



Space4 Cassette Roof Horizontal Method Installation Guidance

This is a step-by-step guidance on the safe installation of the Space4 horizontal cassette roof rapid fit system on traditional and timber frame build properties.

Please note that the installation of this system should only be undertaken by suitably experienced and qualified personnel, such as those with a Level 2 Diploma in Site Carpentry. Operatives undertaking the task must also be trained in manual handling techniques.

In addition to this guidance, site management must ensure that the following procedures are adhered to prior to the installation of the cassette roof system:

- The carpentry operatives scheduled to undertake the work have received a full induction and can demonstrate levels of competency for the operation;
- There are appropriate risk assessments and method statements (RAMS) for the task and the operatives undertaking the work have been trained on these RAMS, with a written record confirming this;
- The carpentry operatives have confirmed that a suitable access platforms (2 metre step ladders & hop ups) are available and suitable to ensure full compliance with this guidance;
- A crane lift assessment has been undertaken by a competent person;
- A visual check has also been undertaken to determine that fall prevention/protection measures are in place and that the scaffolding and table lifts are suitable as detailed in the working at height assessment;
- There are sufficient number of operatives available (minimum team of three) to ensure cassettes can be safely handled and positioned into their final position and that all fixings can be fitted safely; and
- That all assembly drawings and information provided by the supplier are available on site before the operation, this includes the Space4 Standard Operations Manual.

Pre-installation

A site pack will be issued to site management containing the Space4 Standard Operations Manual and assembly drawings, including fastening details. Before any work starts, a preliminary inspection must be conducted by site management to ensure the site is ready for the crane lift and that the scaffold requirements of table lifts and height of the final lift are correct. Site management on the day of the lift must ensure that the Carpentry Supervisor is issued the Space4 Standard Operations and this guidance document and has read and understood prior to start of the assembly.

Before any work starts, preliminary due diligence checks must be conducted by site management using:

1. [Pre Installation Check List Sheet – HSMS Form 069](#)
2. [Pre Installation Confirmation Sheet – HSMS Form 070](#)

Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			

Ensure adequate equipment

Correct scaffold and safety equipment is paramount to the safe assembly and fixing of the roof system and must be either present on site and/or fitted to the scaffold prior to the start of the assembly

Table lifts must be in place, at both gable ends, to allow for external control through guide ropes, whilst providing a safe working platform to safely place the cassettes during assembly. The table lifts must have an internal double hand rail fitted as there is a fall from height risk internally prior to assembly of spandrel panels.



A two-metre stepladder must be present on site and used to ensure safe cutting of straps and securing the fixings of the cassettes internally. Where required this must be footed by a member of the assembly team to ensure safe ascent/descent for the operative fixing the panel.



A minimum of two 600mm hop-ups must be utilised for the assembly ensuring that internal fastenings can be safely fixed and to ensure safe access and egress through the dormer window from the working platform. If hop-ups are used externally then additional guardrails must be installed on the scaffold adjacent to where they will be used.

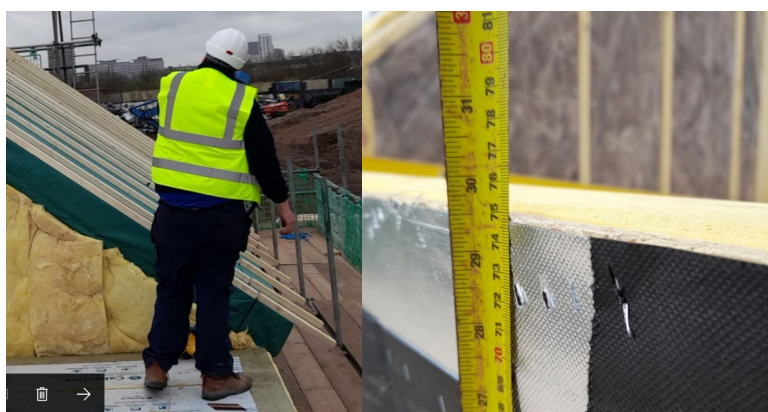
Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			



Wall plates to be square and to dimensions specified on the drawings.

Brickwork to be sufficiently cured and wall plate restraint straps to be notched in and securely fastened.

Scaffold platform must be no lower than 900mm below the boarded floor to ensure there is no fall greater than 900mm to the working platform.



All lifting straps pre-fitted to the panels are knotted to ensure they are not lost in transit. They must all be untied prior to lifting and operative to ensure once cut from the inside they will be lifted out with crane hooks to ensure no one needs to access the roof to cut straps.



Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			

Space must be available for the crane to unload all cassettes onto the floor before they are lifted into position.

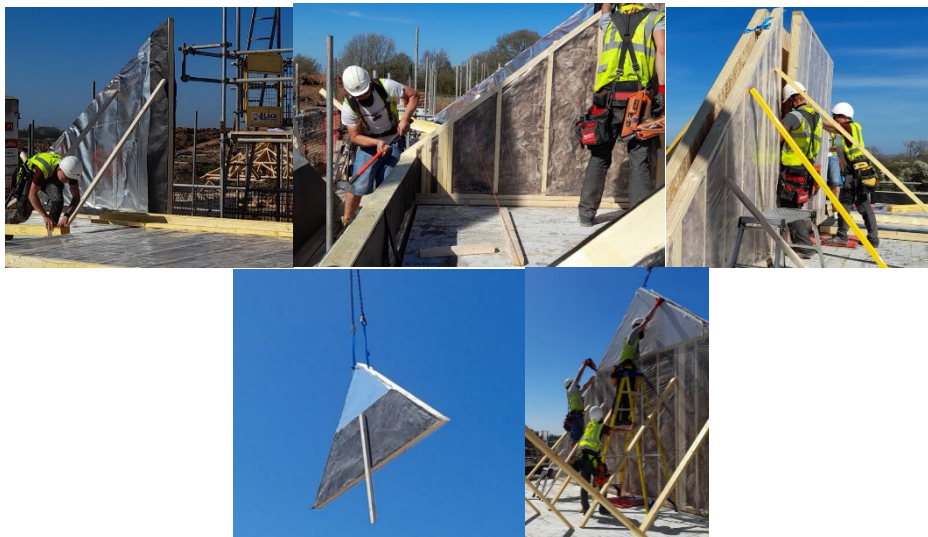
Spandreels (four part)

