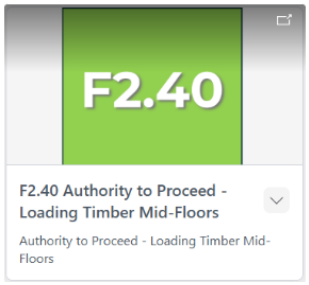
On occasions TRAD Deck or G&M Safe Deck may need to be loaded out with bricks/block and mortar to allow party wall construction. In these situations, the following control measures must be adopted. These measures restrict the amount of materials loaded and indicate key areas where loading is permitted.



No other materials such as trusses/spandrels etc. can be stored on TRAD deck or G&M Safe Deck



- Confirm a Handover inspection has been completed for the installation of the Sacrificial Joist/Floor Area / G & M MAPS System
- Confirm the Birdcage / Rhino / Trad/ G & M Deck is installed to the manufacturer's guidance, or standard configuration
- Confirm the bricklayer has been briefed on the loading out schedule:
  - 6 aircrete blocks per stack, at 1m centres
  - For Rhino/Trad/G&M Decks blocks to be loaded on two scaffold boards located over the systems 'legs'
  - In all cases blocks to be located 1m in from the external perimeter



Dismantling

All dismantling must be carried out by trained and authorised persons. During the dismantling of the decking systems, access into the plot/area is restricted to avoid unauthorised persons.

Inspection and Monitoring Summary

Checks/Inspections must be carried out as follows:

- Prior to installation, visual user-check confirming the plot is clean and tidy. The Site Management Team must make sure the blockwork mortar has sufficiently cured before allowing TRAD Deck and G&M Safe Deck to be installed.
- As part of the handover of each installation and prior to use, a handover certificate must be provided. A visual check is then carried out by the site management team and recorded in the **Working Platform/Scaffold Inspection Record Sheet. Folder 2 F2.06**
- Daily visual user-check must take place before use.
- Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.
- Following adverse weather conditions or adverse impact, a statutory inspection is required by the site management teams.
- The site management team regularly monitor the safe use of the platform.

Contact Details

Trad Safety Systems Ltd
www.traduk.co.uk
Glasgow: 0141 550 3666
Leeds: 0113 249 9555
Manchester: 0161 430 4666

Birmingham: 0121 522 2333
London: 0208 980 1155
Andover: 0126 435 0505

G&M Safe Deck Ltd
www.gmsafedeck.com
Middlewich: 01606 834 630

6.2.7 'Rhino Deck' - Category 1 Standard Temporary Works

Rhino Deck is a proprietary work access platform made from metal, and it may only be installed and dismantled by a trained and authorised person.
Rhino Deck is predominantly used as an access and working platform, however, where loading out is required on the working platform, under propping may be required, see examples below.

Key Aspects

A visual user-check to confirm the plot is clean and tidy is to be carried out before Rhino Deck is erected. Any concerns noted must be raised with the Site Management Team so suitable action can be taken. A visual check of all components is made by the installation operative prior to use.
Any defects components must not be used and be marked up and isolated so out of use.

Pre-Installation Checks

A visual user check to confirm the plot is clean and tidy is to be carried out before either decking system is erected. Any concerns noted must be raised with the Site Management Team

Risk Assessment and Safety Method Statement
Where Rhino Deck is used, the Supplier must provide the Site Manager with a copy of their Risk Assessment and Safety Method Statement. The installation team involved in the installation and dismantling must be briefed by their employer, on the safe system of work [note Scaffold Contractor or Site Manager for directly employed] with a register of briefing maintained. Evidence of all training must be made available to the Site Management Team

Training:

- **Rhino Deck Employee** must be FASET trained.
- **Directly Employed Installer** must be FASET trained and have received product familiarisation for Rhino Deck via Sayfa Systems.
- **Scaffolder** must have product familiarisation from Rhino Deck.
- **Site Management Team** must have received Rhino Deck inspection training.

Handover

Once the decking system has been installed the installer must confirm it has been installed correctly by completing a 'Handover Certificate' and providing a copy to the Site Management Team.
The Site Management Team must then carry out a visual check to confirm it is fit for purpose before use.

For TW Employed installers use the **Access / Working Platform – Handover Certificate. Folder 2 F2.34a**

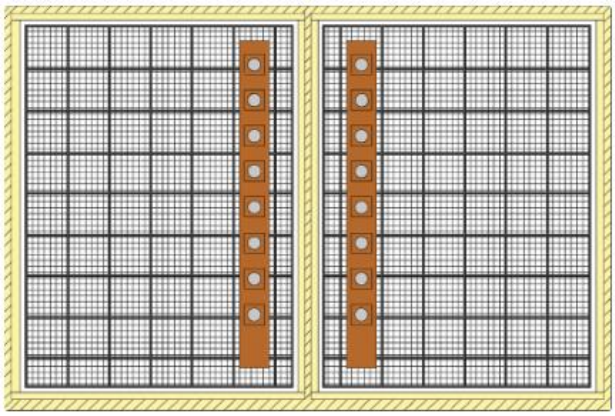
Inspection

Regular statutory inspections of the Decking Platform take place following erection or any adaption and at least every 7 days, or after any event likely to have affected the Decking Platforms stability.

Inspections must be recorded on the **Working Platform/Scaffold Inspection Record Sheet. F2.06**

6.2.8 Loading Rhino Deck Category 1 Standard Temporary Works

On occasions Rhino deck may need to be loaded out with bricks/block and mortar to allow party wall construction. In these situations, the following control measures are to be followed. These measures restrict the amount of materials loaded and indicate key areas where loading is permitted



No other materials such as trusses/spandrels etc. can be stored on Rhino Deck.

- Confirm a Handover inspection has been completed for the installation of the Sacrificial Joist/Floor Area / G & M MAPS System
- Confirm the Birdcage / Rhino / Trad/ G & M Deck is installed to the manufacturer's guidance, or standard configuration
- Confirm the bricklayer has been briefed on the loading out schedule:
  - 6 aircrete blocks per stack, at 1m centres
  - For Rhino/Trad/G&M Decks blocks to be loaded on two scaffold boards located over the systems 'legs'
  - In all cases blocks to be located 1m in from the external perimeter

Dismantling

All dismantling must be carried out by trained and authorised persons. During the dismantling of the decking systems, access into the plot/area is restricted to avoid unauthorised persons.

Inspection and Monitoring Summary

Checks/Inspections must be carried out as follows.

- Prior to installation, visual user-check confirming the plot is clean and tidy.
- As part of the handover of each installation and prior to use, a handover certificate needs to be provided. A visual check is then carried out by the site management team and recorded in the **Working Platform/Scaffold Inspection Record Sheet. Folder 2 - F2.06**
- Daily visual user-check must take place before use.
- Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.
- Following adverse weather conditions or adverse impact, Statutory Inspection by the site management team.
- The site management team regularly monitor the safe use of the platform.

Contact Details

Rhino Deck available from:
SAYFA SYSTEMS UK LTD
https://www.sayfagroup.co.uk/solutions/rhinoDeck/

Unit B1
Research Point
Shepshed, Loughborough
Leicestershire LE12 9NH
Tel: 01509 509273

Email:enquiries@sayfagroup.co.uk

Relevant SSBs for Section 6.2 :

- SSB 06: Safe Manual Handling
- SSB 09: Safe Use of Access Boards and Truss Ladder
- SSB 12: Noise
- SSB 13: Hand Arm Vibration (HAVS)
- SSB 14: Dermatitis
- SSB 24: Safe Use of Trad Deck
- SSB 25: Safe Use of Rhino Deck

- SSB 27: Power Tools (if power tools are used during installation or dismantling)
- SSB Health 01: Silica Dust
- SSB Health 04: Manual Handling

6.3.1 Installation of Mid-floors

Joist installation poses several health risks to workers. Manual handling of heavy timber or engineered joists can cause musculoskeletal injuries, including strains and sprains. Working at height increases the risk of falls, especially when joists are installed over open stairwells or unprotected edges. Dust from cutting or drilling wood may lead to respiratory issues if proper protection is not used. Repetitive movements and awkward postures can result in long-term joint or back problems. Noise from power tools and risk of slips, trips, or falls are also common hazards.

Installing timber joists presents several safety risks. The primary hazard is falling from height, especially when working over open floors, stairwells, or unprotected edges. There is also a risk of slips, trips, and falls due to uneven surfaces, misplaced tools, or debris. Using power tools for cutting or fixing joists introduces risks of cuts and noise exposure. Inadequate temporary supports or improper installation can result in structural collapse or falling materials.

Installing wood joists can pose environmental risks. Sourcing timber from unsustainable forests contributes to deforestation and loss of biodiversity. The use of preservatives and treatments on joists may introduce chemicals into the environment, potentially contaminating soil and water. Construction waste, including offcuts and damaged joists, must be recycled. Additionally, dust and noise generated during installation must be controlled.

In most of the TW Standard House Types, the joists are ‘built in’ and supported directly by the superstructure walls or internal load bearing walls.
Where hangers are identified, then the Site Management Team must:

- Have the approved drawings from the Technical or Design Team identifying the specific hangers to be used.
- Ensure that the correct fittings are supplied with the hangers; and
- Discuss with the installation Contractor to verify that they
- have the correct information, hangers, and fixings.

6.3.2 Installation of Floor Joists

The installation of the floor joists, sacrificial joists and bracing must be carried out from a suitable internal birdcage scaffold or proprietary access platform (see **Section 6.2**)

Walking or working on 'open' joists or wall-heads is not permitted.

Do Not stack building materials on unbraced joists.

6.3.3 Installation of Floor Decking

The installation of the floor decking is carried out as one complete operation to cover the entire floor area (including the sacrificial area). Fall protection/ prevention in place, e.g., proprietary system or birdcage scaffold (see Section 6.2) must be in place

Over the permanent area, the decking is fixed with nails and glue. However, the decking over the stairwell is fixed to the upper flange of the sacrificial joists with screws (3.5x40mm multi - purpose wood screws) at approx. 300mm centres.

When Softwood noggins/dwangs are required to support board ends overhanging by more than 75mm, these are skew nailed to upper flange.

6.3.4 GM Modular Access Platform Safety System Category 2: Standard Temporary Works

G & M Modular Access Platform Safety System **MUST** be fitted to all house types except where the width or length of stairwell exceeds the GM Decking limits. (Kite-Winders)

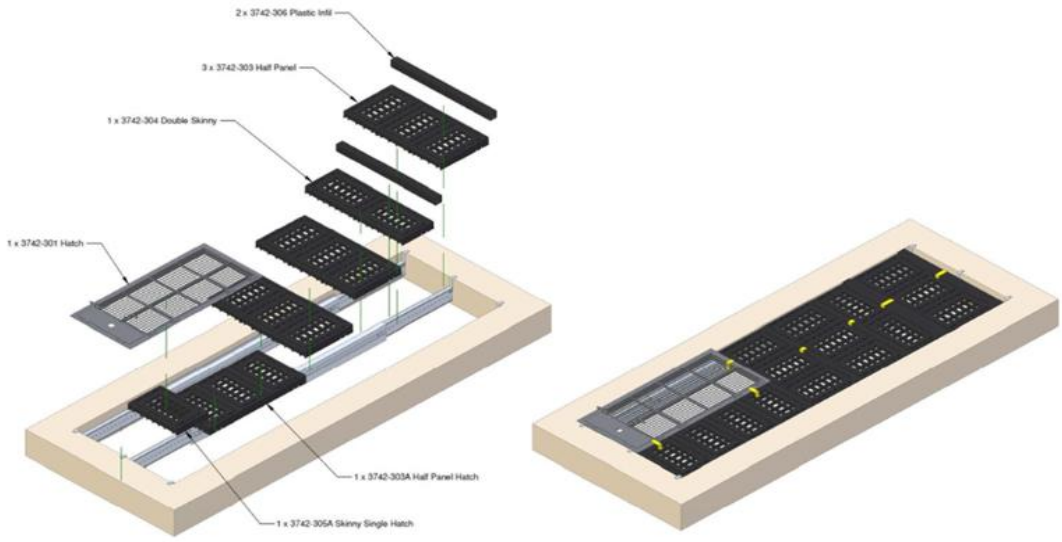
G & M Modular Access Platform Safety System has been introduced as an alternative method to the current sacrificial joist and trap hatch detail. The new system provides a temporary platform and accommodates most of the house types.

G & M MAPS Systems must **NOT** be loaded out with any brick, blocks or materials under any circumstance.

For Stairwells that cannot be accommodated by the G&M System, please consult your RHSEA and Technical Director.

Training/ Installation

Before the installation of the **G & M Modular Access Platform Safety System** can commence, **the Installation** operative's **and the site management team** must have received and reviewed the manufactures installation instructions and watched the installation video using the QR code below. Once the training has been completed, the briefing register must be completed.
Telescopic Beams and the Access Hatch



Brackets

Note: The bracket shown on the right must be fitted to all G&M Decking inner and outer beams, secured within the stairwell using Timco 5.5 x 70 mm Hex Head screws.

The platform must only be installed as per the manufacturer's instructions and installation video briefing. This is included within each Pack.

Inspection and Monitoring

As part of the handover of each installation and prior to use, a handover certificate (Folder 2 - F2.34b) must be provided. A visual check is then carried out by the site management team. This is recorded in the Working Platform/Scaffold Inspection Record Sheet. Folder 2 F2.06
Daily visual user-check should be carried out before use.
Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.
Following adverse weather conditions or adverse impact.
The site management team are to regularly monitor the safe use of the GM Modular Access Platform Safety System.

Order Codes: House Types in England and Wales

Item	Order Reference
MAP Full Set	GM01
Complete Telescopic Beam	GM02
Outer Beam	GM02/OB
Inner Beam	GM02/IB
Beam Foot	GM02/BF
Sword Pin	GM02/SP
Half Hatch Panel	GM03/A
Small Hatch Panel	GM03/B
Half Panel	GM03/C
Skinny Panel	GM03/D
Full Panel	GM03/E
Infill Beam	GM04
Hatch	GM05
Straps	GM06
Stillage	GM07

Order Codes: Scottish House Types

Item	Order Reference
MAP Full Set	S/GM01
Complete Telescopic Beam	S/GM02
Outer Beam	S/GM02/OB
Inner Beam	S/GM02/IB
Beam Foot	S/GM02/BF
Sword Pin	S/GM02/SP
Half Hatch Panel	S/GM03/A
Small Hatch Panel	S/GM03/B
Half Panel	S/GM03/C
Skinny Panel	S/GM03/D
Full Panel	S/GM03/E
Infill Beam	S/GM04
Hatch	S/GM05
Straps	S/GM06
Stillage	S/GM07

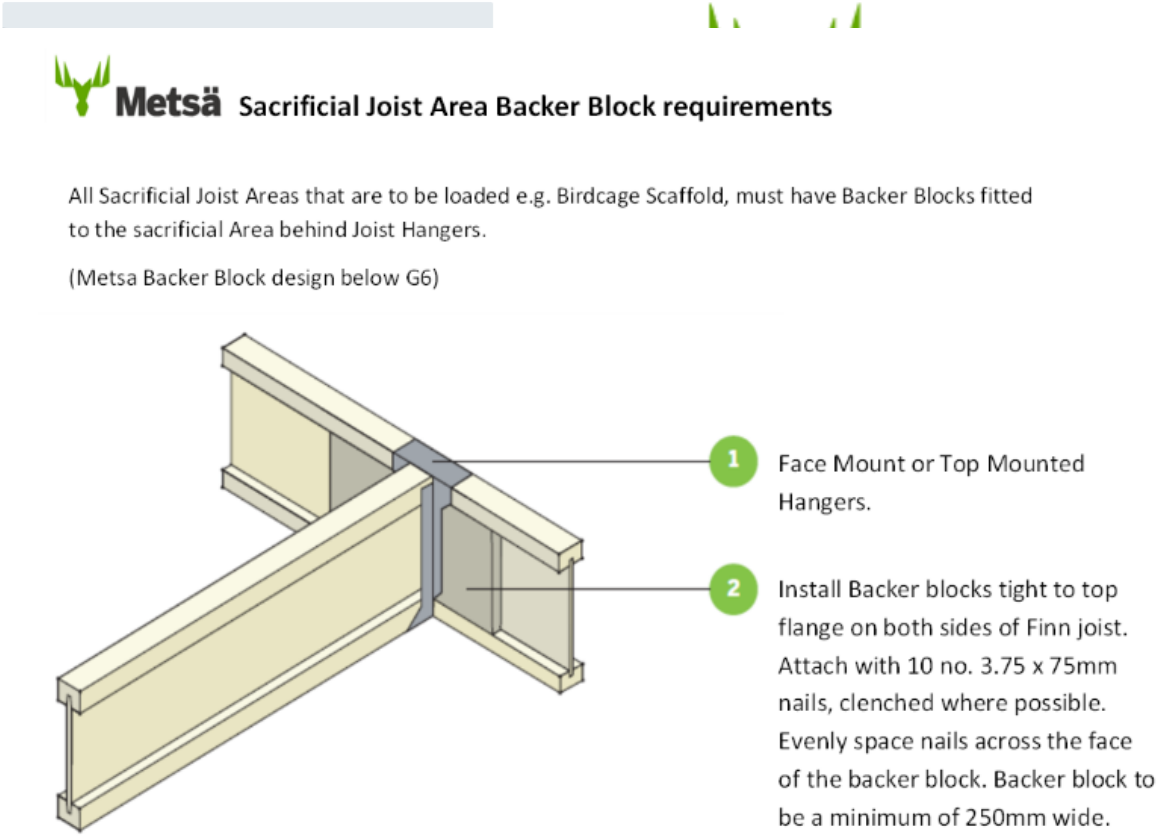
If the G & M Modular Access Platform Safety System is not suitable for the plot, i.e. kite winder, ensure the manufacturer/supplier installation design is provided within the sacrificial joist pack.

