



Considerations for method statements when loading out portal-framed structures



Recent fatalities during loading out and installing roof sheets on portal-framed structures has highlighted the need for improved guidance to help those writing method statements to protect their workers.

It is a company's legal duty to assess the risks to the health and safety of its employees (either directly employed or sub-contractors) to which they are exposed while they are at work. A 'method statement' is the common way to help manage those risks and is an effective way of providing information to those installing the roof sheets about how the work is to be carried out and the precautions that should be taken. Although this guide is not a method statement, it highlights important items that the method statement or Safe System of Work (SSOW) should cover for loading out portal-framed structures in preparation for installing roof sheets and panels.

Loading out any roof can be an extremely-hazardous activity and requires close attention to detail at all stages of the operation. There should be a site-specific method statement, including a documented lift plan, which has been agreed and understood by all those involved in the hoisting operation before work starts—if they cannot understand the precautions or systems then they should not carry out the work.

Rigorous monitoring and supervision are also needed to make sure that the agreed method of work is followed, during the hoisting operation.

The method statement should cover the following areas:

- Safe access, both to the roof area and the position where the materials are to be landed
- Suitable edge protection
- Fall mitigation systems such as nets and workable rescue plans, including rescuing people who have fallen into a safety net
- How to prevent and control access to other trades working below where the loading operation is to be undertaken
- Material pack size and weight
- Reducing the need for workers to move about the roof by arranging for the right materials to be lifted to the right place at the right time
- Making sure that warning signs are displayed, particularly at roof access points
- Weather conditions, including checking windspeeds before lifting operations commence;
- What are the arrangements for supervising the works to ensure the RAMS are followed in practice.

DO NOT STAND ON PACKS OF SHEETS WHEN UNHOOKING FROM THE CRANE JIB.

STORE SHORT-LENGTH SHEETS ABOVE A RAFTER BACK ON PREVIOUSLY-SHEETED AREA OF THE ROOF, LOADING BAY OR AT GROUND LEVEL TO PREVENT 'SEE-SAWING' ON PURLINS.

The below considerations are particularly relevant to low-pitch site-assembled industrial roofs consisting of liner sheet, insulation layer and profiled-metal top sheet and factory-assembled insulated panels *including rooflights*.

Systems on steep roof pitches will need further consideration. You may also need to address risks specific to an individual site. This is not an exhaustive checklist but is intended to act as a prompt when preparing a method statement and Safe System of Work (SSoW):

Checklist for preparing method statements for loading out portal-framed structures

ACCESS:

- Have you agreed access and egress points with the team to reduce travel over the roof to a minimum?
- Are internal gutters wide enough and designed to use as walkways across the roof?
- If ladders are used (*as opposed to tower scaffolds or stair towers, which are preferred*), is equipment available for hoisting or craning components up?
- Has a dedicated reinforced crane area been provided or are crane mats being used, if so, has the type and size been calculated and been approved by the appointed Temporary Works Coordinator (TWC)?

ROOF PROTECTION:

- Does the method of work ensure that all fall risks at the eaves, gable ends, and other open edges are protected or have fall mitigation measures installed before work starts?
- Has the area below the works been suitably cordoned off to prevent unauthorised access with warning signs?
- Does the height of the edge protection and tube spacings consider the completed roof build-up?
- Is the specified edge protection suitable for the pitch of roof? (*Class A 0 - 10 degrees*)
- If the roof is a Class B pitch or steeper, has the edge protection been dynamically tested in accordance with BS EN 13374?
- Are the roof safety nets fully installed or if they are being installed progressively with the steelwork are they a minimum of three metres or one steelwork bay in advance of where the materials are being loaded onto the roof?
- The structural steelwork should be stable under all temporary loading conditions, including loading out. Good practice should include steel column bases are grouted prior to loading out the roof. The process should be managed under the site temporary works procedures.

