Storing timber and wood-based products on building sites

Timber is a reasonably resilient material, but bad handling and poorly organised storage on building sites are major causes of damage and wastage.

This can affect your building costs, particularly for 'specials' or materials with a long delivery time. Replacements or remedial works may delay completion and result in financial penalties.

The problem of material wastage is also an environmental concern, so it is important to try to reduce it.

Poor handling and storage procedures are a health and safety hazard. Good, well-organised site storage practice, which follows all relevant Health & Safety guidelines, will help to minimise these risks.

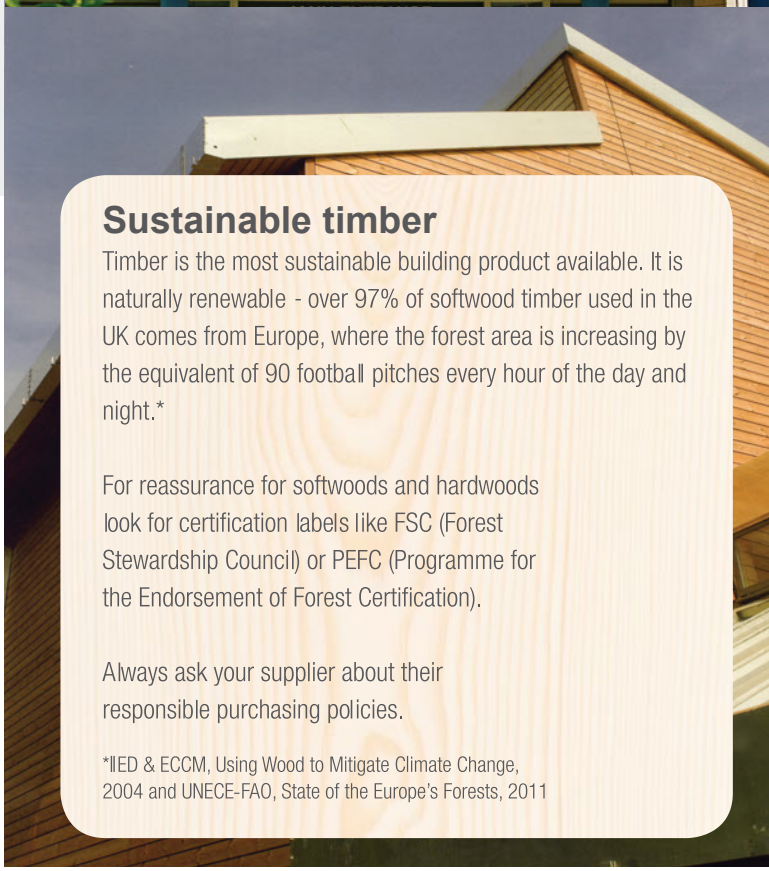
A lack of care both before and during the construction process can cause damage to wood products. For example:
changes in moisture content due to excessive wetting or drying can cause subsequent problems in use, eg shrinkage

distortion and physical damage

deterioration including splits, decay and discoloration

corrosion of metal fastenings.

Sometimes timber products that are to be exposed in a building are stored adequately, while those that will be concealed are left unprotected. Remember that proper storage and handling play a part in the satisfactory final performance and appearance of all timber and wood-based products.



Sustainable timber

Timber is the most sustainable building product available. It is naturally renewable - over 97% of softwood timber used in the UK comes from Europe, where the forest area is increasing by the equivalent of 90 football pitches every hour of the day and night.*

For reassurance for softwoods and hardwoods look for certification labels like FSC (Forest Stewardship Council) or PEFC (Programme for the Endorsement of Forest Certification).

Always ask your supplier about their responsible purchasing policies.

*IIED & ECCM, Using Wood to Mitigate Climate Change, 2004 and UNECE-FAO, State of the Europe's Forests, 2011

Moisture content

As a natural material, wood contains moisture. The amount it holds varies with the temperature and relative humidity. Changes in dimensions, and some physical and mechanical properties, may occur if there is a mismatch between the moisture content of the wood and its surrounding environmental conditions. Avoid these problems by following these simple rules.

Installation

It's best to bring all timber and wood-based products into the building at their in-service moisture content, but this is often not possible. Check that the timber you are ordering does not exceed the recommended moisture content for the building task and is stored in the correct conditions after delivery. This shoul shrinkage within normal acceptable limits after installation table below shows the maximum recommended moisture contents

Joinery and manufactured products

Joinery and other wood products should be manufactured with the timber at the recommended moisture content indicated in the table. If they have to be stored before delivery to site, they should be kept in conditions that will maintain the correct moisture content. Protect goods properly during transit.

Storing timber on site

Timber stores should be located close to construction works to be convenient. Make sure they are secure and cannot be damaged by construction works or traffic.

Always protect timber or wood products on site. Storage and handling should be appropriate to the product. Store timber and wood products under adequate cover This should protect the products from the weather but be sufficiently well ventilated to prevent condensation and allow timber to breathe.