6.3.5 Sacrificial Joist - Category 2: Standard Temporary Works

- The Sacrificial Joist layout must be included in the Joist / Flooring Pack delivered to site. If it is not, this **MUST** be reported to the Site Management Team immediately. The following critical Items must be adhered to in all installations:
- Sacrificial joists are colour coded (e.g., red) for ease of identification.
- Sacrificial joist to be installed as per floor layout supplied with joist pack.
- All sacrificial joist lengths need to be checked for a maximum tolerance of 6mm once seated in the hangers provided (both ends). If the tolerance is exceeded, the sacrificial joist(s) must be replaced; and
- All hangers used as connectors to sacrificial joists to be Cullen LUI or UH backer less (face fix type) and installed using screws (8 No 3.5x30mm multi – purpose wood screws).
- The joiner (or installer) must demarcate the Sacrificial Joist Area by spraying it red immediately after installation.
  The Site Manager is responsible for verifying that this has been completed.
- Ensure the Installation of Sacrificial Joist and Temporary Access Hatch - handover certificate **F2.34c** is completed.

Sacrificial Joist Designs

Both Metsa Wood and Stair craft Sacrificial Joist designs are included within each house type flooring design. Flooring designs must be provided to the Contractor to ensure the correct fitting.

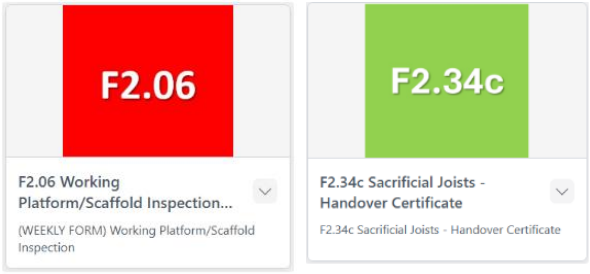


Metsa requirement Only
Handover

Once the Sacrificial Joist Area has been installed, the installer must confirm it has been installed correctly by completing a **'Handover Certificate'** (**Folder 2 F2.34c**).

<u>The Site Manager must ensure the Sacrificial Joist Area has been correctly demarcated in red before signing off the handover and ATP.</u>

A visual check is then carried out by the Site Management Team and recorded in the **Working Platform/Scaffold Inspection Record Sheet**. **Folder 2 - F2.06**



Ongoing arrangements

Inspections

Regular statutory inspections of the Sacrificial Joist Area are to take place following erection or any adaption and at least every 7 days, or after any event likely to have affected the Decking Platforms stability. Inspections must be recorded on the **Working Platform/Scaffold Inspection Record Sheet. Folder 2 F2.06**

Inspection and Monitoring

Checks/Inspections must be carried out as follows.

- As part of the handover of each installation and prior to any works, a **handover certificate** (**Folder 2 F2.34c**) must be provided.
- The joiner (or installer) must demarcate the Sacrificial Joist Area by spraying it red.
- Site Management Team to confirm the Sacrificial Joist Area is clearly sprayed red and recorded on the ATP and inspection sheet
- A visual check is then carried out by the Site Management Team and recorded in the **Working Platform/Scaffold Inspection Record Sheet**. **Folder 2 - F2.06**
- Daily visual user-check must take place before use.
- Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.
- Following adverse weather conditions or adverse impact, a statutory inspection is required by the site management teams.
- The site management team regularly monitor the safe use of the platform.

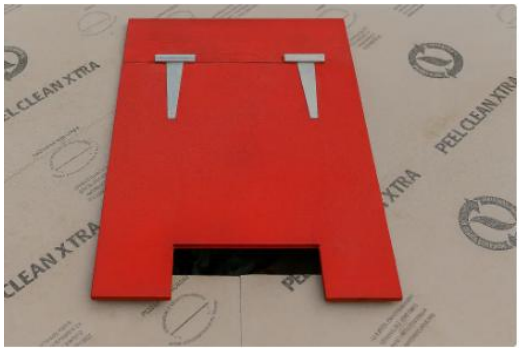
Sacrificial joists areas must **<u>NOT</u>** be loaded out with any brick, blocks or materials under any circumstance.
Note: The Site Management Team must ensure the Sacrificial Joist Area has been correctly demarcated in red before signing off the handover and ATP.

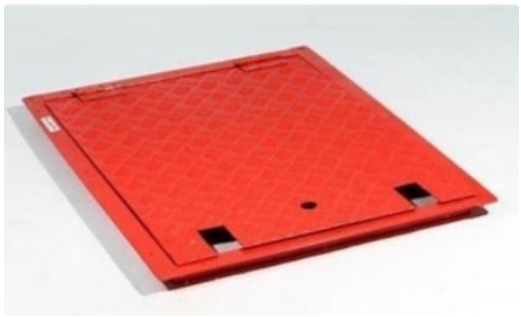
6.3.6 Installation of Temporary Access Hatches - Category 2: Standard Temporary Works

The hatch is to provide safe access onto the mid floor. The access hatch assembly consists of the following specification:

Timber Access Hatch to the following specification

- 800mm x 600mm op18mm marine plywood hatch with a 50mm overlap for support on all sides.
- Cut-out on the opening side to facilitate the positioning of a ladder.
- Hatch must lift upwards on 'Tee' hinges (secured to 18mm marine plywood strip fixed to the decking).
- Painted red (on both sides to increase visibility).
- A ladder is to be positioned (and anchored) and only removed once the installation of the soft-landing system is complete (prevent someone falling on it), and.
- The hatch must be positioned to ensure hatch can close fully.





Alternative Proprietary Access Hatch

Where the temporary access hatch is not suitable, an alternative proprietary access hatch can be used but the Regional HSE Advisor must review and confirm suitability

6.4.1 Supporting Timber Mid-floors - Category 1: Standard Temporary Works

Loading out and installing proprietary decking systems to midfloor during presents several health risks. Operatives are exposed to manual handling injuries from lifting, carrying, and positioning heavy components, which can lead to strains and musculoskeletal disorders. Dust and debris generated during installation may cause respiratory irritation, especially in enclosed spaces. Repetitive movements and awkward postures can contribute to fatigue and long-term joint or back problems.

Loading out midfloors presents several key safety risks. Overloading temporary platforms or proprietary decking can lead to structural failure or collapse, especially if load limits are not strictly followed. Additional hazards include trips and slips from scattered materials, poor housekeeping, and the risk of being struck by falling objects from above. Strict adherence to load schedules, edge protection, is essential to control these risks.

Construction waste, including offcuts of brick and block, can add to landfill if not properly managed or recycled. Additionally, dust and noise generated during installation can impact local air quality and disturb nearby wildlife. Responsible sourcing, waste management, and dust control are essential to minimize these environmental impacts

Where internal fall prevention is placed on timber mid-floors, i.e., traditionally constructed houses consideration must be given to need to support (prop) the floor temporarily.

As the installation and use of internal fall prevention systems places a load on the timber mid-floor, the specific requirements for each Floor Manufacturers design must be followed as each has different requirements for the temporary propping of the timber mid-floor.
The flooring manufacturing design requirements determine propping requirements. We use 2 different flooring manufacturers:

A system of work has been established for both flooring designers/manufacturers. Within this section, both systems of work will be described specific to the manufacturer's requirements.

These requirements are summarised in the table below

Fall Protection System	Fall Protection System Metsa	Floors Stair Craft Floors
Trad Deck	No propping	No propping
G&M Safe Deck	No propping	No propping
Rhino Deck	No propping	No propping
Scaffold 'Birdcage'	No propping	No propping

6.4.2 Metsa Mid-floor loading guidance

This Taylor Wimpey installation guide covers the arrangements for **Metsa** Flooring products for the following purposes:

Part 1 - Sacrificial Joist installations

Part 2 - Loading out of Mid-floors for superstructure construction

Part 3 - Loading out of Mid-floors for Proprietary decking system

The guidance has been created using Metsa design parameters for all Taylor Wimpey standard house type ranges. Note, any deviation from Taylor Wimpey Standard house type range flooring designs, works must not commence until necessary design information has been assessed, and critical controls identified and communicated.

6.4.3 Metsa Part 1 - Sacrificial Joist installation

Part 1 - Sacrificial Joist installations

Taylor Wimpey adopts 2 methods of protection against falls from height within stairwells:

- G&M Modular Access Platform Safety Systems (MAPSS)
- Sacrificial Joists

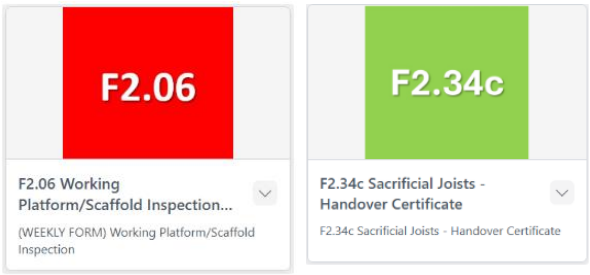
G&M MAPSS system is installed during Mid-floor installations and is to be utilised in all plots except plots with Kite-winder stairs where the system doesn't fit the stairwell opening.

Installation Requirements

Only trained operatives are to install the system. Before the installation of the G & M Modular Access Platform Safety System can commence, the Installation operatives and the site management team must have received and reviewed the manufacturer installation instructions and watched the installation video using the QR code below. Once the training has been completed, the briefing register must be completed.

Monitoring and Inspection

Before use, the Taylor Wimpey Site Management Team must review the installation and complete a handover certificate (Folder 2 - F2.34c) must be provided.
A visual check is then carried out by the site management team. This is recorded in the Working Platform/Scaffold Inspection Record Sheet F2.06
Daily visual user-check should be carried out before use.
Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.
Following adverse weather conditions or adverse impact.
The site management team is to regularly monitor the safe use of the GM Modular Access Platform Safety System.
Further information can be found Site HSE Manual – Section 6.3.4
Sacrificial Joists are installed during Mid-floor installations where the G&M MAPSS cannot be installed e.g. Kite winder stairs, where the system doesn't fit the stairwell opening.

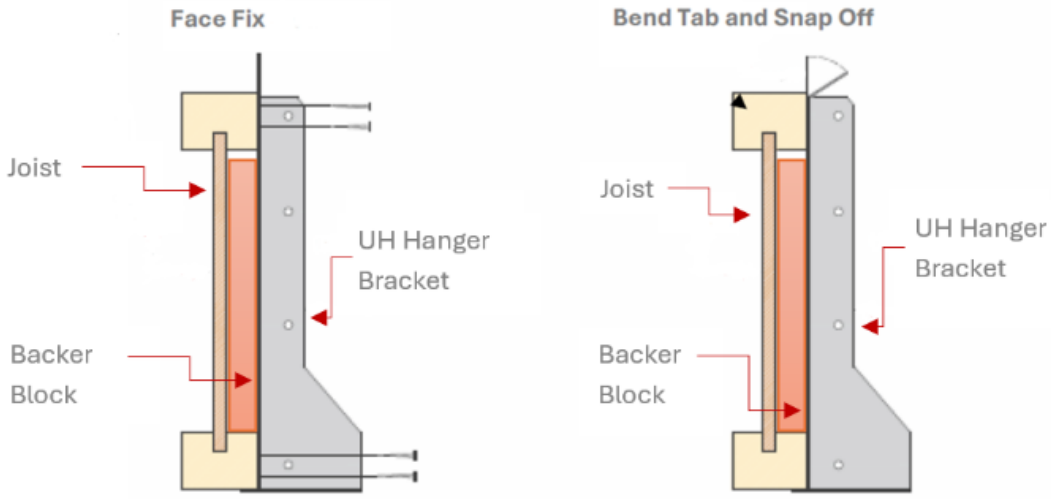


Installation Requirements

During Mid-floor installations, Sacrificial Joists are to be installed using the Metsa plot-specific Sacrificial Joist Design which will be provided by the Site Management team to the Carpentry Installer.

Sacrificial Joist Hanger Design

Taylor Wimpey fixing detail for all hangers is standardised for all sacrificial joist installations. Hangers detailed in the joist design must be used and located in the exact position shown on the drawing. Carpenters installing the sacrificial joist must use the following fixing: 8 x 3.5 x 30mm multi-purpose wood screws. Details of the configuration can be found in Section 6.3.4 of the HSE Manual, in addition to plot-specific drawings (information can be found on Group Doc Host).



Metsa Installation guidance

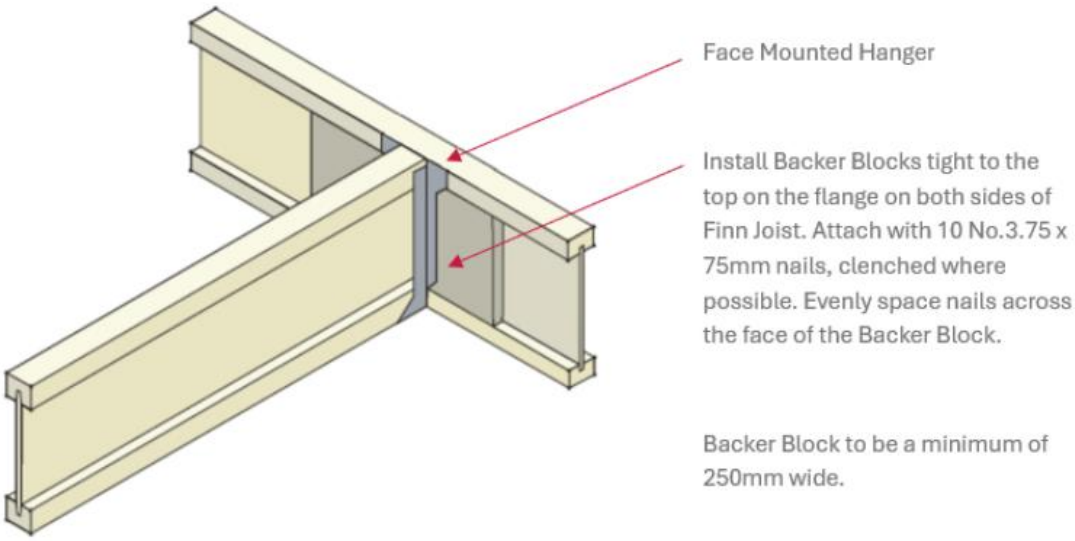
Click Here

Metsä

Backer Blocks Design

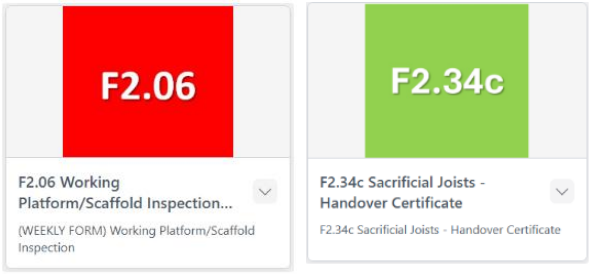
For all Metsa Sacrificial Joist Installations, 'Backer Blocks' must be installed within the Sacrificial Joist area to ensure the loading capability of the Sacrificial Joist Area.

All Sacrificial Joist Areas that are to be loaded e.g. Birdcage Scaffold, must have Backer Blocks fitted to the Sacrificial Area behind the Joist Hangers.



Inspection and Monitoring

Upon completion, a handover certificate must be completed by the installer and provided to the Site Management Team, who will inspect and sign off the installation. Form F 2.34c.
Subsequent weekly checks of the system are to be undertaken and recorded on the Work at Height Inspection Register Form F 2.06.



6.4.4 Metsa Part 2 - Loading out of Mid-floors for superstructure construction

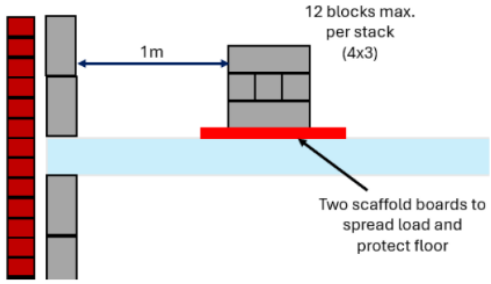
Part 2 - Loading out of Mid-floors for superstructure construction

Once the timber mid-floor is complete, Bricklayers may continue to build brick and block work, either up to the next mid-floor (for three-storey houses) or roof level (for two-storey houses).
In most cases, the work can be carried out from the external scaffold working platform to construct the superstructure walls, both block, and brick (working overhand), with no loading required on the mid-floor.

Where there is a requirement to work directly from the mid-floor, i.e., construct party walls or perimeter walls, under-propping is no longer required provided our strict loading-out controls are followed.
Note Before any floor being loaded out with Air Crete Block, 'Backer Blocks' must be fitted within the stair opening for Metsa flooring only where sacrificial joists/decking is used in that area. To confirm the necessary arrangements for loading out timber mid-floors are in place, we are introducing an Authority to Proceed - Loading Mid-Floors (Construction HSE Plan – Folder 2.40) which is completed by the Site Management Team and the Bricklaying Contractor/operatives.

