



Home Builders Health and Safety Forum

Guidance on Manoeuvring of Roof Trusses

Introduction

The guidance below has been developed by members of the Home Builders Health and Safety Forum to assist home builders in developing their own management systems for the delivery, manoeuvring and placement of roof trusses on a development.

The Strategic Forum for Construction Plant Safety Group issued guidance on the Safe Use of Telehandlers in Construction in February 2011. Paragraph 10.9 of the guidance detailed that 'under no circumstances should lifting of suspended loads be carried out with a telehandler that is not fitted with a suitable lifting hook'. On review, this requirement made it difficult for roof trusses to be moved from delivery vehicles and around a development via a telehandler. This element of the guidance has been reviewed and whilst it is accepted that loads should not be suspended via the forks of a telehandler, in the case of roof trusses the guidance below, if appropriately adopted, will provide a suitable means of safely carrying out the task. The content must be considered within a specific lifting plan for the actual development.

Delivery of Trusses to a Development (Information for Suppliers)

The correct type of delivery vehicle should be selected by the supplier dependent upon the size and type of roof or attic trusses to be transported. The driver must have a current driving licence appropriate to the vehicle being driven and be competent in truss delivery.

If the vehicle is fitted with a proprietary lifting appliance such as a HIAB, the driver must have received appropriate training and have a copy of the thorough examination certificate available for review.

The maximum weight of any pack of trusses must be **600kg**.

Trusses should be secured in tight packs using **blue** polypropylene banding. **Blue** bands must be used to secure the trusses in bundles and **white** bands to secure the trussed rafters to the vehicle. This is to enable a clear indication of which banding is used to either secure bundles together or the trusses to the vehicle.

Trusses should be positioned on the vehicle bed, against the central pole and secured to the pole, using **white** bands. The next pack of trusses must be positioned against the previous pack, and secured using **white** bands to either the previous pack, or the central pole. The vehicle should be loaded progressively from the central pole out to the edge of the vehicle bed, with each pack secured either to the previous pack, or the central pole.

Each pack of trusses should be secured to the delivery vehicle, or to the previously loaded trusses to prevent any packs becoming unstable whilst unloading.

The driver should have a set of telescopic cutters to cut the **white** bands securing the bundles to the vehicle from ground level to enable a forklift to unload the trusses safely. The securing and cutting method is to prevent the need to gain access to the rear of the vehicle and enable a forklift or crane to unload them safely. There should be no reason for anyone to access the rear of a vehicle, to remove securing straps to enable roof trusses to be removed.

Any smaller items that complete an order should be positioned on the vehicle bed between the packs and secured.

Transporting or Manoeuvring Trusses

The following options can be applied to the transport, manoeuvring and placement of trusses on site;

- All roof trusses should be delivered on vehicles in such a manner to ensure that operatives do not need to access the rear of vehicles to remove straps or attach lifting strops.
- Where practicable trusses should be lifted direct from the delivery vehicle on to the roof i.e. 'just in time delivery'. This will require planning of both the site and delivery of trusses and should be the primary method of delivery and lifting.
- Where 'just in time' deliveries cannot be achieved i.e. the plot is not ready, trusses should be lifted from the delivery vehicle via the telehandler onto truss racks designed on loading bays or gable end scaffolds. The delivery vehicle should be positioned as close as possible to the plot under construction and the distance to be travelled by the telehandler limited. The storage of trusses must not impede the safe operation of the telehandler or access to the loading bays.
- If the above is not practicable and/or access to the construction area is restricted for the delivery vehicle, the trusses can be lifted from the vehicle on to an appropriately designed freestanding storage rack. The rack should be positioned as close to the plots under construction to limit the distance the trusses need to be moved when required. The truss rack should be continually re-sited as close to the work area where possible and be fully accessible by delivery vehicles.

Lifting of trusses onto the wall plate

In the majority of circumstances lifting of roof trusses should be undertaken by a mobile crane where a full pack can be lifted directly on to the wall plate. A lifting plan completed by an appropriately trained appointed person would be required for the lift.

If an alternative method is utilised to lift roof trusses on to a roof, then this will need to be justified by the completion of a lifting plan for each plot, by an appropriately trained appointed person, which will take into consideration;

- the capabilities of the lifting appliance.
- any restrictions to the lifting operation i.e. scaffolding or other obstructions.
- height of the structure.
- handling the trusses by workers on the scaffold working platform.
- method of lifting the trusses safely including considering the pitch, size and weight of the truss.

Transporting of Trusses via a Telehandler

The following conditions apply if trusses are to be suspended via the forks of a telehandler and transported on a development;

- The route from the truss rack or delivery vehicle to the plot should not be through occupied areas of the development where practicable. If this is necessary a traffic marshal(s) will be required to ensure occupants or others are not put at risk from the movement of the trusses.
- The route should be reviewed prior to transporting the trusses and an assessment made if any obstacles such as lamp posts or scaffold will affect the ability of the operator to manoeuvre the telehandler and load safely.
- The maximum load of trusses that can be transported via a telehandler from a truss rack or delivery vehicle to a plot is 600kg. The weight of all trusses installed on site should be known by site management and detailed in the lifting plan. This is the maximum load but this may need to be reduced depending on the span/pitch of the trusses, potential obstructions, gradients/cross slopes and capabilities of the machine.
- The tyre pressures should be within +/- 5% of the maximum stated by the manufacturers and be checked prior to moving the load.
- The telehandler should be driven at no more than 7mph with no sharp turns or manoeuvres.
- The operator should have full vision from the driving position and the trusses suspended from the forks so that the lowest point of the truss, (i.e. top chord overhang) is within 500 (+/- 150mm) of the ground. A banksman should be available, where there are obstacles to full visibility, to provide appropriate signals to the operator and ensure no other persons are affected by the movement of the trusses.
- Trusses should not be moved when wind speeds at ground level are forecast to be or exceed 7m/s or 16mph. This should be assessed by either the use of an anemometer and/or weather reports for the area.