- Crane to lift main lower square and two lower triangle wings of spandrel panels to roof level and lay flat on bearers on the floor.
- After marking out carpenters to then fix lower triangles of spandrel panels. Care must be taken with the panels at all times, carpenters to then erect main square of spandrel panel, fix and brace.
- Once lower spandrel panel components are fitted, braced and secured the timber wall plate can be fitted and secured.
- Once fixed and braced the top triangle of the spandrel panel to be craned in and fixed using 2m stepladder and 600mm hop ups.

NOTE – A sacrificial piece of 2” by 1” timber should be fitted to this to aid fitting and to aid in securing in case of crane getting winded off and it remaining in situ in wind.

NOTE – Lifting slings should only be removed once the individual spandreels are adequately fixed into the wall plate and are suitably braced.

- Once positioned and fixed into the wall plate, there must be adequate bracing to ensure the spandreels are secured, temporarily, until the cassettes are installed. This can be achieved by suitably nailing timber propping from the spandreels to the floor (minimum size of 50x75mm CLS (38x63 finished size)). These props must be at a minimum of 2.4m centres to provide adequate wind resistance. In adverse wind conditions, lifting operations must cease however additional propping will be required should spandreels need to be temporarily stood in this position.



Cassettes

- The first cassette to be installed is the short base-bearing cassette. After undoing knotted straps, this must be lifted into position with the use of a guide line and ensuring no one at any stage is under the load.

Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			

- Once guided into the correct position this can be fixed internally from the floor using a 600mm hop up for access and also externally from the working platform.
- Once located this is to be fixed using the fixing details as specified in the Space4 Standard Operating Manual. The lifting straps can only be removed once the cassette is fixed.



- Once this is located, and fixed the remaining cassettes can be lifted in as per the Space4 Standard Operating Manual.
- The next cassette to be lifted will be secured by the four corner lifting straps and the crane operator should adjust lifting chains to ensure cassette comes into situ at approx. 45 degree angle to ease correct seating on the spandrels and base-bearing cassette.
- After undoing knotted straps, this must be lifted into position with the use of a guide line and ensuring no one at any stage is under the load.
- Using the guide rope and an operative on the table lift the cassette should be manoeuvred into the correct position where fixing can commence.
- Internal fixing can be achieved from the floor and/or a 600mm hop up. Access internally is to be gained from a hop up through the dormer window once the membrane has been opened. Any external fixings can be achieved from the working platform or the table lift.
- Once panel is fixed and secure lifting straps can be cut internally and will be lifted out by the crane once it moves away for next lift.
- Once located this is to be fixed using the fixing details as specified in the Space4 Standard Operating manual. The lifting straps can only be removed once the cassette is fixed.

NOTE – Straps are not to be cut until cassette is secure.



Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			



NOTE – a ladder should NOT be used on the external gable end scaffolding under any circumstances only the table lift should be used to seat the cassette.

- The next cassette to be lifted is the same cassette on the adjacent side of the roof and is to be lifted, fitted and secured using the same procedure as above.

Roof ridge cassettes

- These are to be lifted into situ using the same procedure as above.
- After undoing knotted straps as detailed in above safety requirements, this must be lifted into position with the use of a guide line and ensuring no one at any stage is under the load.
- Using the guide rope and an operative on the table lift the cassette should be manoeuvred into the correct position where fixing can commence.
- Internal fixing can be achieved from the 2m stepladder (footed where required) and/or a 600mm hop up. Access internally is to be gained from a hop up through the dormer window once the membrane has been opened.
- Any external fixings can be achieved from the working platform or the table lift.
- Once located this is to be fixed using the fixing details as specified in the Space4 Standard Operating Manual. The lifting straps can only be removed once the cassette is fixed.
- Once panel is fixed and secure lifting straps can be cut internally (using 600mm hop up and 2m step ladder (footed where required) and will be lifted out by the crane once it moves away for next lift.



Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			

Ceiling Joists

The bearer beam should be fixed to the spandrels with the specified fixings as required by the Space4 Standard Operating Manual, just below the pre-installed plasterboard before they are lifted into place and braced, as per the provided onsite drawings.

This eliminates the need for this to be carried out at height and will also increase the rigidity of the two part spandrel. The joist hangers should also be fitted at that point using a hop up if needed.

Once all the cassettes are securely fastened the ceiling can be erected inside the roof as per the installation drawings. This can be achieved using 600mm hop ups.

The joists can then be fixed in place to the bearer beam with the joist hangers.



Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			

Critical safety points

- No operative to be underneath a load being lifted at any time;
- All items lifted must be under control with a guide rope at all times;
- Straps only to be cut once the panel is secure;
- The 2 metre step ladder must be footed if operative is above point;
- At no point must any operative access the roof area once cassettes are fitted;
- All straps to be un-knotted prior to lift;
- All straps to be cut internally;
- Table lifts with internal hand rails must be fitted; and
- At no point should there be a fall greater than 900mm to a working platform.

Authorised by: HS&E Director	Version date: 15.12.2021	Version: 1	Guidance: Space4 Cassette roof installation (horizontal)
Uncontrolled if printed or copied – always check the Group HS&E policy folder for latest version			