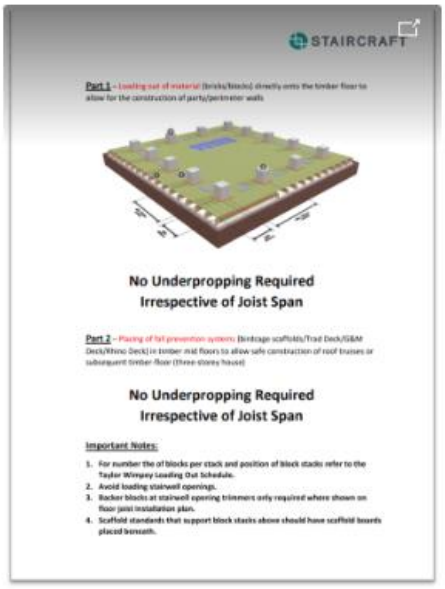
The following checks must be made, and recorded as part of the Authority to Proceed:

- The type of block to be loaded onto the mid-floor (lightweight Air Crete)
- Where sacrificial joists/decking are used the 'Backer Blocks' must be fitted within the stair opening area.
- Confirm the Sacrificial Joist area is sprayed Red to demarcate the 'No Loading Zone' (where Sacrificial Joist is used.
- Blocks must be placed on two scaffold boards to spread the load and prevent floor damage.
- These scaffold boards must be positioned 1m away from the face of the walls.
- Not less than 1.0m clear distance between stacks
- Blocks must be stacked following the loading out schedule detailed in the HSE Manual and communicated to Bricklaying operatives.



NOTE: *If high density blocks are proposed, then liaise with your Production Director and Regional HSE Advisor as a bespoke temporary works design may be required.

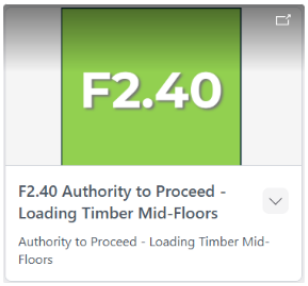
Where Bricklayer's hop-ups are used, they must be placed on scaffold boards which run against the direction of the joists and span at least 3 joists to spread the load.



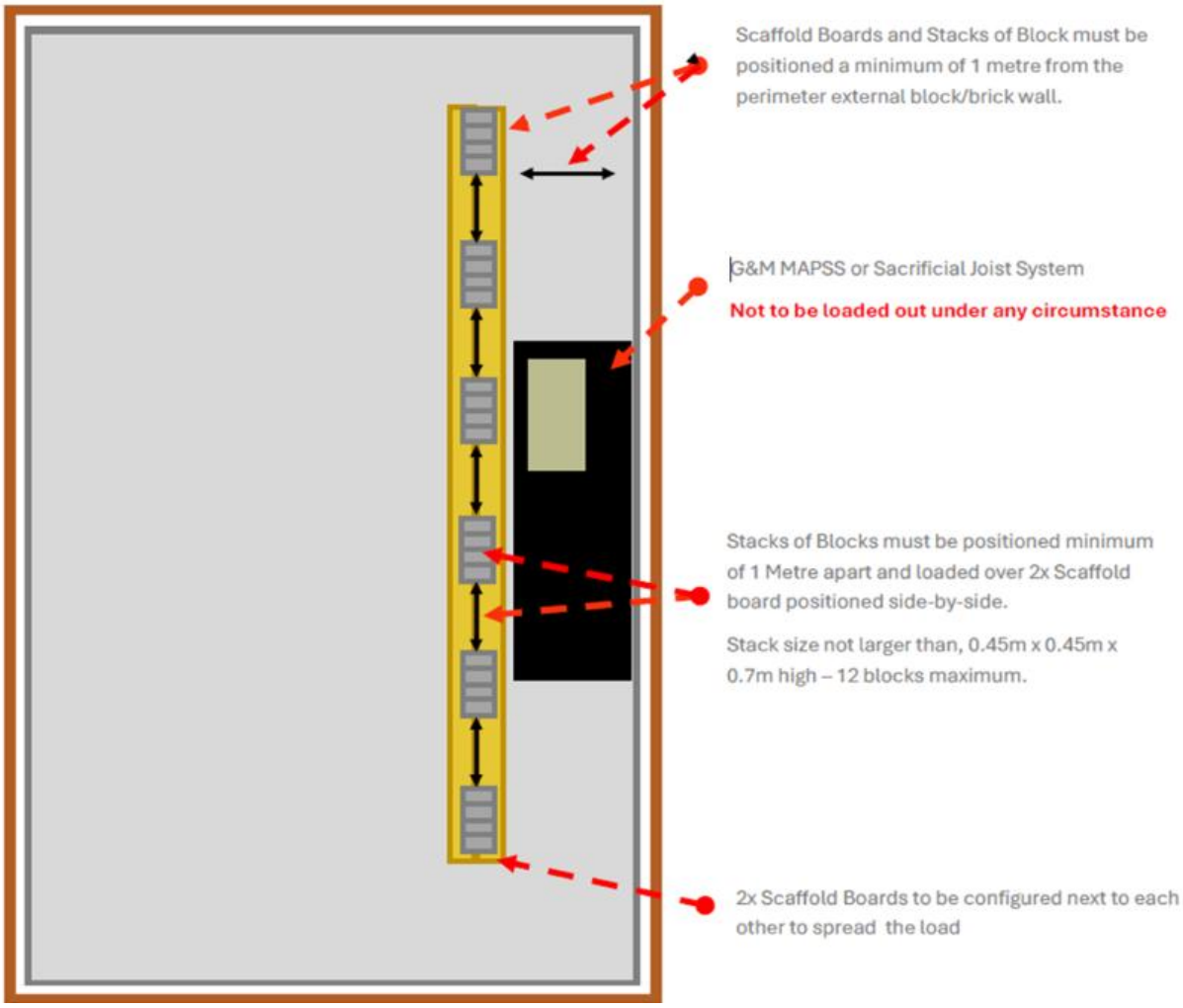
Responsibility: Site Manager.

When: Prior to the loading of timber mid-floors with Aircrete blocks

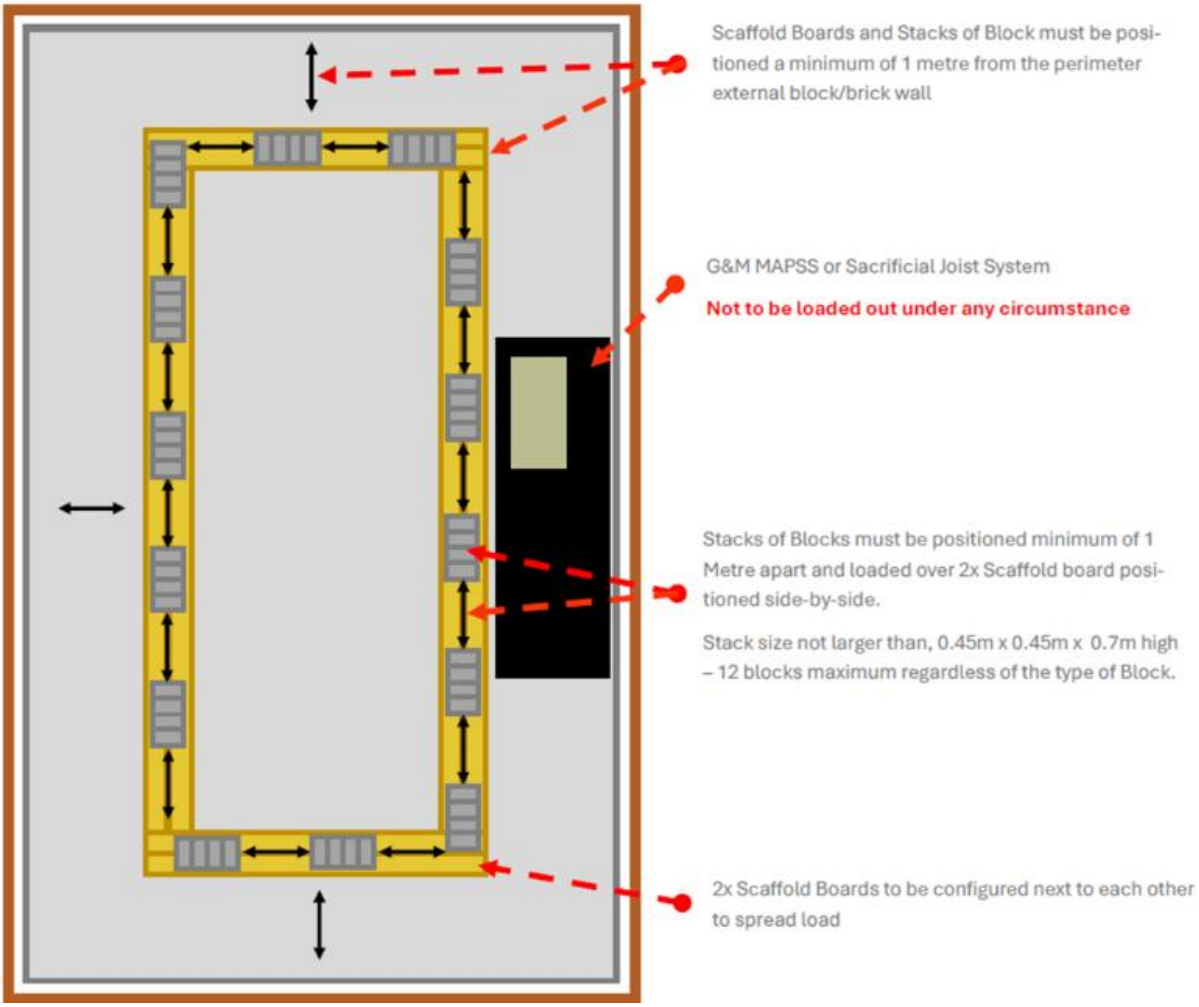
Purpose: To confirm the necessary loading out configuration is utilised and the Operatives briefed



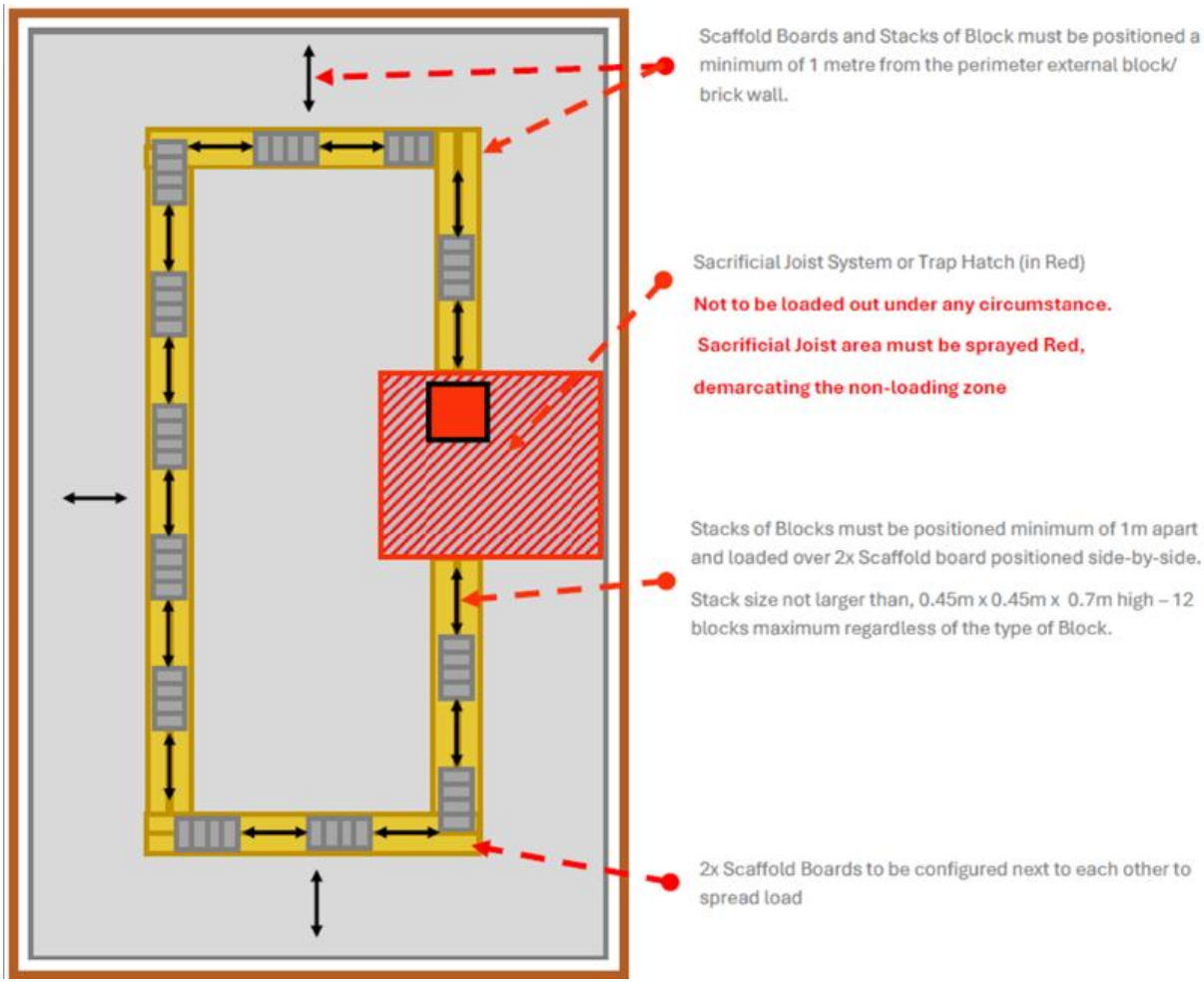
Sample of Mid-floor loading out schedule – semi-detached



Example of loading out schedule – Detached



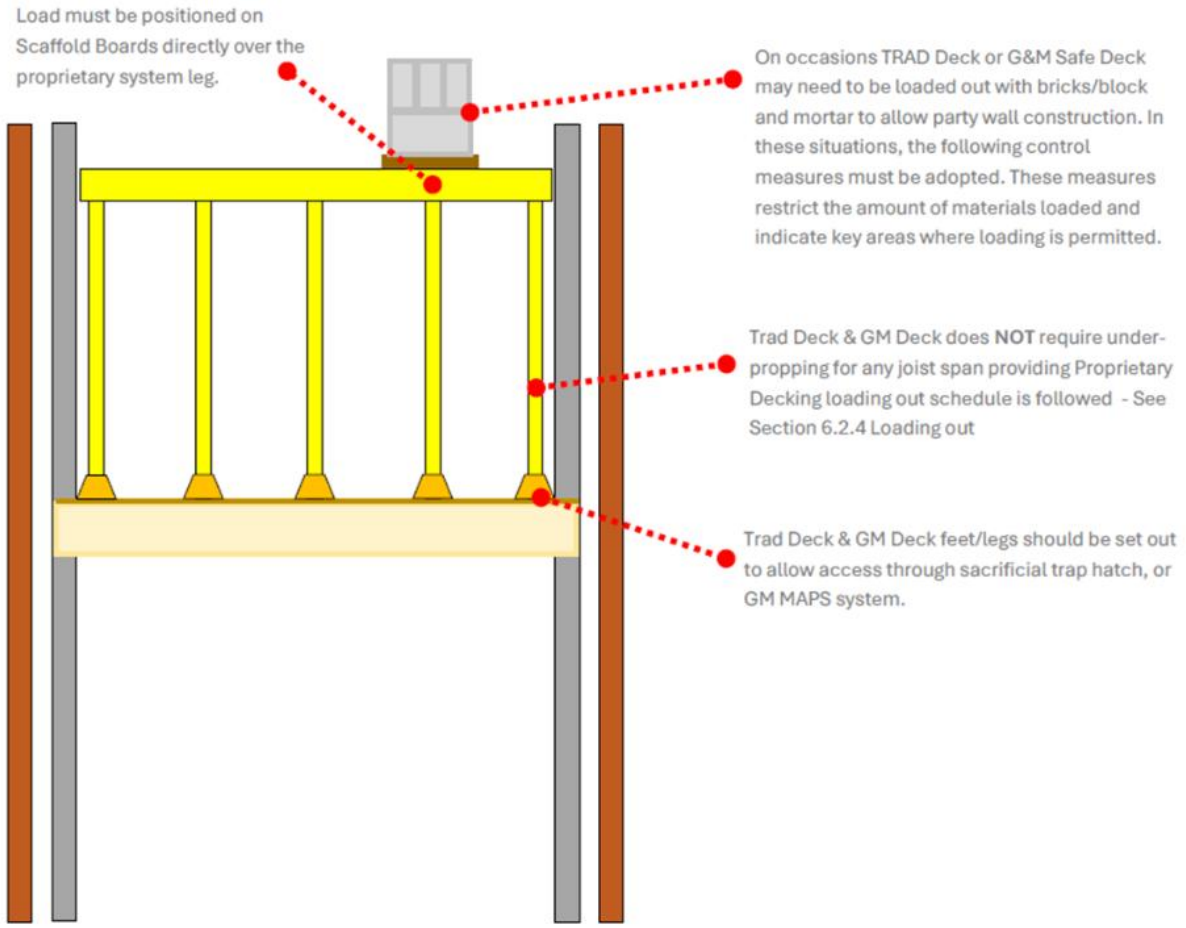
Example of loading out schedule Sacrificial Joist Kite Winders



6.4.5 Metsa Part 3 - Loading out of Mid-floors for Proprietary decking system

TRAD Deck and G&M Safe Deck proprietary access platforms must only be installed and dismantled by trained and authorised installers. These decking systems are predominantly used as an access and working platform, however, where loading out is required on the working platform, the loading schedule must be followed.

