

## Safe storage of trussed rafters and metal web joists during site closures

The current covid-19 situation is causing many housing and construction sites to be closed for a protracted period. This will mean that trussed rafters and metal web joists may need to be stored on site for longer than usual. The following guidance from the Trussed Rafter Association (TRA) will help to keep these products in the best possible condition until sites can return to work.

Previous experience indicates that trussed rafters and metal web joists stored fully in accordance with the recommendations below for between three and six months will typically suffer no significant reduction in performance.

### Site storage of trussed rafters

Trussed rafters can be safely stored vertically or horizontally at ground level or on any other properly designed temporary storage platform above ground level. Whichever method and location is chosen the temporary support must ensure the bundled or individual trussed rafters are fully supported and restrained to prevent them toppling over putting staff and others at risk. Such storage should also be set out to ensure that the units do not make direct contact with the ground or any vegetation and be so arranged as to prevent distortion.

The delivery of trussed rafters should, wherever possible, be organised to minimise site storage time; however, where longer periods of storage are anticipated then the trusses should be protected with weatherproof covers fixed in such a way as to allow proper ventilation around the trusses.

When stored vertically bearers should be positioned at the locations where support has been assumed to be provided in the design with stacking carried out against a firm and safe support or by using suitable props (Fig. 1). In both cases the support must be appropriate for the size and weight of trussed rafters being stored.

Fig 1: Safe vertical storage

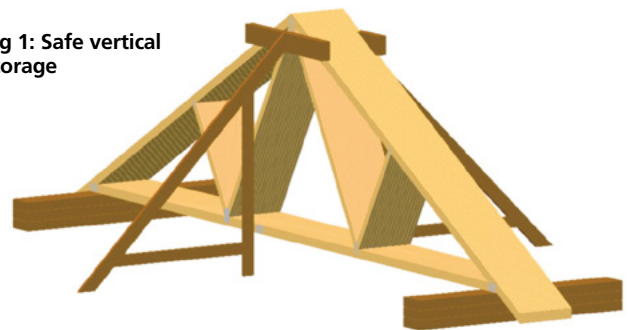
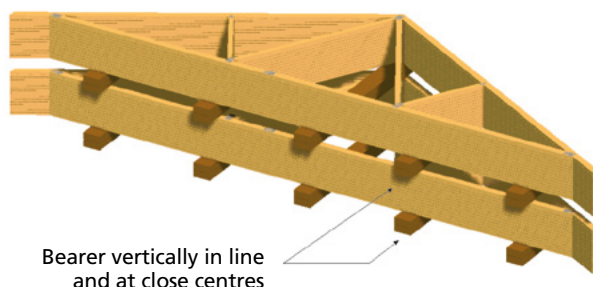


Fig 2: Safe horizontal storage



When trusses are stored horizontally level bearers should be positioned beneath each truss node as a minimum. (Fig. 2). Other methods of storing trussed rafters may cause deformation and distortion unless specific provision has been made in the design for an alternative temporary support load case.

Where trussed rafters have been installed but are not otherwise covered the air can easily circulate keeping the trusses in a structurally sound condition for up to six months. However, such roof structures should always be fully braced to ensure the roof construction does not present a risk to site staff or passers by.

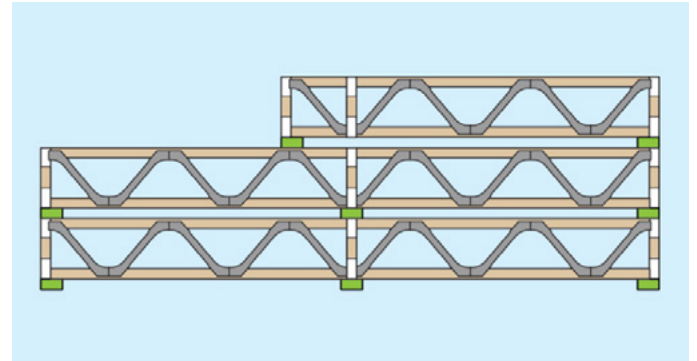
## Site storage of metal web joists

Metal web joists are delivered in tightly banded packs to facilitate mechanical handling which is the recommended method for unloading and movement within the site.

Metal web joists should be stored on firm level ground well clear of any vegetation. They should be protected with a weatherproof covering to protect them from short term exposure to inclement weather. Metal web joists can be stored either vertically or flat. If stored vertically there should be adequate bearers under the node points. If stored horizontally they should be supported to prevent distortion. Special precautions should be taken when stacking top chord supported floor cassettes to prevent the stack lozenging in storage. Additional bracing to the ends of the stack should be fixed to stop lateral movement. Care should be taken when handling metal web joists to avoid bending, twisting or dropping.

Metal web joists that have been installed but are not otherwise covered with a floor deck will need a weatherproof covering to prevent prolonged exposure to increased moisture levels. It is critical that contractors do not walk on unbraced metal web joists as they may be unstable. Temporary diagonal bracing laid at 45° and fully fixed to the joists along with installation of the permanent strongbacks should be used to stabilise partially completed the metal web floors.

Fig 3: Safe storage of metal joists on firm, level ground



For metal web joist floors that have been fully installed and decked, contractors should seek advice from the decking manufacturer. Where non weatherproof materials have been used for the floor deck there is a risk of trapped moisture causing problems and potentially impacting the long term performance of the floor. Where necessary drain holes should be provided to prevent water pooling on the floor deck.

## Spandrel panels

Gable and party wall spandrel panels should be stored vertically in a similar way to the trussed rafters shown in figure 1. However, consideration should always be given to the panel construction. Fermacell clad panels will require minimal weather protection while panels with other forms of cladding will need weatherproof coverings which allow the free circulation of air to prevent condensation. Panels clad with plasterboard are only suitable for minimal periods of site storage and contractors should discuss potential alternatives with the panel manufacturer.

## Restarting sites

In most cases where the above recommendations have been fully followed there should be no problem in re-commencing work. However, an initial visual inspection should always be undertaken, and any concerns raised immediately with your chosen TRA member.