Don't store timber in a new building, even for a few days. The atmosphere is likely to be too damp until all concrete, mortar and plaster have had time to dry thoroughly.

You can use a shed or garage for storing timber, but it must be clean, dry and well ventilated

Building programme

Build to a programme which protects timber and joinery from the wet.

Plan deliveries to coincide with progress of work so as to avoid prolonged site storage.

Prepare storage in advance.

Check quality, specifications and moisture content of timber, and standard and finish at the time of delivery. This is the time to raise any points with the supplier.

Ensure that proper protection has been afforded to the material in transit.

Use proper mechanical handling equipment whenever possible. Do not damage the product, especially edges, corners and wrappings, which should be maintained as long as possible. Instruct and train handlers and always supervise off-loading.

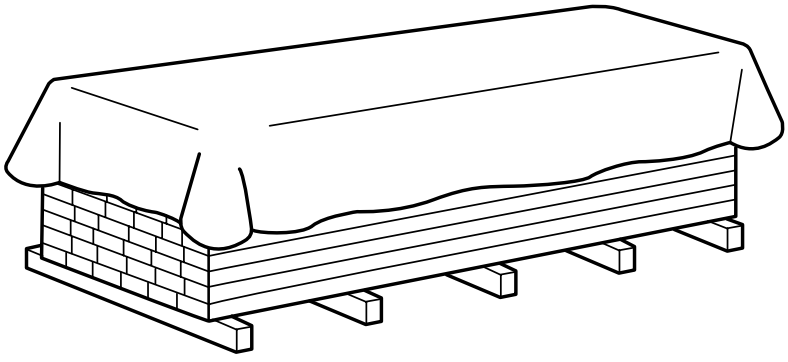
Timber can pick up moisture from wet trades, so allow as much time as possible for drying out the building before introducing kiln-dried timber components.

Carcassing timber

When there is no suitable building available, store goods on firm, level, well-drained ground – ideally with a slope of no more than 2°. Spread the ground with a fine granular material such as sand or gravel.

Stack timber on adequate bearers, with their length equal to the width of the pack. Arrange the bearers so that the timber will lie flat, otherwise it may warp.

Cover the stack with waterproof sheeting to keep off the rain, but ensure the free circulation of air to allow drying. If timbers get wet, re-stack them with thin sticks placed directly in line with the bearers to allow them to dry out. The covering is also essential to provide protection against direct sunlight.



Carcassing timber stacked and covered

Timber Frame Panels

Stack timber frame wall or floor panels sheathing or flooring side up, on bearers positioned to provide adequate support.

Ensure the panels are out of ground contact and cover them with a weather-resistant covering, allowing free air circulation.

Kiln dried Timber, Fire treated, Joinery flooring and Factory- finished products (claddings)

Handle external joinery products in a similar way to structural components.

This will also protect against water ingress and direct sunlight.

If possible, keep internal joinery and flooring in a heated dry store to maintain the correct moisture content.

Handle factory finished components in a similar way to internal joinery and flooring. Take care to avoid damage, especially with completed units.

Priming offers little protection against the uptake of moisture. Should the horns or any other sections of primed timber be cut off, re-prime the exposed bare timber.

Similarly, in the case of timber that has been preservative treated, all cut ends, borings, notchings, etc should be liberally swabbed with preservative

Please note any factory coated product that is cut, Drilled or notched must have exposed areas re-sealed as per coating manufacturers instructions .

Sheet materials

Avoid external storage wherever possible to protect from wetting and high humidity. Do not store 'interior' quality boards outside.

Store sheets flat and dry, off the ground away from moisture contact. Keep any protective wrappings on. Support the sheets on battens at maximum 600mm centres.

With sheets 6mm thick or less, support them on a thicker sheet (18mm) under the whole area.

Bearers should all be the same thickness and horizontally aligned to avoid distortion. Ideally sheets should be 'sticked' (and aligned with the bearers) every 10–15 boards to allow air flow.

Acclimatise sheets manufactured with a low moisture content for approximately 48 hours in their final in-service environment. This allows the moisture content of the sheets to rise as close as possible to their final in-service level.

Further information and

Further advice on the safe stacking and handling of wood products is available from the Health and Safety Executive (www.hse.gov.uk).

Storage of environmentally certified timber products

Where timber is specified to be used from certified sources (FSC, PEFC, etc) it may be necessary for the project manager to check that the products/materials delivered to site have a valid chain of custody. These goods, if stored on site, must be clearly identified and stored separately from non-certified products. Identify them by their certification status (eg FSC pure, FSC mixed, post-consumer reclaimed, other reclaimed or FSC controlled).

Wastage and recycling

Timber offcuts from site may account for up to 25% of skip contents. Instead they could be recycled or processed as an alternative product or fuel source. If possible, have a timber-only skip for this waste. Exclude any preservative or fire retardant treated timber as this should be dealt with separately.

Vincent Timber

8 Montgomery Street

Sparkbrook

Birmingham

B11 1DU

Telephone +44 (0)121 772 5511

Fax +44 (0)121 766 6002

www.vincenttimber.co.uk