Note: Both Metsa and Stair Craft design floors **DO NOT** require under-propping providing the Authority to Proceed Controls and Loading Schedule is followed.



Installation and use of Birdcage Scaffolds

Where Birdcage Scaffolds are to be used as a proprietary access platform, consideration must be given to the following:

- House type
- Joist Design and Clear Span
- Sacrificial Joist Area
- Loading requirements

Note: As shown on the Mesta drawing where sacrificial joists/decking is used the 'Backer Blocks' must be fitted within the stair opening area, as shown below before birdcage installation

All Scaffold Systems must be installed by a CISRS-trained Scaffolder. Upon completion of Scaffold Birdcage Installation, the Scaffold Handover process must be followed – See Site HSE Manual Section 5, with subsequent Scaffold inspections undertaken – See Site HSE Manual Section 5.

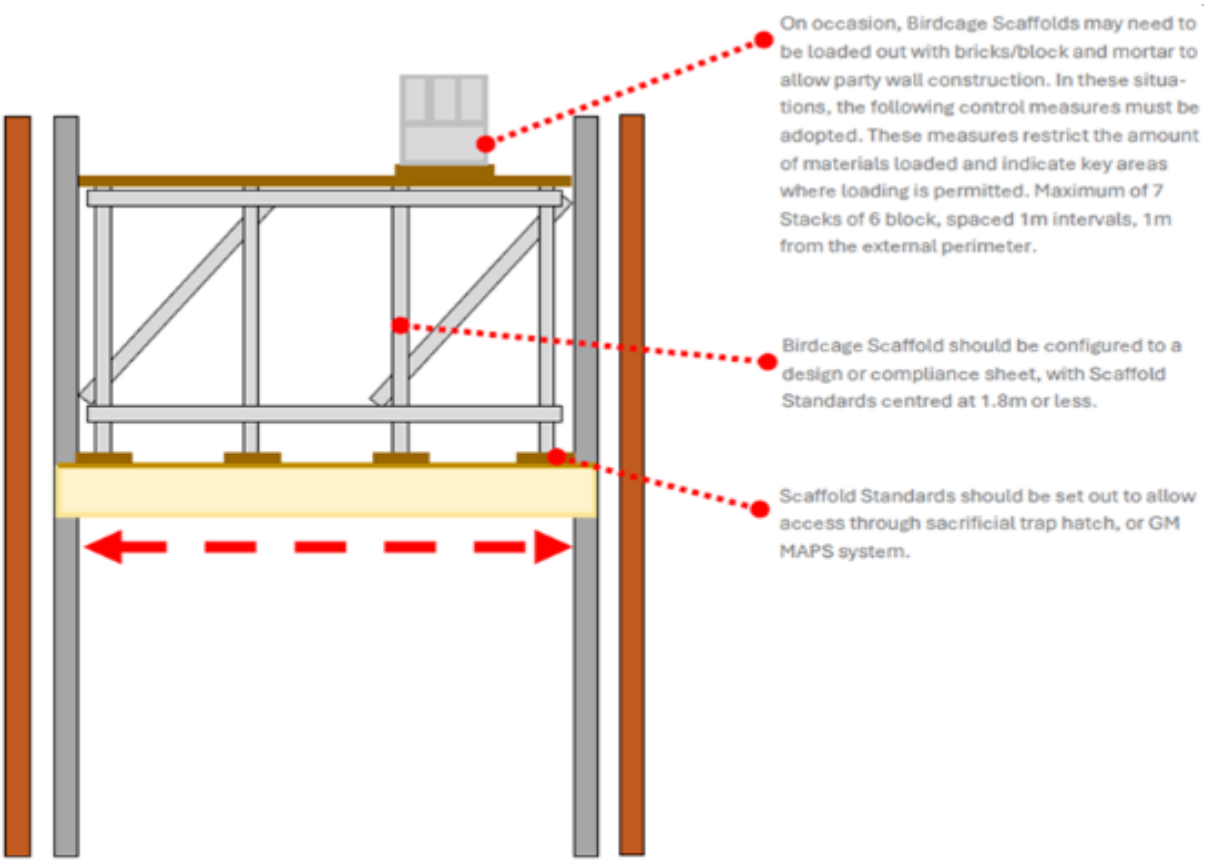
Metsa Flooring Loading out

All House types, within the following house type ranges can be loaded out without the need for under-propping providing the TW loading out requirements detailed in part 2 of this document are followed, and the Site Management Team MUST confirm the necessary arrangements for loading out timber mid-floors are in place, we are introducing an Authority to Proceed - Loading Mid-Floors (Construction HSE Plan – Folder 2.40) which is completed by the Site Management Team and the Bricklaying Contractor/operatives.

- 2017 National Space Range
- 2017 Issue 7 Range
- 2020 Core Range (EMA 2021)

AA11	EMA33	EMA W31	EMT33	NA49	ND43	PB30G	PD412
AA21	EMA34	EMA W32	EMT34	NA50	NT30	PB33	PD413
AA22	EMA35	EMA W41	EMT41	NA51	NT31	PB33G	PD414
AA23	EMA41	EMA W42	EMT42	NB30	NT40	PB35	PD415
AA24	EMA42	EMB31	EMT43	NB31	NT41	PB35G	PD416
AA25	EMA43	EMB32	EMT44	NB32	NT42	PB41	PD48
AA26	EMA44	EMB41	EMT45	NB33	PA21	PB41G	PD48
AA31	EMA45	EMB51	NA20	NB40	PA22	PB51	PD49
AA32	EMA46	EMB51	NA21	NB41	PA24	PB52	PD51
AA33	EMA47	EMB52	NA22	NB42	PA25	PC30	PT31
AA41	EMA48	EMC31	NA30	NB50	PA30	PC32	PT310
AA42	EMA49	EMC41	NA31	NB51	PA33	PC33	PT32
AA43	EMA51	EMG31	NA32	NB52	PA34	PC41	PT35
AA44	EMA52	EMG41	NA34	NB53	PA41	PD30	PT36
AB31	EMA P21	EMG42	NA40	NC30	PA411	PD32	PT37
AB41	EMA P22	EMG43	NA42	NC31	PA42	PD33	PT38
EMA21	EMA P31	EMG44	NA43	NC40	PA43	PD34	PT39
EMA22	EMA P32	EMG45	NA44	NC41	PA44	PD40	PT41
EMA23	EMA P41	EMG51	NA45	ND40	PA47	PD41	PT42
EMA31	EMA W21	EMT31	NA46	ND41	PA48	PD410	PT43
EMA32	EMA W22	EMT32	NA47	ND42	PA49	PD411	PT45

Under-propping Birdcage Scaffold unloaded

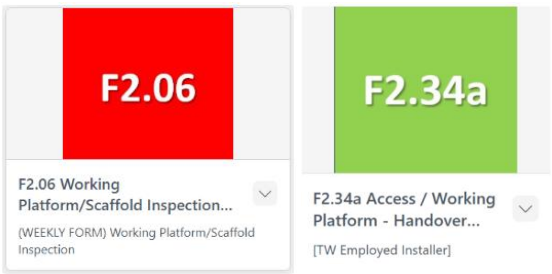


Design and Installation

The Taylor Wimpey propping design must be used where timber mid-floors are required to be supported.
Note: Where System Scaffolds are used, the Manufacturer's Instruction/Design must be provided and be available to confirm the suitability of the specific system.
Note: Business Units may use an alternative scaffold design provided by their Scaffold Contractors. Any non-standard propping designs must be designed to a recognised standard and approved by the Production Director and RHSEA before commencement.

Handover

Upon completion, a handover certificate must be completed by the installer (Direct Scaffold Contractor) and provided to the Site Management Team, who inspects and signs off the propping installation - (Scaffold Form F 2.34a.)
Note: The Site Management Team is then responsible for carrying out weekly checks of the propping and recording on F 2.06: Work at Height Inspection Register.



6.4.6 Stair Craft Mid-floor loading guidance

This Taylor Wimpey installation guide covers the arrangements for **Stair Craft** Flooring products for the following purposes:

Part 1 - Sacrificial Joist installations

Part 2 - Loading out of Mid-floors for superstructure construction

Part 3 - Loading out of Mid-floors for Proprietary decking system
The guidance has been created using Stair Craft design parameters for all Taylor Wimpey standard house type ranges.

Note, any deviation from Taylor Wimpey Standard house type range flooring designs, works must not commence until necessary design information has been assessed, and critical controls identified and communicated.

6.4.7 Stair Craft Part 1 - Sacrificial Joist installation

Part 1 - Sacrificial Joist installations
Taylor Wimpey adopts 2 methods of protection against falls from height within stairwells:

- G&M Modular Access Platform Safety Systems (MAPSS)
- Sacrificial Joists

G&M MAPSS system is installed during Mid-floor installations and is to be utilised in all plots except plots with Kite-winder stairs where the system doesn't fit the stairwell opening.

Installation Requirements

Only trained operatives are to install the system. Before the installation of the G & M Modular Access Platform Safety System can commence, the Installation operatives and the site management team must have received and reviewed the manufacturer installation instructions and watched the installation video using the QR code below. Once the training has been completed, the briefing register must be completed.

Monitoring and Inspection

Before use, the Taylor Wimpey Site Management Team must review the installation and complete a handover certificate (Folder 2 - F2.34c) must be provided.
A visual check is then carried out by the site management team. This is recorded in the Working Platform/Scaffold Inspection Record Sheet. F2.06
Daily visual user-check should be carried out before use.
Every 7 days after the date of installation, a Statutory Inspection is carried out by the site management team.

Following adverse weather conditions or adverse impact.
The site management team is to regularly monitor the safe use of the GM Modular Access Platform Safety System.

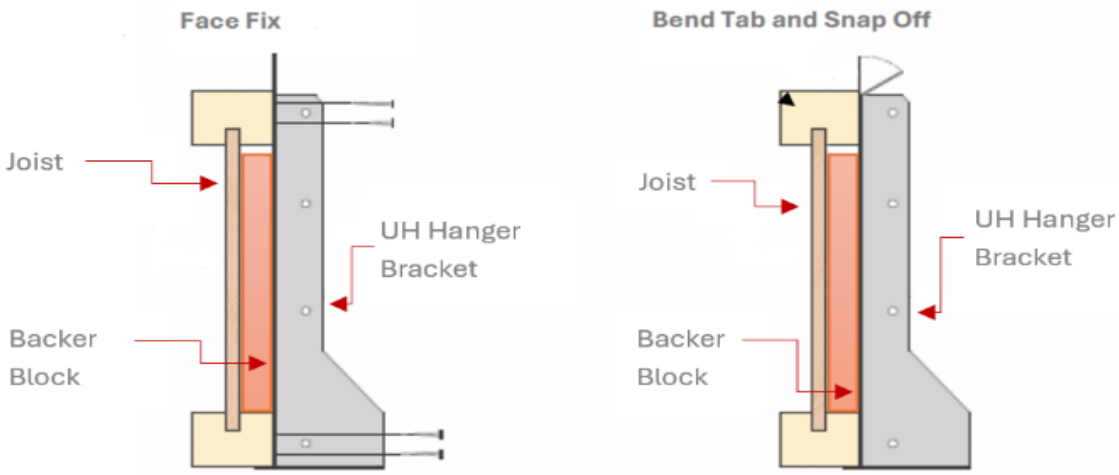
Further information can be found Site HSE Manual – Section 6.3.4
Sacrificial Joists are installed during Mid-floor installations where the G&M MAPSS cannot be installed e.g. Kite winder stairs, where the system doesn't fit the stairwell opening

Installation Requirements

During Mid-floor installations, Sacrificial Joists are to be installed using the Stair Craft plot-specific Sacrificial Joist Design which will be provided by the Site Management team to the Carpentry Installer.

Sacrificial Joist Hanger Design

Taylor Wimpey fixing detail for all hangers is standardised for all sacrificial joist installations. Hangers detailed in the joist design must be used and located in the exact position shown on the drawing. Carpenters installing the sacrificial joist must use the following fixing: 8 x 3.5 x 30mm multi-purpose wood screws. Details of the configuration can be found in Section 6.3.4 of the HSE Manual, in addition to plot-specific drawings (information can be found on Group Doc Host).



Inspection and Monitoring

Upon completion, a handover certificate must be completed by the installer and provided to the Site Management Team, who will inspect and sign off the installation. Form F 2.34c.
Subsequent weekly checks of the system are to be undertaken and recorded on the Work at Height Inspection Register Form F 2.06.

6.4.8 Stair Craft Part 2 - Loading out of Mid-floors for superstructure construction

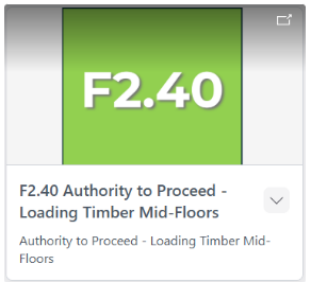
Part 2 - Loading out of Mid-floors for superstructure construction

Once the timber mid-floor is complete, Bricklayers may continue to build brick and block work, either up to the next mid-floor (for three-storey houses) or roof level (for two-storey houses).
In most cases, the work can be carried out from the external scaffold working platform to construct the superstructure walls, both block, and brick (working overhand), with no loading required on the mid-floor.

Where there is a requirement to work directly from the mid-floor, i.e., construct party walls or perimeter walls, under-propping is no longer required provided our strict loading-out controls are followed.
To confirm the necessary arrangements for loading out timber mid-floors are in place, we are introducing an Authority to Proceed - Loading Mid-Floors (Forn Fr 2.40) which is completed by the Site Management Team and the Bricklaying Contractor/operatives.

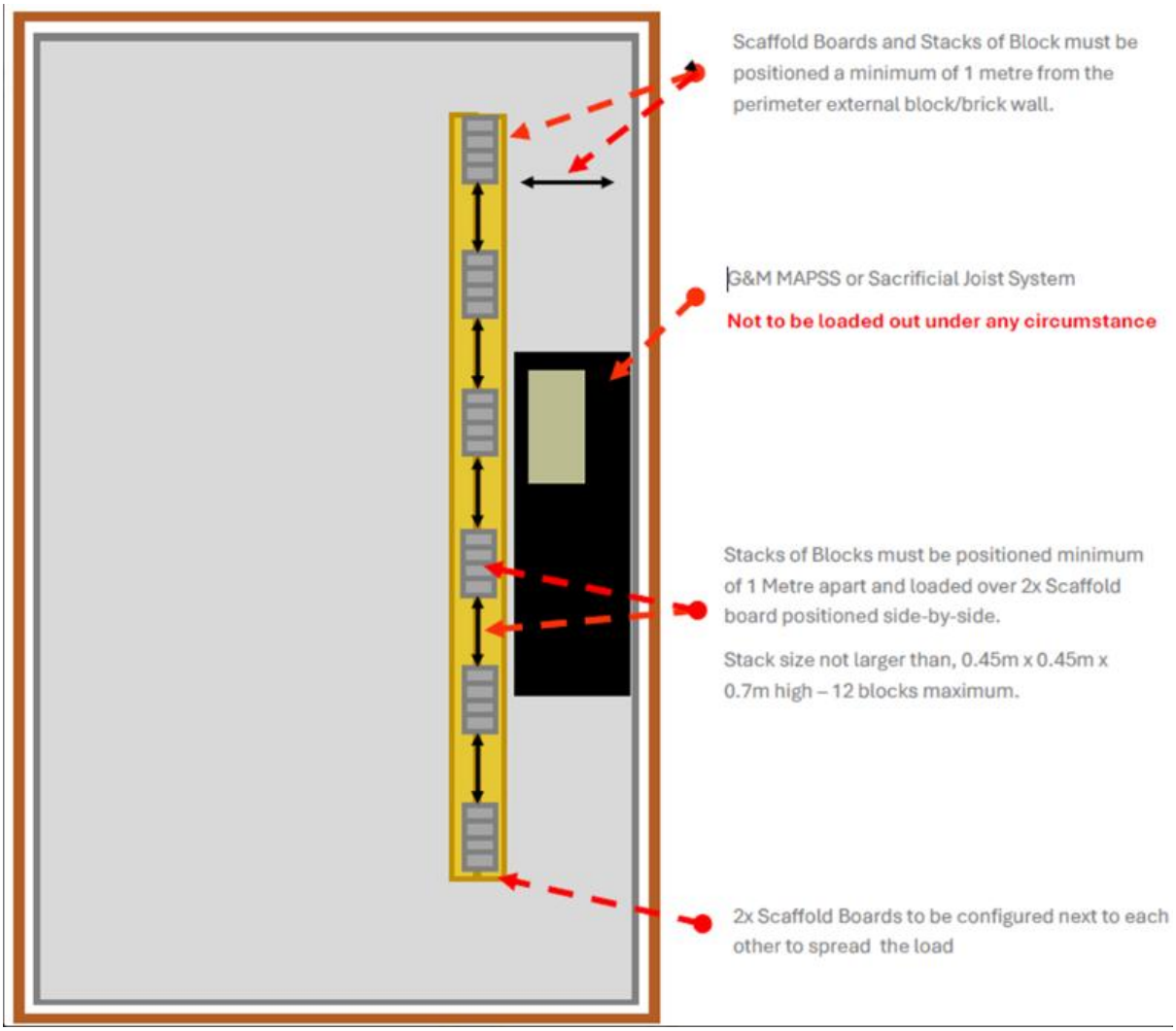
The following checks must be made, and recorded as part of the Authority to Proceed:

- The type of block to be loaded onto the mid-floor (lightweight Air Crete)
- Where sacrificial joists/decking are used the 'Backer Blocks' must be fitted within the stair opening area.
- Confirm the Sacrificial Joist area is sprayed Red to demarcate the 'No Loading Zone' (where Sacrificial Joist is used.
- Blocks must be placed on two scaffold boards to spread the load and prevent floor damage.
- These scaffold boards must be positioned 1m away from the face of the walls.
- Not less than 1.0m clear distance between stacks
- Blocks must be stacked following the loading out schedule detailed in the HSE Manual and communicated to Bricklaying operatives.

