



METHOD STATEMENT

FOR THE CONSTRUCTION OF LIGHTWEIGHT HALLS

General

The exact position of the structure has to be established. Please note that the difference in height must not exceed 1.5% in longitudinal and cross direction, i.e. a structure with a 50m length may not have a slope of more than 75cm in longitudinal direction and not more than 24-36cm in cross direction. Digging or packing the base plates on uneven ground can level higher deviations.

Ensure that the site is free of underground services that may be effected by the installation of ground anchors, (this information should be supplied by the customer and include a detailed plan). If in any doubt do not proceed with any installation of ground anchors and inform the company operations department immediately.

Also, ensure that there are no overhead obstructions or power cables that may cause risk during the erection and dismantle of the structure.

The Supervisor needs qualified assistance in the erection of the structure being the person responsible on site.

Before commencing work, the Supervisor must ensure his crew is familiar with the sequence of operations and safety precautions. He also has to ensure necessary safety wear, shoes and helmets are worn at all times.

Ensure careful handling of all materials to avoid damage – therefore all material should be positioned in either their packing sacks or transport containers – damaged components must not be used.

SITE MARKING

Arrange the front line of one longitudinal side or the front line of the gable truss. The width is then marked (the detailed data can be found in the Static Book). The longitudinal sides of the structure has to be marked with a line at a right angle to the gable side or reversed, in case you have arranged the front line of the gable truss. Always square the 2 lines using the triangulation method 3, 4, 5.



The base plates must be laid every 5m along the line, which is positioned in the direction of the longitudinal side. Next, anchor the base plates for the present with two steel anchors diagonally, (expansion bolts are used on concrete/hard surfaces or for a long-term hire or permanent building). It is important to adjust the base plates before assembling the trusses.

ASSEMBLY

All structure main columns are positioned with the foot at the base plate complete with fixing bolts. The rafters are positioned on the ground ready for connections to the main frame columns complete with all fixing bolts. Trolleys or forklift trucks are used for the distribution of all parts. Forklift trucks are only to be used by authorised personnel.

Commencing from one side attach the main frame column to the baseplate the corresponding rafter is then attached to the column, install all fixing bolts as per the static's. Ensure the rafter and column is supported on timber blocks during assembly to enable the bolts to be fitted. Assemble the ridge connector to both rafters with bolts, fit remaining rafter to column joint, lastly fix column to remaining baseplate. Tighten all bolts fully ensure all necessary spring clips are inserted.

Fit steel snow load rods (if applicable) to each rafter with necessary steel cable and turnbuckles as per static's tighten all bolts.

All remaining ground anchors may now be inserted in the baseplates.

It is the responsibility of the supervisor to ensure all fixings are correctly installed and tightened.

With all trusses assembled on the ground, lay out all purlins ensuring they do not obstruct the forklift or crane access for the erection of the structure.

Install safety anchors for the erection of the first truss to enable it to be secured prior to the 2nd truss being hoisted.

Hoist the first truss with either the crane or forklift, dependent on structure size, below 30m span width may be hoisted with a suitable forklift.

Attach and secure the hoisting straps to the first truss, issue instructions to the crew as to the erection process and ensure each man understands his duties during this process.

Check and ensure that all crewmembers are wearing safety helmets.

Attach all securing ropes to the first truss at both eaves and ridge point.

Attach the hoisting rope to the forklift, raise the forks slowly to take the weight of the first truss, ensure that as the truss raises it is free from any obstruction. Hoist the first truss with the forklift, slowly reversing and raising the frame, ensure the crewmembers positioned at the securing ropes have them located through the temporary ground anchors. Once the first truss is vertical, secure all temporary rope to the ground anchors.

The same procedure may now be followed for the 2nd truss.

With the 2nd truss in place, the eaves purlins may now be installed using the access platform. Once the eaves purlins are secured and tightened the wall wind brace cables must be attached to the baseplates and secured ensuring the two frame trusses are vertical. All remaining purlins may now be installed and all bolts tightened. With all purlins in place the roof wind bracing cables may now be installed and secured ensuring the trusses are vertical.

The same procedure is now followed for all frame trusses.

The main frame columns of the gables may now be fixed at each end of the structure. The columns must be lifted into position with a man in the access platform assisting the 2 men lifting using a safety rope attached to the top of the column. One man has to hold down the bottom of the column during this process by keeping his foot against the baseplate ensuring it is held in place.

Each column must be secured and fixed to the truss using the fixing bolts as detailed within the static's. All bolts must be fully tightened. Each column must be secured to the baseplates and all baseplates fixed with ground anchors, ensuring all columns are vertical.

ROOF COVERING

When the hall frame is complete, the roof covers may be installed. Place the individual roof cover at the base of each 5m field. Using the access platform the pulling ropes may be slung over the main frames first field. Ensure a pull back rope is attached.



Unfold the first roof to be installed, this can be done from the ground or if sufficient room it may be lifted to the eaves within the access platform. Attach the pullover ropes to the pulling D rings already attached to the roof cover.

Feed the keder into the luffgroove of each truss either side of the first bay with two men in the access platform or on ladders, and the remaining crew taking the strain on the pullover ropes. If using ladders ensure they are secured properly and on firm ground.

The crew may now pull the cover through the luffgroove slowly making sure they pull at the same time to avoid jamming. Insert the pretensioned aluminium tube into the hemstitch each side of the roof cover and insert the spindle with the aluminium inserts located within the pretensioned tube.

During very windy conditions extreme caution must be taken ensuring pulling ropes are not wrapped around the hand or arm and that each crew member keeps his feet free from any likely risk of being entangled within the trailing rope.

All roof covers may now be installed using the same method.

Gable covers may now be inserted into the upper outer luffgroove of each end truss. This procedure again is done with two men in the access platform pulling the gables into place while they are guided in at the eaves by one man. The gables are secured to the gable frame again with pretensioned aluminium tubes inserted into a hemstitch and attached to the columns using threaded bar inserted through the eye bolts attached to the columns.

ACCESS DOORS

For fields which require access doors, support posts must be fitted as per the specification of the door width and height.

Door posts must be fitted to the horizontal rail and secured to the ground using necessary ground anchors.

The doors may be lifted into place and secured to the support posts.



WALL CLADDING

All wall rails may now be attached to the main frame columns each Z profile purlin is attached to the frame and fixed using the bolts as detailed within the static's, all bolts to be fully tightened.

Steel profile sheet may be fitted using self-drilling and tapping screws, all power drills must be 110 volt supply. All fixings must be installed as per details specified within the static's.