MATERIAL HANDLING:

- All lifting operations must be properly planned, managed and carried out in a safe manner by competent persons. For all lifts, the principles set out in BS 7121² should be followed.
- Packs of roof sheets suspended from the crane should be stable before, during, and after the lift. This will include how you secure the materials on the roof.
- Does the plan reduce travel when fetching sheets and does it allow for protected routes/safe access?
- Prior to lifting roof sheets/panels with a mobile crane, it is crucial that a lift plan is followed taking into account ground conditions, height of building, weight and length of the pack of materials, position required and securing the materials on the roof.
- All individuals that take part in the slinging, signalling, hoisting, and positioning of materials on the roof should have the required level of skills, knowledge, experience, and training for the task that they are undertaking.
- Splitting packs of different sheet size, removing any packaging, and stacking them in order at ground level can also save travel at height.
- Where packs are lifted directly onto the roof purlins, the packs must be positioned adjacent to the main rafters, and span a minimum of three purlins to prevent packs from slipping into the safety netting.
- Short sheets that do not span over three purlins should be placed on a loading bay or kept on the ground until they can be loaded onto installed liner sheets above a rafter back, to prevent see-sawing on the purlins.
- Packs **should not** be positioned mid span between the rafters where there is a risk of overstressing the roof purlins. Liaise with the site TWC to ensure this is properly planned.
- Access to position and unslung the packs onto the purlins adjacent to the rafter back will be via the operative traversing the rafter back.

- When unslinging the load, the operative must remain on the rafter back and not climb on top of the pack of materials.
- The operative unslinging the load must have the required skills, knowledge, and experience to undertake this task.
- Packs of sheets to be securely attached to the purlins. Please note that the number, position, and type of attachment will be dependent on the type and length of pack.
- Back-loading liner sheets onto the completed roof can reduce travel past open edges.
- The installed liner sheets must be checked to ensure that they are fully fixed and not temp-fixed before loading additional sheets onto the roof. These sheets must be loaded directly onto rafter backs to ensure the load is transferred directly to the steel frame.
- Consider using vacuum lifting equipment for positioning large panels individually.
- Extra care should be taken when lifting and handling more vulnerable components such as rooflights, flashings and other accessories.

COMMUNICATION:

- What are the arrangements for communicating the method statement and agreeing it with the install team?

SUPERVISION:

- What are the arrangements for making sure that the work proceeds according to the method statement?

MODIFICATIONS:

- What are the arrangements for agreeing any modifications to the method statement and communicating them to the install team? The install team should alert TWC when any arrangements are not documented in method statement.

VALIDATION:

- What are the arrangements for making sure that the nominated competent person has reviewed, and is satisfied with, the system of work proposed?

Legislation and Guidance:

Health and Safety at Work Act 1974

The Construction (Design and Management) (CDM) Regulations 2015

The Management of Health and Safety at Work Regulations 1999

Work at Height Regulations (WAHR) 2005

Provision and Use of Work Equipment Regulations (PUWER) 1998

The Lifting Operations and Lifting Equipment Regulations (LOLER) 1998

HSG33 Health and Safety in Roof Work

NFRC Roofing and Cladding in Windy Conditions (4th Edition)

FASET Bulletin SN16: Working Above a Safety Net

FASET Bulletin SN30: Inspection Requirements for Safety Netting

FASET Bulletin SN29: Safety Net Rescue

EPF Code of Practice for Edge Protection.

TWF Assessment and management of outrigger loading.

TWF Working Platforms—Design of granular working platforms for construction plant: A guide to good practice.

BCSA Guidance on Manual Handling.



For more information :

¹ BS EN 13374 Temporary edge protection systems—Product specification—Test methods

² BS 7121 Code of practice for the safe use of cranes

For further clarification or concerns regarding the issues raised within this guide, please contact the NFRC helpdesk.

**This guidance sheet is produced in conjunction with
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FASET

Fall Arrest Safety Equipment Training



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