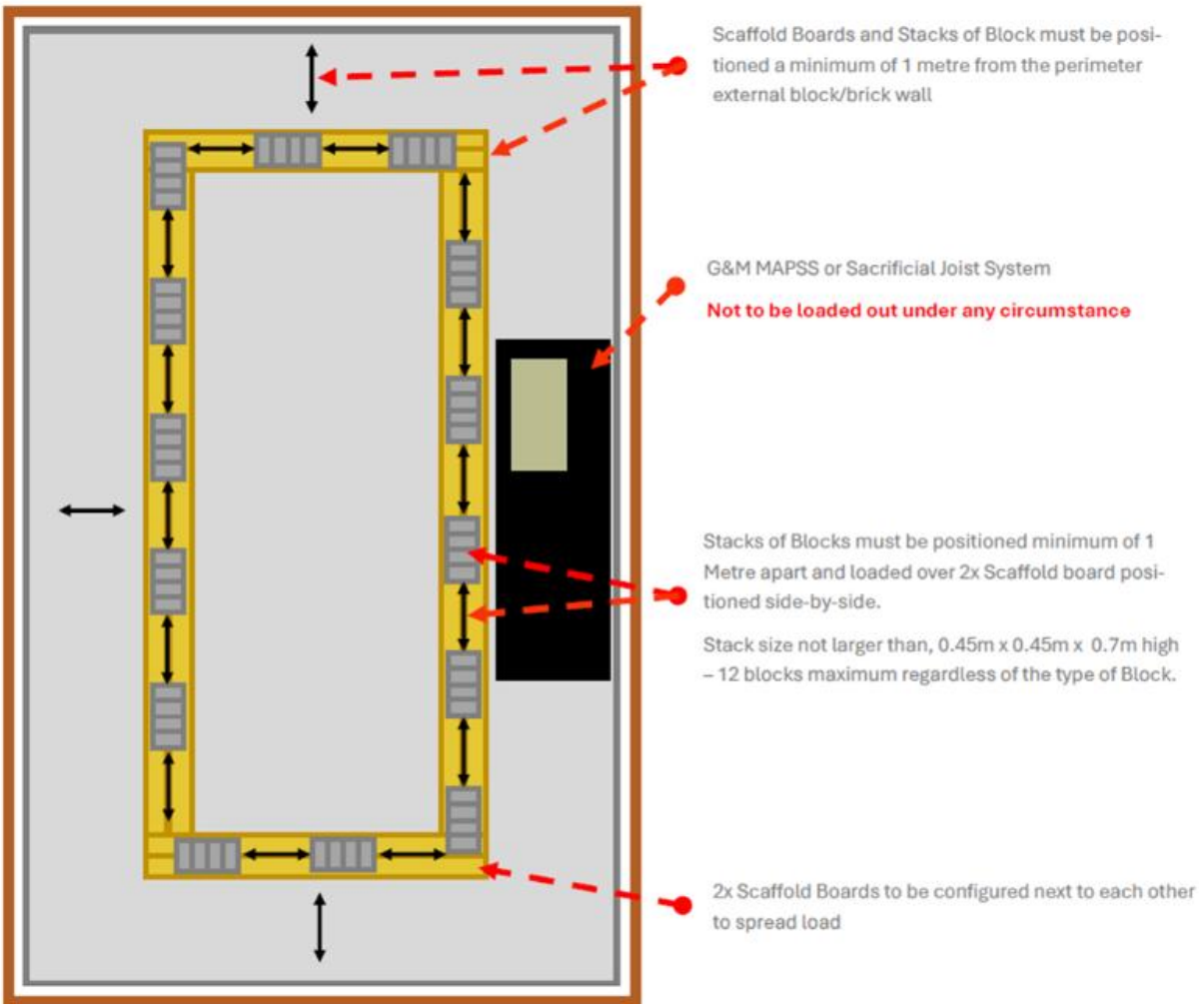


Not If any alternative Block is used other than Lightweight, Air Crete Block, the Mid-Floor **MUST NOT** be loaded. Contact your Production Director and RHSEA to discuss alternative arrangements.

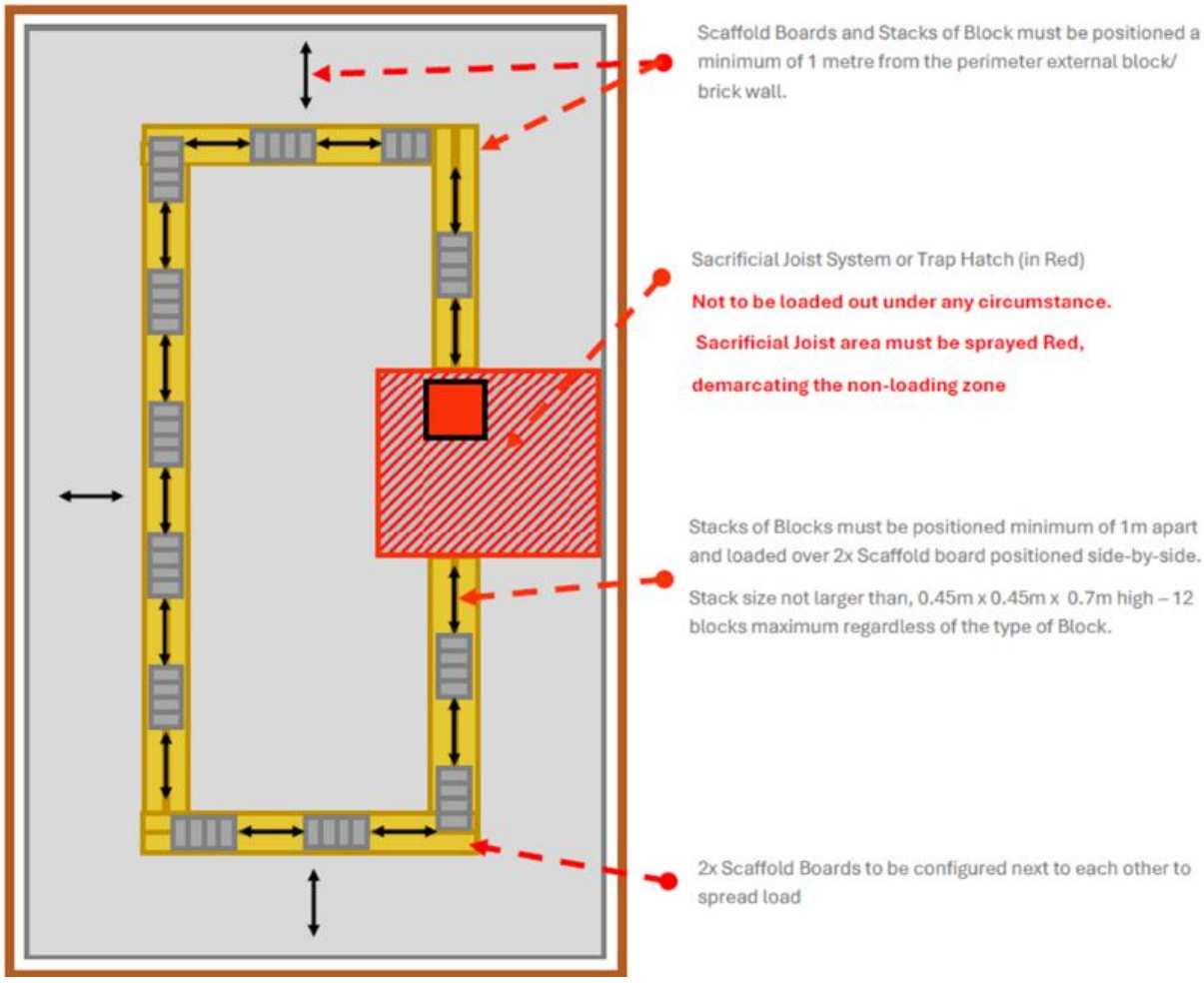
Example of Mid-floor loading out schedule – semi-detached



Example of loading out schedule – Detached



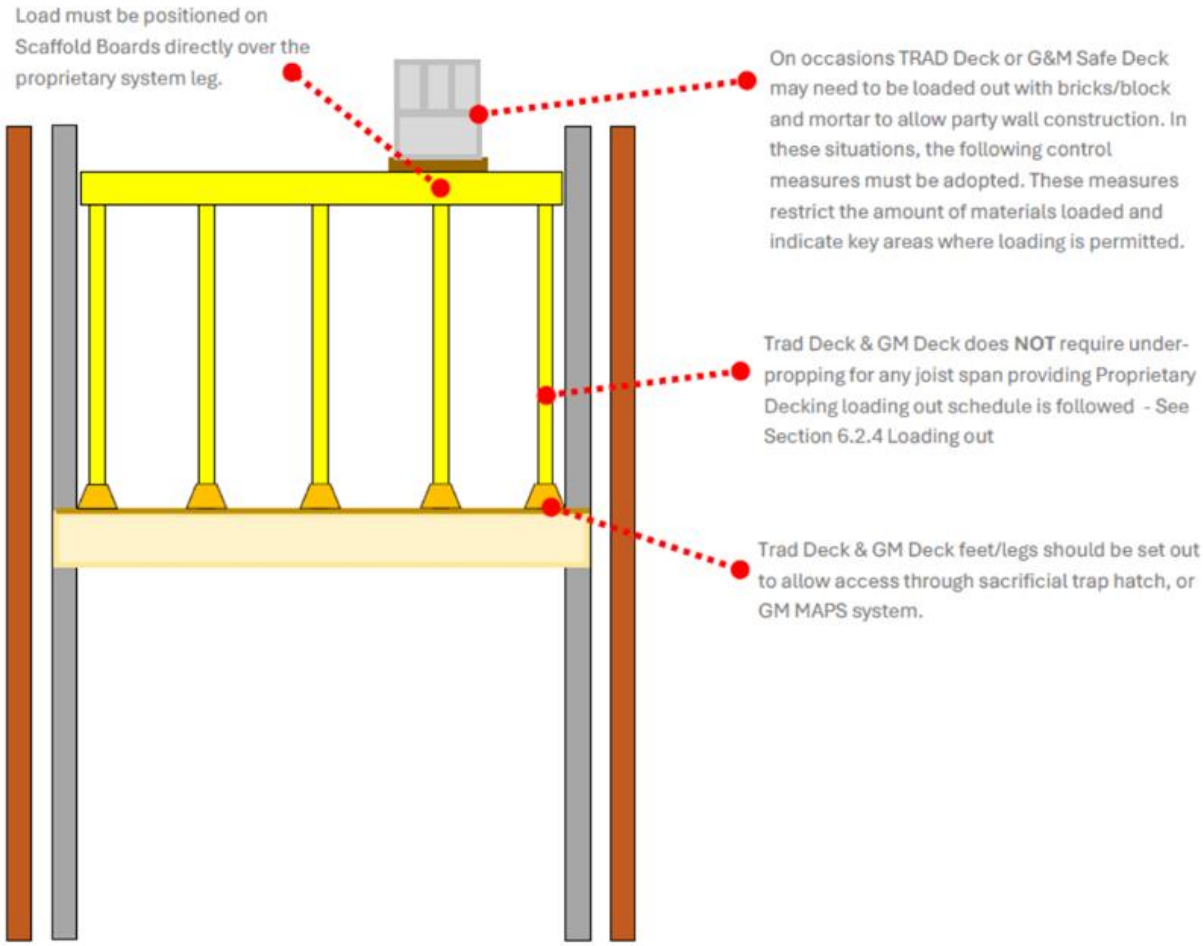
Example of loading out schedule Sacrificial Joist Kite Winders



6.4.9 Stair Craft Part 3 - Loading out of Mid-floors for Proprietary decking system

TRAD Deck and G&M Safe Deck proprietary access platforms must only be installed and dismantled by trained and authorised installers. These decking systems are predominantley used as an access and working platform, however, where loading out is required on the working platform, the loading schedule must be followed.

Note: Stair Craft design floors **DO NOT** require under-propping providing the Authority to Proceed Controls and Loading Schedule is followed.



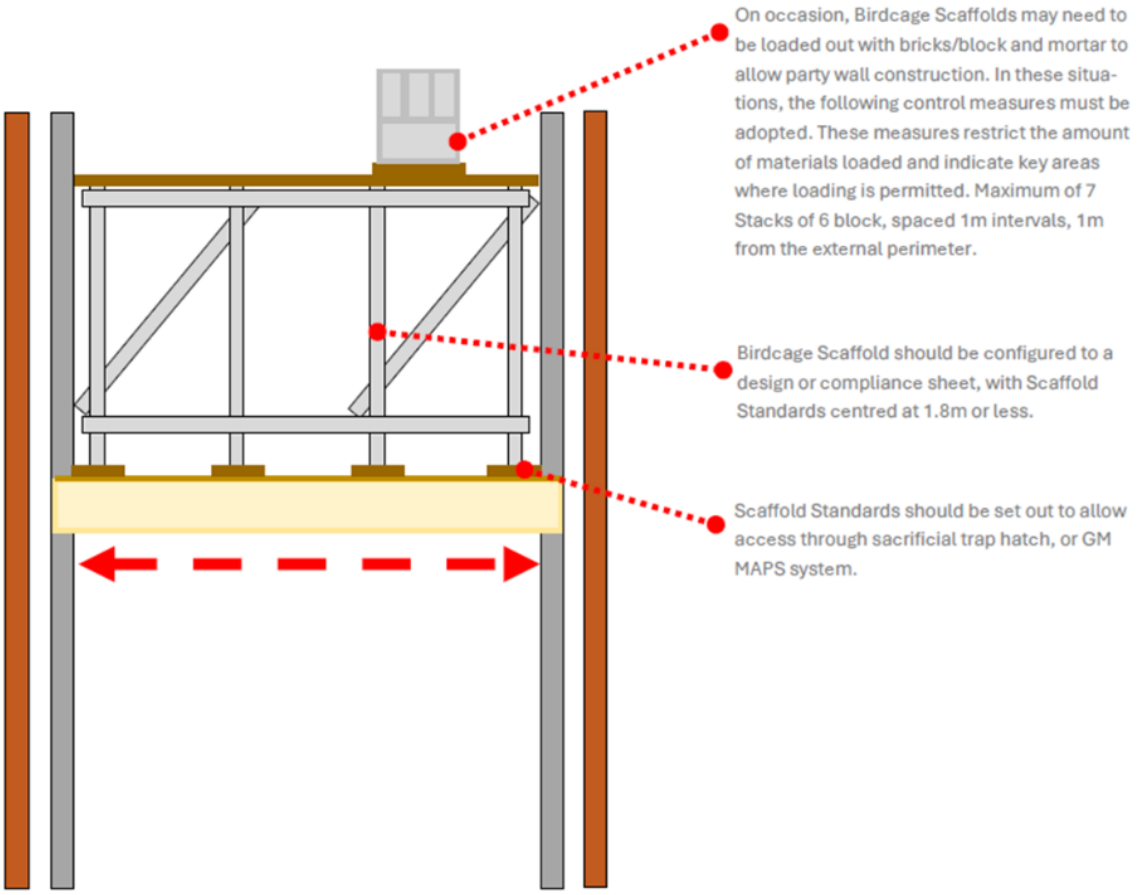
Installation and use of Birdcage Scaffolds

Where Birdcage Scaffolds are to be used as a proprietary access platform, consideration must be given to the following:

- House type
- Joist Design and Clear Span
- Sacrificial Joist Area
- Loading requirements

Note: As shown on the Mesta drawing where sacrificial joists/decking is used the 'Backer Blocks' must be fitted within the stair opening area, as shown below before birdcage installation
All Scaffold Systems must be installed by a CISRS-trained Scaffolder. Upon completion of Scaffold Birdcage Installation, the Scaffold Handover process must be followed – See Site HSE Manual Section 5, with subsequent Scaffold inspections undertaken – See Site HSE Manual Section 5.

Under-propping Birdcage Scaffold Requirements and Loading Schedule



Design and Installation

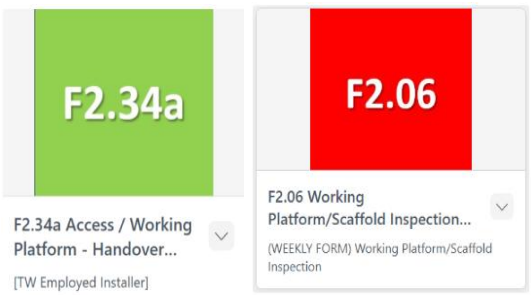
The Taylor Wimpey propping design must be used where timber mid-floors are required to be supported.

Note: Where System Scaffolds are used, the Manufacturer's Instruction/Design must be provided and be available to confirm the suitability of the specific system.
* Plots that have joist lengths less than 5.2 metres and are not loaded with materials either on the mid-floor or on a decking system do not require support (back propping).

