# Reduce Moisture Issues by Storing Timber Correctly

## Wood, timber products and moisture content

Structural and appearance grade timber products sold in Australia are generally kiln dried during manufacture to a specific moisture content. This is particularly important as kiln dried timber is stronger, more stable, and less prone to mould or decay – providing a product that will effectively last indefinitely in a properly designed and maintained structure. To ensure this, it is helpful to understand the role of moisture content in your timber products.

*Kiln dried timber is stronger, more stable and less prone to mould or decay.*

## So, tell me about what I have

The wood in a living tree is very wet, so during processing, 'kiln drying' (basically controlled ovens) is used to reduce the moisture content (MC) before the wood is ready for use.

Almost all softwood timber used in 'structural' applications in Australia is kiln-dried to somewhere between 12 and 15 % moisture content before it leaves the mill. This moisture level works well for most of Australia because the timber will equilibrate to somewhere between 10 and 19 % moisture content depending on where it is used.

The kiln-dried wood is sorted into packs containing the same grade and dimension then banded and wrapped in plastic to protect it from being rewetted during shipping and storage.

In transport, construction, or in use, maintaining a low moisture content is important because wood that is wet (greater than 25% moisture content on the surface) has the potential to be attacked by surface moulds and decay fungi as well as insects.


*Wood with a moisture content of more than 25% can be damaged by moulds, fungi or insects.*

## How should I store this timber?

The plastic wrap covering helps protect the timber from rewetting, but you can help ensure that water stays out by:

1. Not placing the timber directly on the ground- use blocking or bearers to create separation (photo of a pack on bearers)
2. Avoiding tears in the plastic wrap as they can allow water access into the dry timber
3. Storing under cover, if possible, or at least out of direct sunlight
4. Ensure adequate ventilation around timber stored under tarpaulins or wraps. Free air circulation will help dry out any condensation that might accumulate under the cover
5. Moving as quickly as possible to install the roof covering, and wall sarking, to minimize the risk of wetting.

*Timber should not be stored directly on the ground - use blocking or bearers to create separation.*

## I opened a pack and it was wet or there was mould. Why?

There are several reasons for this, assuming that it was properly dried, including

1. There were tears in the plastic pack wrap.
2. The unit was stored directly on the ground, allowing water to wick up inside the pack.
3. The pack was stored in direct sunlight where it heated during the day. Heating led to further drying of the wood, but the moisture had nowhere to go. At night, the wood cooled, the moisture condensed, and this little bit of moisture allowed mould fungi to grow.

***Mould growth on incorrectly stored wood looks bad but can be removed without lasting damage.***

## I found mould on my timber. What should I do?

Mould and mould spores are everywhere around us and have always been part of our environment, the air we breathe is a virtual jungle of fungal spores. Mould fungi grow on sugars stored in the wood and do not cause any loss in structural properties. Small amounts of mould can be removed by washing the wood with a mild detergent and water and allowing the surface to dry.

***Normally, mould can be removed by washing the wood with a mild detergent and water.***

## My timber is wet. What should I do?

Let it dry. Though remember, wood swells as it absorbs moisture and shrinks as it dries. This effect is greatest on the wide face, a bit less on the narrow face and negligible along the length. Drying wetted wood can create some stresses that may lead to warping, twisting or bowing. Wet timber that redries may experience some movement, so the best approach is to place it into the structure as quickly as possible and allow it to dry.

Once the wood has dried below 20% MC mould growth can no longer be supported and the spores will become dormant or die. Test the wood with a moisture meter to make sure it has a MC less than 20% before any claddings or linings are installed.


***Wood with a moisture content of less than 20% can no longer support mould growth. MC should be less than 20% before any linings are installed***

## Like to know more? Free online and training resources

Take the next step and download WoodSolutions Technical Design Guide 12, Impact and Assessment of Moisture-affected, Timber Construction or go to WoodSolutions Campus and take the Managing Timber's Moisture Content module.