



North Yorkshire Timber Cassette Roof Horizontal Method Installation Guidance

This is a step-by-step guidance on the safe installation of the North Yorkshire Timber (NYT) horizontal cassette roof rapid fit system on traditional 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. Also that the lifting specifications are available for the use of dormer style panels (if available as not all cassette roofs have dormers).

Pre-installation

Prior to the scheduled day of instalment for the first use of the system, a representative of NYT will come to site and discuss the system and general requirements for the smooth running of the installation. At this point, a site pack will be issued to the site management with the drawings and various other items of information needed, including fastening details and a completion checklist. 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](#)

This is to ensure scaffold requirements are correct and the operatives responsible for installation are aware of the control measures. Where there are any shortfalls, work cannot progress until the carpentry/ joinery sub-contractor representative and site management is satisfied and has completed the pre start checklist.

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Table lifts must be in place, at both ends, to allow for external control whilst providing a safe working platform to remove straps/ties during installs.



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.

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



Delivery of the cassette system

The roof cassettes and spandrel panels will be loaded and delivered to site to suit installation sequence; this will be in the days leading up to the roof installation or 8am on the day the crane is scheduled to arrive to site.

All roof cassettes must be unloaded by a suitable crane. Panels and associated materials (i.e. ceiling joists, bearer beams) must also utilise a suitable crane. Any lifting with a crane requires a lift plan which should form part of the site specific method statement.

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Prior to the lifting of spandrels/ panels, it is vital that lifting straps are checked for potential deformity/ wear and tear. Any issues should be highlighted to site management/ lift supervisor immediately.

Spandrels (two part)

Crane to lift spandrels to roof level and lay flat on bearers on the floor.

Attach Top Hat Spandrels to Larger Bottom Spandrels as per drawing number TFD01 (Fixing Details 01). Care must be taken with the panels at all times.

These are part PW1 to PW2 (Party Wall Spandrel 1 + 2)

EXG1 to EXG 2 (External Gable Spandrel 1 + 2)

Using the Timber lock fixings as per Attached Fixings Detail. (TFD 01)



Using the Lifting strap of the bottom Spandrels, lift into place with the Crane and brace as required. (Please note the Crane is only lifting from Horizontal position to the required Vertical position on wall plate). These need to be in correct place and measured for diagonal against sub structure. Once in place, fix these to wall plate as detailed in attached (TFD 01).



All fitting / fixing to be in accordance with the NYT Roof fixing instructions / drawings.

Once positioned and fixed into the wall plate, implement adequate bracing to ensure the spandrels are secured, temporarily, until the cassettes are installed. This can be achieved by suitably nailing timber propping from the spandrels 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

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additional propping will be required should spandrels need to be temporarily stood in this position.

Note: Lifting chains should only be removed once the individual spandrels are adequately fixed into the wall plate and are suitably braced.



Once the joinery operative is satisfied that the spandrels are adequately secured and fixed, the fixing of cassettes can commence.

Cassettes

The next items will be the Cassettes as detailed on Section Drawing and Cassettes Drawing starting with RC1 lifting this into place using the lifting straps in 4 corners and using Crane lifting gear to tilt at an angle greater than 45 degrees. Again, lifting straps must be closely checked for deformity/ wear and tear prior to lifting. Prior to placement, care must be taken to ensure the correct location with bottom of cassette marked on cassettes is on eaves line with wall plate.



Once located this is to be fixed using the fixing details as attached (TFD 01).

Once this is located, fit RC6, again ensuring correct location and follow lifting as previous. This is to be repeated next with Cassettes RC5, followed by RC2 then RC3 and finally RC4.

In order to safely remove the lifting straps or hand ties from the individual cassettes, this can be done so via the use of the table lift, internal hatch panel or step ladder/ footed ladder positioned internally. In the instance of using a ladder, ensure a visual check is made for any cracks/

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deformities prior to use. As long as the ladder deemed fit for use and can be footed/ secured, 3 points of contact must be maintained at all times whilst freeing the strap without the need to over reach. If this is not possible, work must be temporarily postponed until further provisions are considered by the Site Manager. Please note that a ladder should NOT be used on the external gable end scaffolding under any circumstances.



Operatives MUST NOT walk up the cassette roofs in order to fix panels to panels. Please refer to the fixing details which states all fixings are to be undertaken from the underside. Operatives must also refrain from removing lifting straps/hand ties or assist in the manoeuvring of panels into position should there be a leading edge. Such removal of straps or hand ties must be done so from the inside of a secured ladder/ step ladder or via the use of the table lift if possible.

Effective communication between the slinger and crane operator is paramount for correct positioning although hand ties can be used to assist if needed.



Good practice would see hand ties situated as close to the external section of the cassette as possible for ease of access for removal. Alternatively, if hand ties cannot be safely accessed i.e. on the final central cassette panel, or within central panels, they can be left in position and removed safely by the respective roofing contractor at a later date.

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In order to safely remove the straps once higher cassettes have been positioned, a secured access platform/ secured ladder is required to reach the ridge detail in order to remove a small hatch panel. From here, the lifting strap should be visible to safely cut and remove. Hatches are also available for use on middle cassettes internally and can be used in the instance that straps cannot be removed via table lifts/ internal ladders.



Ceiling joists

The bearer beam should be fixed to the spandrels with the specified fixings, 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 when lifting. 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 provided onsite drawings.

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

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Critical safety points

- No operative to be directly underneath the load whilst being lifted;
- Site management must co-ordinate the works so that loads are also not swung directly over the heads of other works i.e. those that may be working on adjacent scaffolds;
- All items lifted to be under control with guider ropes at all times;
- Straps only to be cut once panels are secured;
- A 2m step ladder must be footed if the operative is half way up;
- At no point must any operative access the roof area once cassettes are fitted;
- All straps are to be cut internally or from a suitable working platform highlighted above;
- Table lifts with internal handrails must be in place prior to installation;
- A ladder can only be used and rested upon a roof component that has been secured i.e. spandrel which is fully fixed to cassettes either end. If this cannot be achieved, a 2m step ladder can be utilised;
- Ensure ladders are either fitted with a stability device or where this is not possible, securely fix timber to the floor in order to act as an anti-slip device. As a secondary measure, the ladder should also be footed;
- Ladders/ step ladders must be checked prior to use for any cracks or deformities;
- The ladder/ step ladder must be of sufficient length for the task. Users must never work from the top rungs or over reach;
- In order to use a ladder or step ladder the user must be competent, i.e. have had instruction and understand how to use the equipment safely; and
- Tool belts to be used during ladder use to ensure 3 points of contact can be maintained at all times. The placement of the ladder should be at no greater than 75 degrees / 1 in 4 rule.

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