Note: Business Units may use an alternative scaffold design provided by their Scaffold Contractors. Any non-standard propping designs must be designed to a recognised standard and approved by the Production Director and RHSEA before commencement.

Handover

Upon completion, a handover certificate must be completed by the installer (Scaffold Contractor) and provided to the Site Management Team, who inspects and signs off the propping installation - (Direct Scaffold Form F 2.34a.)
Note: The Site Management Team is then responsible for carrying out weekly checks of the propping and recording on F 2.06: Work at Height Inspection Register.



6.5.1 Structural Stability of Free-Standing Brick/Blockwork Category 0: Standard Temporary Works

Pointing internal brickwork within roof spaces can pose several health risks. Poor ventilation and confined conditions may lead to inhalation of dust and silica particles, increasing the risk of respiratory issues such as silicosis or asthma. Additionally, awkward working positions and manual handling in tight roof spaces can lead to musculoskeletal strain. Ensuring proper PPE, ventilation, and ensuring access is essential to mitigate these health hazards.

Pointing internal brickwork within a roof space for internal gables poses several risks. The confined environment and limited access can make safe movement difficult, increasing the chance of slips, trips, or falls. A key hazard is the presence of freestanding blockwork, which may be unstable and prone to collapse if not properly supported, especially when disturbed during pointing. Working at height or on temporary platforms adds further risk. Ensuring structural stability, secure access, and appropriate temporary works is essential to prevent injury and maintain a safe working environment.

It is important to ensure that mortar, brick and block waste is segregated into the aggregate recycling waste to maximise the recycling opportunity. Ensure a the correct skip is provided prior to works commencement.

On upper levels of blockwork walls including the apexes of party and gable walls, there is an increased risk of exposure to high winds/adverse weather that may affect their stability.

Steps must be taken to ensure their stability by:

- Blockwork to be constructed to a maximum 6 courses per day, and
- Brickwork to be constructed to a maximum 18 courses per day.

If the brick/block wall is freestanding, e.g., Gable walls, and exposed to windy conditions, extra precautions must be taken to provide
support.

An example of how walls can be supported is illustrated opposite where triangular bracing panels are used.

6.5.2 Internal Mortar to Gable Apex Walls Category 0: Standard Temporary Works

The preferred method for accessing to gable apex walls, including for filling, pointing, and brushing off excess mortar, is ‘overhand’ from the external platform.

Where access is not practical from the external scaffold, then work must be carried out from a suitable internal platform, e.g.: Birdcage scaffolding on a supported deck or Proprietary access platform (Rhino, TRAD Deck or G&M Safety Deck (see Section 6.4)

On some internal gable apex walls, it may not be possible to reach the top of wall from the internal platform. In these instances, a temporary working
platform such as the Oxford trellis can be used.
If a temporary platform is used the ‘internal fall protection’ must remain in place below.

Oxford Safety technical data sheet
Click Here

6.6 Joist Design For Renewable Technologies

Cutting Joist and Timber poses several health risks to workers. Manual handling of heavy timber or engineered joists can cause musculoskeletal injuries, including strains and sprains. Dust from cutting or drilling wood may lead to respiratory issues if proper protection is not used. Repetitive movements and awkward postures can result in long-term joint or back problems. Noise from power tools and risk of slips, trips, or falls are also common hazards.

The installation of elements of renewable technology, such as large storage cylinders, can place additional loading on Timber Mid Floors. If not correctly addressed by design - excessive deflection, bounce and even joist failure could result. There is also a risk of slips, trips, and falls due to uneven surfaces, misplaced tools, or debris. Using power tools for cutting or fixing joists introduces risks of cuts.

Cutting wood joists can pose environmental risks. Sourcing timber from unsustainable forests contributes to deforestation and loss of biodiversity. The use of preservatives and treatments on joists may introduce chemicals into the environment, potentially contaminating soil and water. Construction waste, including offcuts and damaged joists, must be recycled. Additionally, dust and noise generated during installation must be controlled.

6.6.1 Mechanical Ventilation Heat Recovery (MVHR) Ducting

MVHR ducting requires large holes, typically 130mm wide. Although the joists can accommodate such openings, care must be taken to ensure the openings are located correctly and at the required distance away from main structural bearings to prevent weakening the floor or causing excessive deflection/ squeaking.

If the floor joist design does not incorporate the location of the MVHR duct runs, the ducting must not be installed.

Contact the Technical Team for clarification.
If the position of the duct runs needs to be changed, the joist design must be revised to reflect this

6.6.2 Cylinders Associated With Solar Thermal Installations

These cylinders, used to store the thermal mass, can be typically around 400kg in weight. Our standard floor designs are not designed for these imposed loads.

If the floor design does not incorporate the weight/location of the cylinder being used, the cylinder must not be installed.

The operation is halted immediately, and clarification obtained from the Technical Team.

If the location of the cylinder needs to be changed, the floor design must be revised to reflect this.

6.7.1 Installation of Pre-Cast Concrete Floors

Precast concrete floors can pose health risks primarily due to dust exposure during cutting, drilling, or adjustment, which may contain respirable crystalline silica and lead to long-term respiratory conditions such as silicosis or chronic obstructive pulmonary disease. Handling heavy units can cause musculoskeletal strain, particularly to the back and shoulders. Noise from power tools used for installation may contribute to hearing loss if unmanaged. Additionally, vibration from equipment can lead to hand-arm vibration syndrome. Effective dust suppression, PPE, and ergonomic practices are essential to reduce these health hazards.

Installing precast concrete floors involves significant safety risks. These include the danger of falls from height during placement, as work often occurs on upper levels without complete edge protection. Heavy lifting and maneuvering of large concrete units pose crushing hazards if components shift or are dropped. Inadequate temporary supports or incorrect sequencing can lead to structural instability and collapse. Additionally, working near cranes and lifting equipment introduces risks of struck-by incidents. Strict adherence to lifting plans, secure edge protection, and robust temporary works are essential to maintain a safe installation process.

Installing precast concrete floors can have environmental impacts. Site activities may generate dust and slurry, which can contaminate soil and water if not controlled. Noise from installation equipment can affect local surroundings, and improper waste management of offcuts or packaging adds to landfill pressure. Proper waste handling is essential to minimise these environmental risks.

The installation of pre-cast concrete floors is a specialist activity. There are several keys checks the TW Site Management Team, in conjunction with the Installation Supervisor, must make before the installation can commence:

- Enough time has been allowed for the slab bearing walls to be adequately cured.
- Check that no visible damage to the slab bearing walls / surfaces.
- Scaffold platform has been set at the correct height for the installation team to have safe access and visibility during the landing of the slabs / beams. Scaffold handover must be complete F2.06 and working platform inspection register complete F2.34a.
- The agreed fall prevention / protection system e.g., 'Air Mats' have been fully installed.
- The installation team have provided the TW Site Management Team with a copy of:
- Their Lifting Plan - Safety Method needs to be reviewed and F2.11a must be complete
- Safety Method Statement (agreed Safe System of Work)
- Completed copy of their 'Pre-Installation Checklist' (i.e., confirming that an inspection of all slab bearing walls / surfaces has been carried out by the Installing Supervisor).
- The installation team have been briefed by the Installation Supervisor

No slab / beam installation can proceed without the above checks being made and a completed copy of the 'Pre-Installation Checklist' being received and checked.

Before authorising the installation of a precast concrete floor, the Site Manager must, in advance, hold a 'Take 5' to discuss and review the Contractor's safe system of work, including any applicable critical points.

The 'Take 5' Pre-Cast Concrete Floor Installer Briefing and the HSE Site Control Form –STAC / HSE Control Forms Folder can be used.

6.7.2 Silica Dust Control for Pre-Cast Concrete Installation

Cutting or drilling pre-cast concrete on site can generate respirable crystalline silica dust, which poses serious health risks.
In all cases where cutting or adjustment of pre-cast concrete is required on site, follow the principles and controls detailed in **Section 3.8.3 Construction Dust** of this manual. Please refer to the Silica Dust subsection.
Key points to remember for pre-cast installers:

- Always prioritise 'dust-free' methods (e.g., pre-cutting at the factory).
- If power tools must be used, water suppression or on-tool extraction is mandatory.
- Suitable RPE (minimum FFP3) must be worn and face-fit tested.
- Manage waste slurry from wet cutting to prevent environmental contamination.

For detailed procedures, approved equipment, and water suppression system examples, **refer to Section 3.8.3 Construction Dust** (Silica Dust).
Manual water bottles are not accepted for dust suppression when cutting pre-cast concrete.

A suitable powered/pressurised dust suppression system must be used at all times when cutting pre-cast concrete on site.
Example of suitable water suppression systems that must be used on TW Sites

6.8 Constructing Roofs

Roof installations involve significant hazards, including falls from height during truss placement and unstable trusses during the installation process. These risks must be managed using the controls detailed below to prevent incidents. Manual handling of heavy trusses can cause musculoskeletal injuries; therefore, lifting or crane operations must be suitably managed to ensure the safe lifting of trusses and equipment. Weather conditions can affect lifting operations and increase slip hazards. Falling objects from poorly secured materials add further danger; therefore, roof installation works must follow the specified controls and arrangements to ensure safe installation.

Installing timber roofs poses health risks including respiratory issues from wood dust and adhesives, musculoskeletal injuries from heavy lifting, and noise-induced hearing loss from power tools. Workers may also experience hand–arm vibration syndrome, dermatitis from preservatives, and heat stress during summer. UV exposure and psychosocial stress add further hazards. Controls include dust extraction, respiratory protection, safe lifting practices, PPE for noise and skin, hydration, sun protection is essential for safe operations

Timber roof installation can impact the environment through waste generation, dust emissions, and noise pollution. Cutting and handling timber produce wood dust, which can affect air quality. Improper disposal of offcuts, packaging leads to incorrect recycling of materials. Controls include waste segregation and recycling, dust suppression, spill prevention, efficient machinery use.

Typically, there are two types of pitched roof construction carried out on TW sites:

- Traditional / Timber Frame / Apartments
- Modular Roofs (see **Section 6.10**

6.8.1 Risk Assessment

A full and specific risk assessment for installing any roof type must be undertaken by a competent person before any work commences. When completing a risk assessment, the following hazards must be considered as a minimum:

- Delivery to site
- Competency of individuals

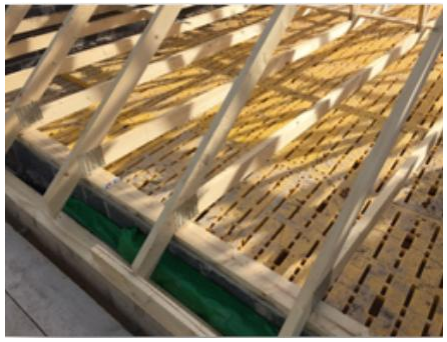
- Loading and unloading
- Storage of trusses/roof components
- Movement of trusses/roof components
- Lifting of trusses/roof components
- Work at height
- Access and egress
- Slips and trips
- Structural collapse
- Manual handling
- Overhead services
- Temporary bracing
- Inclement weather

6.8.2 Fall Protection For Roof work

Prior to any roof construction work, suitable fall protection must be provided e.g.:

- Birdcage scaffold / proprietary access platforms (see Section 6.13); or
- STS Trellis Mats (or similar)

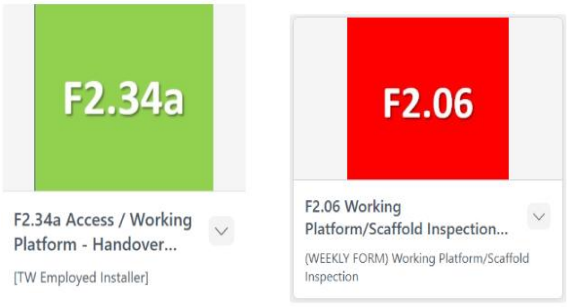
Where the work is complex or time consuming, e.g., roof structure with a considerable amount of cut joints, then birdcage scaffolding/proprietary access platform must be provided.



- Operatives installing the specific system must have been trained in its use.
- Inspections must be carried out and recorded before installation and recorded in the Working Platform/ Scaffold Inspection Record Sheet (Construction HSE Plan Folder
  2 - F2.06).

And for proprietary systems:

- A copy of the manufacturer's instructions must be available on site; and
- Operatives erecting the specific system must provide a 'handover certificate'



For further information regarding the installation on proprietary access platforms, see Section 6.2 STS Trellis Mats

6.8.3 Delivery and Offloading

All roof truss packs, and spandrel panels delivered to site must have suitable pre-attached lifting slings (pre-slung) to enable them to safely be off-loaded from the delivery vehicle and without the need for anyone to access the load area of the delivery vehicle.

If any roof truss delivery is received without the factory fitted strapping or slings, then stop the operation and contact your Regional / Site HSE Advisor. A Non-Compliance Notice must be issued, and the trusses returned to the supplier if there is no alternative safe means of off-loading (e.g., using fall arrest 'bag wallets').

The Commercial Director must be made aware of the Non-Compliance Notice and to take up the issue directly with the truss supplier.

Trusses and spandrel panels are supplied with the following factory fitted lifting straps

Spandrel Panels
Have two types of lifting straps are supplied, long straps for offloading and short straps for lifting or transporting with a telehandler/mobile crane.

Truss Packs
Have one type of lifting strap supplied, used for both offloading and for lifting or transporting with a telehandler/mobile crane.

Storage
Once offloaded, Trusses must be stored on a TW designed Truss rack, or lifted directly onto the roof for installation

Security and Stability of Trusses

- Trusses secured together and to delivery vehicle using colour straps:
- One colour to be used to secure truss bundles together, and
- Another colour used to secure the trusses to the vehicle

There are two options for offloading trusses and spandrel panels from delivery vehicles:

- Option 1 - Using a mobile crane or HIAB
- Option 2- Using a telehandler with the approved lifting accessories (hook or truss jib)

The preference is to arrange and co-ordinate delivery so that the trusses/spandrel panels can be offloaded by a mobile crane or HIAB directly from the delivery vehicle, 'just in time' .

As well has having pre-attached lifting slings, trusses must be secured together (bundles) and secured to the delivery vehicle to maintain their security and stability during both their journey to site and whilst being off-loaded.

Offloading Using a Mobile Crane of HIAB

To minimise the need to carry trusses/spandrel panels around the site, arrangements are made, where possible, to have 'just in time' deliveries and truss racks positioned close to the plots.

This allows temporary storage of trusses/spandrel panels near to their point of installation and avoids any future need to transport them using a telehandler.

Roof Structures (e.g., roof trusses and spandrel panels) for anything other than low level roofs (e.g., garages) must be lifted into place by means of a mobile crane or HIAB, with a suitable lifting plan available (See **Section 8.3**).

Planning a Crane Lift

As part of the planning of a new site, a crane location drawing should be produced, this must include the location of cranes and their swing radius so planning of truss rack locations can be carried out (see **Section 5**).

The drawing and planning must also consider underground and overhead hazards e.g., soft ground, drainage, services etc. to ensure these are avoided when setting up cranes on site. The crane location plan must be reviewed on regular basis with your Site HSE Advisor

No lifting operation, no matter what type of crane/machine is being used can take place on site without the Site Managers permission.

Authorisation is given once the task has been reviewed and critical safety checks have been made including a check to ensure that adequate resources/manpower are available and the Lifting Operations Co-ordination Plan – Mobile Crane (Folder 2 F2.11a) has been completed.

If the Site Management Team is responsible for preparing a Lifting Plan as part of a 'hire and manage' lift, then a Lifting Operations and Co-ordination Plan – Mobile Crane (Folder 2, F2.11a) must be completed by the Site Management Team in consultation with the Crane Hire Company (See Section 8.3)

If the Carpentry Contractor is responsible for preparing a Lifting Plan, then they must provide their Lifting Plan to the Site Management Team for review.

The Site Management Team must complete Parts B and C of F2.11a (Lifting Operations and Co-ordination Plan – Mobile Crane) to authorise the lifting operation to commence (See **Section 8.3**).

Offloading Using a Telehandler

Where it is not possible to use a crane or HIAB to offload the trusses/spandrel panels, then they may be removed from the delivery vehicle by the telehandler using the method described below.

When a telehandler is used for unloading there must be suitable arrangements for the Telehandler and Delivery Vehicle to be positioned so that there is direct access for the trusses/spandrel panels to be placed directly on to the designated truss rack.

The lifting straps (long straps for spandrel panels) are attached from ground level to the JCB Lifting Hook fitted to the telehandler (note: the trusses/spandrel must still be secured to the delivery vehicle).

- Delivery driver or other authorised person 'cuts' the colour coded securing straps by using a telescopic cutter.
- Telehandler lifts and then places the trusses/panel on the ground, ensuring the panel is stable against the vehicle
- For spandrel panels the short strap is then attached to the lifting hook attachment ready for lifting onto a suitable truss rack
- Once the straps/short straps are attached the telehandler engages their stabilisers and lifts the trusses/spandrel panel 'just' off the ground
- Delivery vehicle then moves forward or back allowing the telehandler to boom out and place the trusses/spandrel panel directly onto a truss rack
- Before placing spandrel panels on the truss rack the long strap must be attached and the short strap detached to avoid the need to climb on the truss rack.

Note: The area must be segregated off and where visibility issues for the Telehandler Operator a traffic marshal is provided.

6.8.4 Temporary Storage of Roof Trusses/Spandrel Panels

Installing roof trusses, spandrel panels and the associated bracing, etc. requires specific construction skills, therefore, the installation of roof trusses, spandrel panels, etc. must only be undertaken by suitably experienced and qualified personnel.
There are two options for placing and storage of trusses/spandrel panels on site:

- Lifted in small groups (three or four trusses) and immediately installed in their permanent location; or
- On designated truss racks ready for future installation (ideally adjacent to the plots where they are to be installed) – Category 1: Standard Temporary Works

Trusses/spandrel panels are lifted directly from the delivery vehicle (either as a small number at a time or individually) via a mobile crane or HIAB and placed directly onto the roof plate of the required plot.

Where groups of trusses are lifted, they must be laid flat across the roof plate, then manually positioned, and secured with the first truss temporarily secured to one of the table lifts.

There are two different methods for temporary securing trusses at roof level, including:

Method 1 - Category 1: Standard Temporary Works

Trusses lifted in small batches (up to 4 trusses) at a time and temporary secured against a table lift. With the table lift constructed as follows:
All joints above the last line to be spliced Structural transoms at each pair of standards within the table lift. Ledger braces every frame of table lift Table lift fitted with third guardrail.

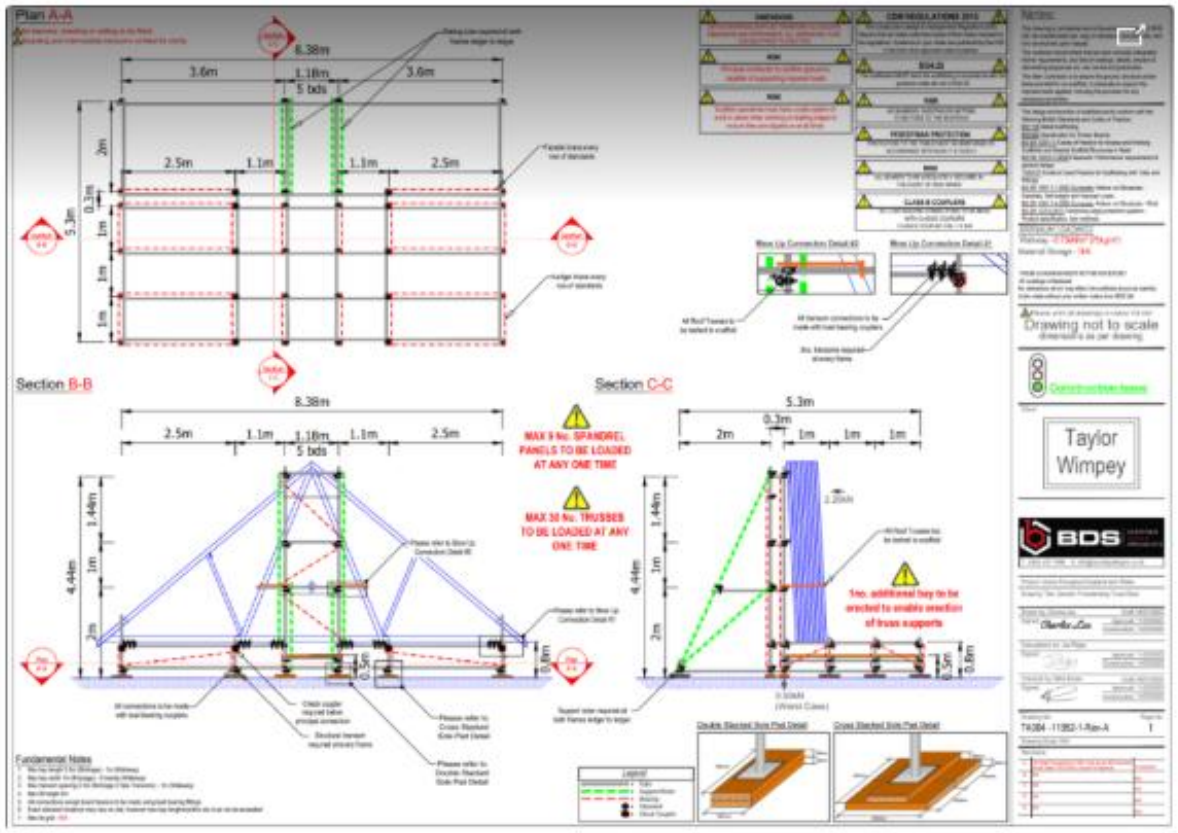
Method 2:
Trusses laid flat across the wall plate

For information on the temporary bracing and installation of roof trusses please see Section xxx.
The Site Management Team must check and confirm the temporary bracing requirements are included in the Carpentry Contractor's safe system of work and that the operatives involved have been briefed on **Section 6.8.1.** The operation must be carried out and completed by the same team.
Full truss packs must not be lifted on to the roof plate and stored vertically, they must be laid down across the wall plate.

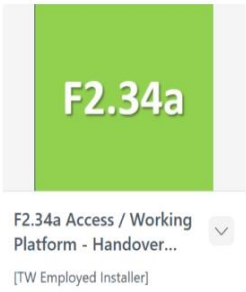
Note: as part of pre-lifting checks and throughout the lifting operation the wind speed must be regularly monitored. Wind speed can be monitored either via the anemometer fitted to the mobile crane or via a hand-held anemometer if using a HIAB.
If gusts of wind are more than 11m/s (25mph), then the operation must not commence or be stopped.

On a designated truss rack - Category 1: Standard Temporary Works

Where it is not possible to have the trusses delivered 'just in time', i.e., lifted directly onto the roof plate and immediately installed, then trusses must be stored in a safe manner on a suitable truss rack.
The types of suitable truss racks include free standing and attached.



Truss racks must be located where there are suitable ground conditions to allow safe access for any telehandlers or mobile cranes/HIABs.
Locate truss racks so that they are within reach (radius) of mobile cranes/HIABs to subsequently eliminate or at least reduce the need to transport them via a telehandler.



6.8.5 Transporting Roof Trusses and Spandrel Panels

When transporting trusses and spandrel panels around the site by telehandler, the approved lifting hook attachment or approved truss jib must be used. See **Section 8.2.14**

Spandrel panels have two types of lifting straps factory-fitted by the supplier, short and long straps. The long straps are used for offloading and the short straps for transporting and lifting.

The short straps on spandrel panels are used for transporting so that the centre of gravity of the load is kept low.
Truss packs and spandrel panels are restricted to a maximum weight of 600kg.

A tag line must be attached to the load and a Traffic Marshal used to control the load.
On spandrel panels the supplier must fit a small strap at the heel to attach the tag line to.

When Transporting Trusses with a truss jib, the trusses must be secured to the Truss Carrier preventing lateral movement e.g., clamp or tied.

When transporting trusses or spandrel panels with the truss jib or lifting hook attachment, if there is any concern about the safety of the lifting operation the activity must be immediately stopped, and the Site Manager consulted.

Lifting straps must never be suspended directly from the forks or carriage of the telehandler.
Trusses must never be transported on the forks of the telehandler without a truss jib or lifting hook attachment.

The telehandler operator must be trained to offload and transport underslung loads using the truss jib or truss lifting hook attachment in accordance with the TW HSE Training Matrix.

6.8.6 Lifting and Placing Trusses and Spandrel Panels

During the construction of smaller, low-level roofs e.g., garages, it may not be practicable to use a mobile crane (e.g., accessibility issues etc.) In such situations, a telehandler utilising a truss jib, or a lifting hook attachment can be used, but only if assessed and controlled in line with the telehandler controls set out (See **Section 8.2.14**).

Before any lifting operation is carried out using a Telehandler with the use of an approved Truss Attachment, an assessment must be made of the specifics of the lift, including:

- Location of roof.
- Weight and size of trusses / Spandrel Panel.
- Reach of telehandler.
- Ground conditions, e.g., excavations, manholes, etc.; and
- Any obstructions, e.g., overhead services, etc.

Where a TW telehandler is being used to place trusses e.g., garage roofs, the Site Manager, as the 'Appointed Person' for the lift must prepare a Lifting Plan in coordination with the Telehandler Operator using the Lifting Operations Co-Ordination Plan – T/H Truss Jib (Folder 2 F2.11b). Before a lift can be carried out using a truss jib attachment, you must arrange to have your proposed lift process and lifting plan reviewed with your Regional or Site HSE Advisor.

Responsibilities:
Site Manager.
When:
For each lifting operation using a telehandler to lift and place roof trusses e.g., single-storey structures e.g., garage
Purpose:
To ensure lifting operations are planned, managed, and carried out safely.
Key Points:
Location, including sketch.
Exclusion zone.
Load(s) to be lifted.
Equipment to be used, and Ground conditions and obstructions.

Only operators, slingers and banksmen who have received specific training - use of the attachment in accordance with the training matrix- can be involved with carrying or placing trusses with a truss jib. This is in addition to receiving a Site Safe Briefing (see Site Safe Briefing: Safe Use of Telehandlers on TW Sites – Site Safe Briefing Folder).

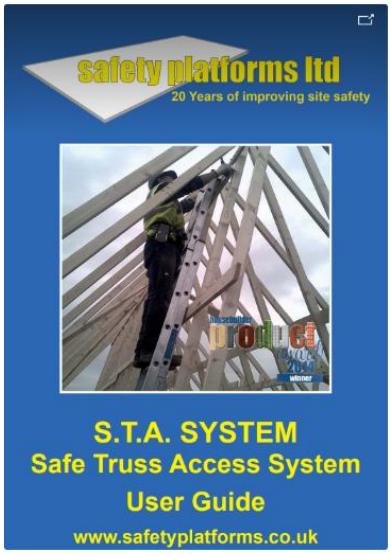
Roof Structures (e.g., roof trusses and spandrel panels) for anything other than low level roofs must be lifted into place by means of a mobile crane, with a Lifting Operations Plan available (See Section 8.3).

No lifting operation, no matter what type of crane/machine being used can take place on site without the Site Managers permission.

Authorisation is given once the task has been reviewed and critical safety checks have been made including a check to ensure that adequate resources/manpower are available and the Lifting Operations Co-ordination Plan – Mobile Crane (Folder 2 F2.11a) or Lifting Operations Co-ordination Plan – T/H Truss Jib/Lifting Hook (Folder 2, F2.11b) has been completed

6.8.7 Access for Roof Installation Works

Access for the roof truss installation is normally via the installed perimeter scaffold. Trusses must be temporarily braced (see Section 6.7) as they are lifted into place and again as they are 'spread & spaced' to the required position along the wall plate.
A Safe Truss Access Ladder [STA] set, including access boards, must be held on all sites carrying out roof truss installations.
Safe access to complete high-level apex bracing or complex bracing, e.g., steep pitched roofs and attic trusses etc. is provided with the use of the Safe Truss Access Ladder (STA).



Site Safe Briefing - Use of Access Boards and Truss Ladders
Safe Truss Access Ladder (STA) and Access Boards:

- Provides a safe means of access across truss chords and to higher levels of the truss where apex bracing needs to be fixed.
- The upper spreader bar spans the gap across the trusses at high level; and The welded spreader bar at the base of the ladder sits securely into the "V" point of the truss.

Safety Platforms Ltd.
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Wakefield
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Tel: 01924 420820

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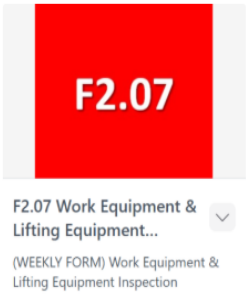
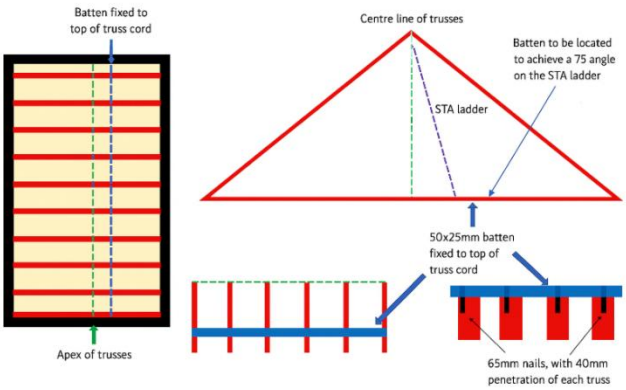


On some truss types there is not a suitable 'V' point for the STA to site securely. In these instances, a temporary batten must be fixed to the top of the truss cord to prevent the ladder from slipping.
This temporary batten must be installed as follows:

The battens are a minimum size of 50mm x 25mm.

- They are fixed to the top of the truss cord set at centres not more than 600mm apart.
- Batten must span at least three trusses and be at least 1.2m long.
- Secured using 65mm long nails (40mm penetration into the truss)
- All battens conform to BS 5534 Code of practice for slating and tiling
- Category 0: Standard Temporary Works



In bespoke roof types, other access systems may be required to complete the roof structure or complex

bracing. Examples are:

- Proprietary platforms.
- Scaffolding

Proprietary Platforms:

Are to be used when the installation is time consuming or complex

Scaffolding:

Scaffold access provided in and around the attic truss top hat section

The Site Management Team must check and confirm that the Carpentry Contractor's safe system of work includes releasing, spreading and final bracing of the roof trusses and that the operatives involved have been briefed

Any internal floors to be loaded out with a Scaffold access platform birdcage for roof truss construction must be confirmed with the flooring designer, and Scaffold Contractor to ensure loading out capabilities and loading configuration. PD and RHSEA must also be consulted prior to works commencement. Scaffold Handover Certificate and Weekly Inspections must be completed by the Site Management Team.

6.8.8 Installing Roof Trusses - Temporary Bracing

Category 1: Standard Temporary Works
This method of temporarily securing the trusses to the table lift can be used on all types of traditional roofs, i.e., houses, apartments, or timber frame buildings where the roof is constructed in-situ on the roof plate.

Install Structural Grade Timber to Table Lift, a qualified scaffolder must install the structural grade timber to the table lift standards, secured with transom clips prior to any trusses being lifted.

Truss location and lift

- Mark out the wall plate to show the truss locations.
- Lift trusses in small groups lay flat across the roof plate, or secure vertically against a table lift

Temporary bracing

- Set and position first truss.
- temporarily secure the truss to the table lift using 2no. C16 structural grade timber (150mm x 50mm)
- Using a temporary timber fixed to the first truss for the 2no. C16 temporary braces to fix to.

Second truss

- Second truss positioned and secured into position
- Temporary lateral bracing structural timbers are added to each side, keeping them as close as possible to the horizontal brace on the first truss

Install third and fourth trusses

- The third and fourth trusses are installed by repeating the previous steps.
- When the third and fourth trusses are in position, nail fix a diagonal brace to the trusses on each side of the roof.

Install remaining trusses

- Continue to spread the trusses and fix by repeating the process until the roof is fully spread.
- With the permanent longitudinal and diagonal bracing installed as the trusses are installed as per the roof design to provide maximum stability
- Spandrel panels are installed once the roof is fully braced, strapped, and secure

Note: for large roofs, i.e., apartment buildings where the trusses cannot be fully installed in one-day the risk assessment must detail the
sequence of work for each day and how the trusses are left secure overnight.
For timber frame where trusses are erected at ground level the same sequence of work is followed in respect of temporary stability of the trusses. Then when lifted into position, internal fall protection must be in place.

6.8.9 Installing Spandrel Panels

Before any Spandrel Panel is lifted on site, the roof trusses must be in place and permanent bracing installed. The Site Manager must have been provided with confirmation (in the form of a Design Specification) that the panels have been correctly designed and constructed for lifting into position at height. This must be provided by the supplier (or TW Technical Team). If not provided as outlined below, do not lift the panels, and contact your Regional HSE Advisor:
All panels are supplied with factory fitted 'weight tested' lifting straps.

- All panels have been designed and constructed (with the necessary bracing support) to allow the panel to be lifted via the lifting straps; and
- Any panels that are fabricated in multi-sections. Details are provided on how each of the panel's sections is to be secured together (e.g., bolting or nailing schedule).

To ensure the safe slinging of spandrel panels being lifted into place, the following checks must be carried out:

- The manufacturer / supplier must supply the panels pre-slung with lifting slings.
- The crane operator to test the slings visually and by lifting each load just off the ground and checking lifting straps are secure - before proceeding lifting the panel to height; and
- Spandrel panels to be temporarily braced. Temporary bracing can only be removed once the trusses are installed and securely fixed.

6.9 PV Inverter and Loft Access Installation

To ensure safe access into the loft space for the installation of PV inverter and Fire Alarm, the following joinery installations are required during roof construction when suitable access is in place i.e., Scaffold and Proprietary access platform:

- Vertical timbers and pattress to mount PV inverter.
- Construction of timber elevated platform
- Horizontal and removable vertical timber to accommodate future fire alarms.

Vertical Timber and Pattress Installation

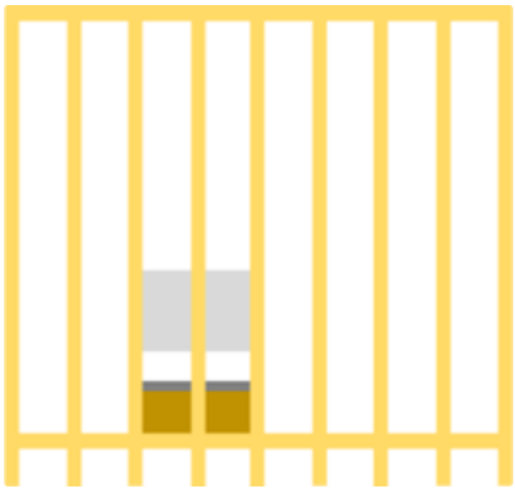
Vertical timbers are to be installed to accommodate PV inverter panel and associated equipment.

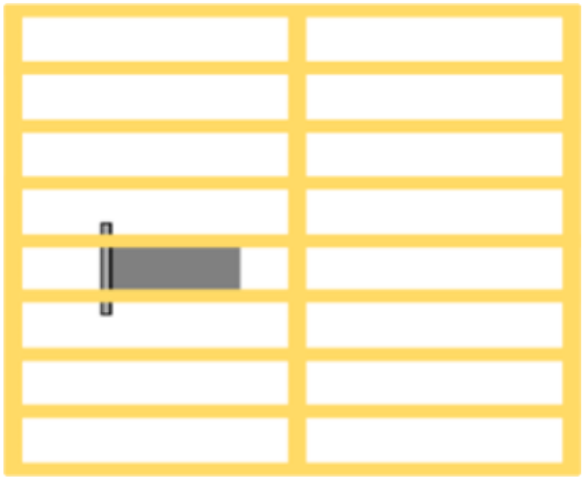
The location of timbers is detailed on the plot specific roof drawing.

Wooden pattress to be installed to support Supalux Fire line Board

Floor Joist supports installed perpendicular to ceiling cords with a minimum* 600mm x 1200mm weather deck flooring fitted to create an elevated access platform in the loft space, this will allow for insulation to be fitted below the platform.

*Dependant on location of the loft hatch to the inverter panel





4 x 1 Timber to be fitted using 'Z' bracket to enable the fire alarm to be fitted to the top of the 4 x 1, which can be clipped over the installed 3 x 2 horizontal timbers

Z' bracket to be fitted to the 4 x 1 timber.

Complete installation required by Roof installation Joiner.

Access Arrangements once the Roof Space is Completed

Following completion of the roof space, the PV Installer requires access into the loft space to undertake the installation of the inverter and connection of the panels in preparation for the Electrical Contractor to complete the installation.

The following controls MUST be followed during the installation:

- 2 Operatives MUST be present to undertake the installation, this will enable the inverter to be passed up into the loft space and ensure the ladder is secure whilst accessing the loft space using
  a ladder.
- Only a rigid ladder can be used to provide access into the loft space (EN 131 Professional ladder)
  which passes through the loft hatch into the loft space to allow for safe access/egress. Telescopic
  ladder MUST NOT be used.

- Ladder MUST be 'footed' at all times during access into the loft space.

A portable light (Task Lighting) MUST be placed into the loft space prior to work commencement.

The inverter, additional tools, and equipment will then be passed into the loft space to enable the installation.

If access to required areas cannot be made from the installed platform, Oxford matting, or similar crawl boards MUST be used.

Decal
On completion of the works, the decal (opposite) must be fixed to the pattress to deter the homeowner storing items on the access platform.

6.10 Prefabricated Room-in-a-Roof System

Roof installations involve significant hazards, including falls from height during truss placement and unstable trusses during the installation process. These risks must be managed using the controls detailed below to prevent incidents. Manual handling of heavy trusses can cause musculoskeletal injuries; therefore, lifting or crane operations must be suitably managed to ensure the safe lifting of trusses and equipment. Weather conditions can affect lifting operations and increase slip hazards. Falling objects from poorly secured materials add further danger; therefore, roof installation works must follow the specified controls and arrangements to ensure safe installation.

Installing timber roofs poses health risks including respiratory issues from wood dust and adhesives, musculoskeletal injuries from heavy lifting, and noise-induced hearing loss from power tools. Workers may also experience hand–arm vibration syndrome, dermatitis from preservatives, and heat stress during summer. UV exposure and psychosocial stress add further hazards. Controls include dust extraction, respiratory protection, safe lifting practices, PPE for noise and skin, hydration, sun protection is essential for safe operations

Timber roof installation can impact the environment through waste generation, dust emissions, and noise pollution. Cutting and handling timber produce wood dust, which can affect air quality. Improper disposal of offcuts, packaging leads to incorrect recycling of materials. Controls include waste segregation and recycling, dust suppression, spill prevention, efficient machinery use.

This arrangement covers the supply and installation of prefabricated roofs including roof cassettes, spandrel panels, GRP dormers and roof lights.

A pre-start meeting must be held by the supplier/installer and the Site Manager to the review the arrangements for delivery, scaffolding, lifting operations and installation safe system of work.

Table Lifts

- Before erecting a table lift, scaffolders must be familiar with the roof type and pitch.
- The table lift must be appropriate to the size and the pitch of the roof to minimise the risk of falls
- Double handrails must be installed on the spandrel face (inside) of the table lift while the spandrel panel is being lifted into place and installed.
- The handrails must stay in place until the brickwork has been installed up to the working platform to prevent a fall between the table lift and spandrel panel.

- At this point, the handrails can be removed, only by a trained scaffolder if there is no risk of falls from the working platform of the table lift.
- Depending on the pitch of the roof and the coverage of the spandrel panel there may still be a risk of falls when the inside handrails are removed, in this case the scaffolder must assess what additional protection is required, which may include shorter tubes and/or handrails at the verge.
- Operatives must never access the area between the double handrail and spandrel panel

Scaffold

A designed scaffold is required to provide suitable access and egress for the installation.

See Section 6.8.2 Fall protection for Roof work

Delivery

The roof cassettes, spandrel panels, etc. loaded and delivered to site in installation sequence.

Lifting

The roof cassettes, spandrel panels and glulam beams, top hats, etc. must be pre slung so that no operative needs to access the back of the lorry for the purpose of unloading any materials. Dormers, Roof lights and Fascia are offloaded by the site telehandler.

All lifting must be as per the lift plan and controlled by a crane supervisor and slinger/signaller and ensuring there is a designated exclusion zone when lifting

See Section 8.3

The roof cassettes are lifted into position with pre-installed slings and with tag lines attached to assist lifting into position.

When lifting dormers and roof lights (windows) slings are attached to the designated lifting points (as per the manufacturer's instructions) and with tag lines attached to assist maneuvering into position.

Bracing

The Spandrel panels are lifted and placed into position and temporarily braced (as per supplier specification). Temporary bracings are only removed once the installation is complete, and all items are permanently secured.

Category 0: Standard Temporary Works

Installation

The glulam beam, top hat spandrel panel section is constructed on the ground and subsequently lifted into place.

Once the top hat section has been secured then the remainder of the roof cassettes can be lifted and secured into position.

The roof cassettes are secured to the roof plate and top hat purlin before the slings are removed

The roof cassettes are secured to the roof plate and top hat purlin before the slings are removed

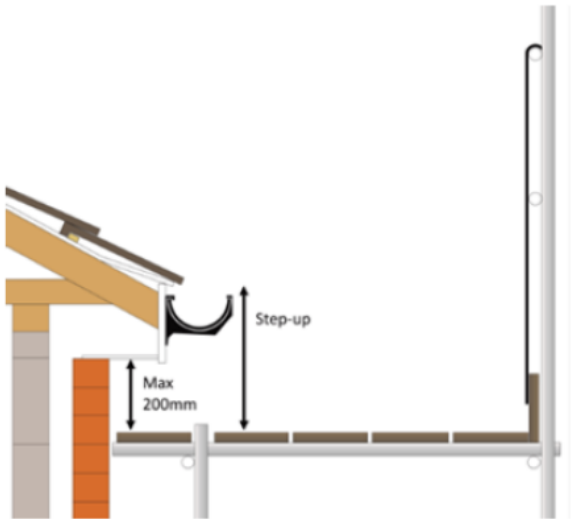
6.11.1 Fall Protection

Health risks when felt, battening, and tiling a new roof include musculoskeletal strain from repetitive bending, lifting heavy tiles, and awkward postures. Prolonged kneeling or standing on uneven surfaces can cause joint stress. Exposure to dust from cutting tiles or battens may lead to respiratory irritation if not controlled. Working outdoors increases risks of dehydration, heat stress, or cold-related conditions depending on weather. Handling sharp tools and materials can result in cuts or abrasions. Without proper PPE, these hazards can escalate, affecting long-term health and overall well-being.

Roof Covering brings significant safety risks include working at height with potential falls from roof edges or scaffolding, slips and trips caused by loose materials or tools, and manual handling injuries from lifting heavy tiles and battens. Adverse weather such as wind or rain can increase instability and slipping hazards. There is also a risk of falling objects striking workers below, and inadequate use of personal protective equipment (PPE) like harnesses, helmets, and gloves can significantly raise the likelihood of injury.

Environmental risks when completing roof covering include waste generation from offcuts and packaging, which can contribute to landfill if not managed properly. Dust and debris from cutting tiles and battens may impact local air quality. Noise from tools and machinery can disturb surrounding areas.

A maximum gap of 200mm from the underside of eaves to the external scaffold working platform below.



6.11.2 Working Near Gable Edges

When operatives work near a gable edge, suitable edge protection must be provided in the form of a table lift or an up and over scaffolding guard rail (or both). This applies to all roofs including single or double garages.

Category 1: Standard Temporary Works

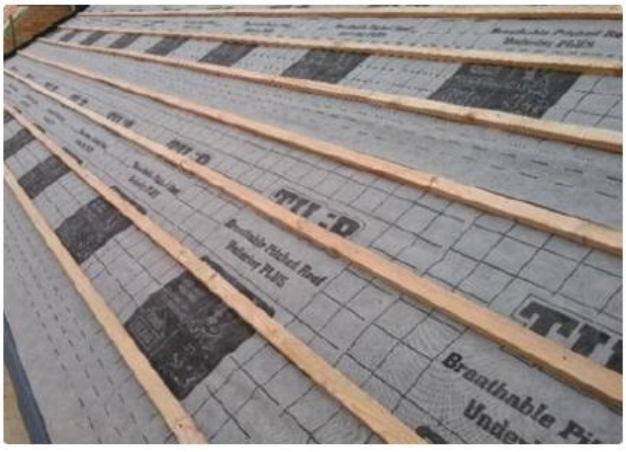
6.11.3 Roof Felt Battens and Tile / Slate Installations

Before commencement of roof felt, battens and Tile/Slate Installation, a suitable Fall Protection system must be installed beneath, for example Proprietary Decking System or a Birdcage Scaffold prior to the roof being worked on.

"The NFRC recommends that the internal fall protection is not removed by the home builder or main contractor until it is safe to do so; ideally when the roofing works have been completed, but **as a minimum when the roof has been felted, battened and completely loaded out".**

At no point is the internal fall protection to be removed before this point, unless the risk assessment deems that it is safe to do so.

Note: the risk assessment is based on the batten spacing, if the spacing exceeds 150-200mm, then fall protection must remain until the roof is tiled/slated



Timber battens can provide a secure foothold provided that the following measures are included:

- They are fixed to rafters set at centres not more than 600mm apart.
- All battens conform to BS 5534 Code of practice for slating and tiling and the NHBC standard for Roof Battens.
- All battens must be indelibly marked with the name of the supplier, size, and grading.
- The battens are a minimum size of 50mm x 25mm;
- The battens are at least 1.2m long to ensure they span a minimum of 3 trusses.
- They are fixed to trusses set at centres of not more than 600mm; and
- The battens are fixed only with the recommended nails.

Wood Dust Controls

Cutting, drilling, and sanding timber products (including battens, boards, and MDF) generates wood dust, which can cause serious health problems such as asthma, chronic bronchitis, and nasal cancer (especially from hardwood dust).

Key Controls:

- **Use M-rated (or higher) vacuum extraction** for all wood cutting activities.
- For limited cuts in inaccessible areas (e.g., roof works where vacuum extraction is impractical), a dust collection bag may be used.
- **Set up cutting areas isolated from other trades** where significant cutting is required.
- **Wear suitable respiratory protective equipment (RPE),** when exposure cannot be eliminated, minimum FFP3, face-fit tested.
- **All operatives must be trained** in the hazards and control measures for wood dust, as identified in COSHH assessments.
- **Disposable and powered RPE must be maintained** according to manufacturer's guidance, and records of maintenance and face-fit testing must be kept.

For further guidance on wood dust risk identification, control measures, PPE, and training, **see** **Section 3.8.3 Construction Dust.**

6.11.4 Cutting Tiles and Slates

No cutting of Tiles/slates in-situ is permitted.

Roof Tile Cutting Jig

A cutting jig can be used for cutting/preparing tiles being fitted in the roof valley areas.

The jig can be used within a drip tray to control any slurry created by the water suppression system. The jig can also be used for straight cuts required on other areas of the roof.

P.P.E

When cutting tiles, wear:

- Hearing protection
- Eye protection; and
- Respirator (minimum of FFP3 grade, as minimum and operative must have been face-fit tested.)

The Nibblers

Tile Nibbler can be utilised with certain slates and tiles and help minimise dust (i.e., not cutting)

Dust Suppression and Silica Dust Controls

Cutting tiles and slates can generate hazardous silica dust (respirable crystalline silica), which poses serious health risks including silicosis, lung cancer, and COPD.

Key Controls:

- **Powered or pressurised water suppression systems must be used** for dust suppression when cutting tiles and slates. Manual water bottles are not considered suitable.

Example of suitable water suppression systems that must be used on TW Sites

- **Use dust-free methods** wherever possible, such as tile nibblers, block splitters, or pre-cut materials.
- **Cutting should be carried out in designated areas** away from other operatives, and dust must be regularly vacuumed using M-class extraction. Do not dry sweep.
- **Wear suitable respiratory protective equipment (RPE)** if dust exposure cannot be eliminated, minimum FFP3, face-fit tested.
- **Roofing Contractor's Risk Assessment (RAMS) must include:**
  - How valley tiles and similar components are to be cut (e.g., using a cutting jig to prevent scaffold board damage).
  - What means of dust suppression will be used at source (e.g., powered water suppression, dust extraction, tile nibbler).
  - Requirement for suitable RPE (see section 3.6.1.6).

For further guidance on dust risk identification, control measures, PPE, and training, **see** **Section 3.8.3 Construction Dust.**

6.12 Security of External Build Components

Fitting external components can expose workers to health risks such as musculoskeletal injuries from heavy lifting, respiratory issues from silica dust during cutting or drilling, and vibration-related conditions like Hand-Arm Vibration Syndrome from power tools. Prolonged exposure without proper controls can lead to health problems. Effective measures include mechanical lifting aids, dust suppression, respiratory protective equipment (RPE), and monitoring vibration exposure to safeguard worker health.

Fitting external components poses significant risk including falls from height, structural instability, and component failure. External build components need to be secured in accordance with the installation design and manufacturer's instructions. Controls should prioritise safe access platforms, verified fixings, fire compliance, and installed by a competent person. Correct installation is essential to ensure worker safety and prevent future failures.

Fitting external components can create environmental risks such as increased construction waste, noise pollution, and dust emissions from cutting or drilling materials. Implementing dust suppression, effective waste segregation, can reduce any environmental impact

6.12.1 Bracket Supported Tiled Porches / Canopies

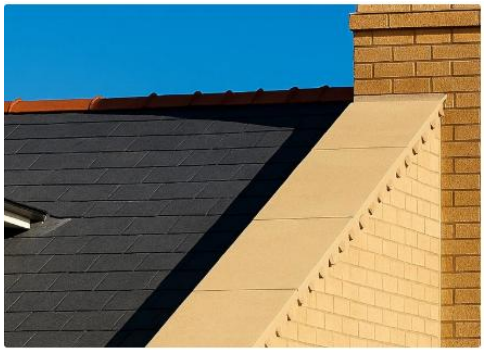
Failures have occurred where a contractor did not comply with the design e.g., fixing specification i.e. using standard plugs & screws instead of the fixings recommended by the manufacturer.

The key controls are:

- An installation specification/working drawing detailing the number, location and type of fixings must be available to the Site Manager and Installer.
- A check must be made by the Installing Supervisor and Site Management Team that the porch/canopy has been installed in accordance with the installation specification using the prescribed fixings; and
- If the installation details or specified fixings are not available, the installation must not proceed

6.12.2 Coping Stone

Where coping stone are to be used on site you must.



- Have the approved drawing/specifications for the coping stones, corbels, and any applicable masonry fixtures.
- Have the specific fixing details installation guide.
- Ensure the correct fittings are supplied.
- Review with the contractor to confirm they have the correct information, fixings, and materials.
- If the installation details or specified fixings are not available, the installation must not proceed.
- Structural Engineer to inspect the Stone Coping installation and Sign-off the installation once installed.

6.12.3 Balconies

To minimise working at height assemble, where possible, the balconies on the ground and then lift into position and secure (Section 8lifting operations).

When assembling and securing at height either from the external scaffold platform or from a MEWPS (for MEWPS see **Section 8.4**).

To ensure the stability of the balconies:

- Check fixing details available and followed.
- Check correct fixings are provided and used; and
- Monitor installation to ensure securely fixed.

If the installation details or specified fixings are not available, the installation must not proceed

6.12.4 Solar Panels

The imposed loading of panels can vary depending if 'in-roof' or 'on-roof' panels. Increased loadings, including those from wind uplift, must be reflected in the roof / rafter design provided by the truss supplier.

If the roof design does not incorporate the weight and location of the panels - the roof must not be constructed. Contact the Technical Director for clarification.

If the location of the panels needs to be changed, the roof design must be revised to reflect this.

If the installation details or specified fixings are not available, the installation must not proceed.