

Seasoning

When timber is first felled it is known as green timber and has a very high moisture content – approx 50%. So, it must be dried before be used.

Deffects can occur during the process.

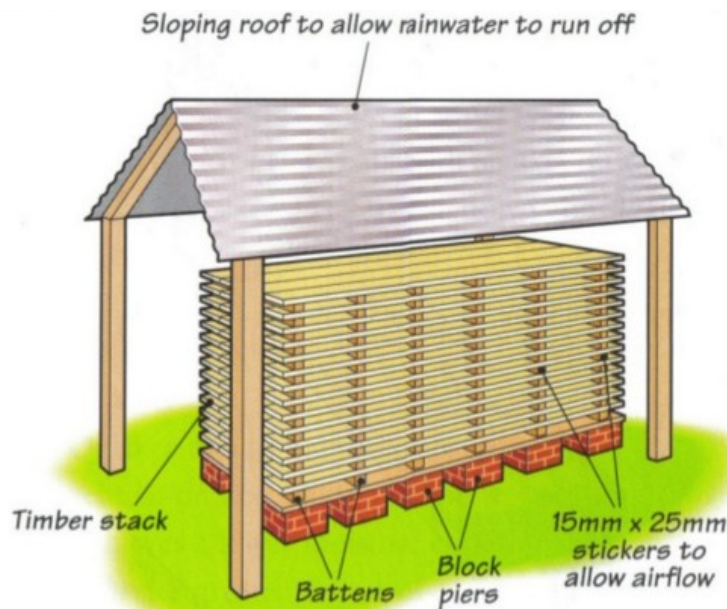
The goal is get a moisture content of 22% or less (for example 16% for outdoor furniture, 10% for very heated areas).

Reasons for Seasoning

- Seasoning is the controlled process of reducing the moisture content (MC) of the timber so that it is suitable for the environment and intended use.
- Wood will dry naturally so seasoning helps us to control the process and keep the timber more stable and more useful.
- Prevents splitting
- Prevents a lot of fungal and insect attacks
- It is less lightly to distort or warp later
- After seasoning timber is easier to work with, because it is lighter, harder and stronger.

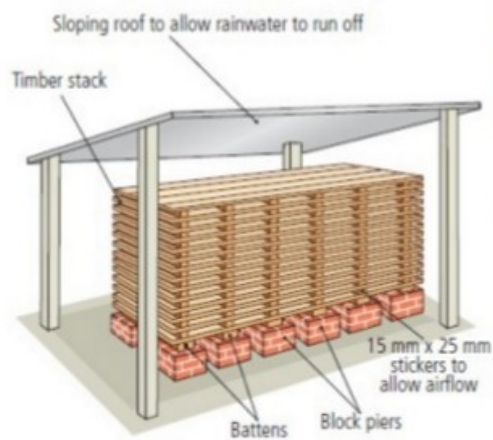
TYPES OF SEASONING

NATURAL / AIR SEASONING



Natural seasoning

Air seasoning



- Overhanging roof
- Stack raised off the ground
- Stickers give space for air to flow through
- Ends of boards protected

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Timber battens of the same specie

The piling sticks should be spaced close enough to prevent bowing

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- How are the ends of boards protected from splitting?

- Cover with a sack cloth
- Paint the ends of the boards



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Air Seasoning

■ Advantages

- ☐ No expensive equipment needed
- ☐ Small labour cost once stack is made
- ☐ Environmentally friendly- uses little energy

■ Disadvantages

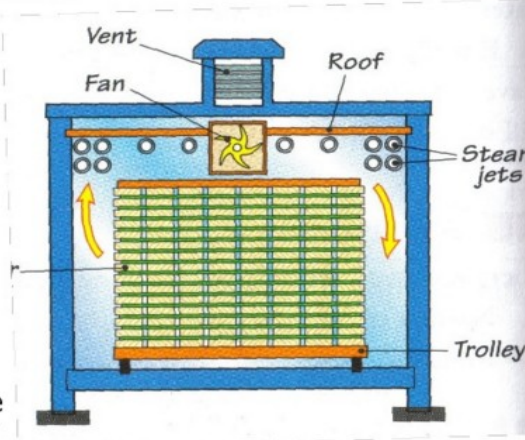
- ☐ Slow drying rate
- ☐ Large area of space required for a lot of timber
- ☐ Only dries the timber to approximately 20% M.C. so leaving it open to some insect and fungal attacks while it is only suitable for outdoor joinery

KILN SEASONING

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Compartmental Kilns

- This kiln is a single enclosed container or building, etc.
- The timber is stacked in the same manner as air seasoning
- Whole stack is seasoned using a programme of settings (temperature and humidity) until the whole stack is reduced to the MC required.



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Kiln Seasoning

■ Advantages

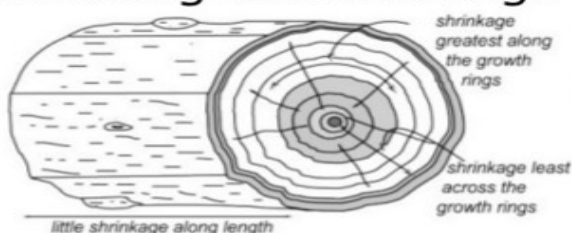
- ☐ Quicker due to higher temperatures, ventilation and air circulation
- ☐ Achieve a lower moisture content
- ☐ Defects associated with drying can be controlled
- ☐ Allows more precise rates of drying for various timber species and thickness of boards

■ Disadvantages

- ☐ Is expensive
- ☐ Requires supervision by a skilled operator
- ☐ Uses a lot of energy

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Seasoning and Shrinkage



Seasoning will cause dramatic changes such as increase in strength but also distortion and shrinkage.

The greatest amount of shrinkage takes place tangentially along the grain with

little loss over the radial direction and along the length of the board. Because of these varying shrinkage rates, tangential boards tend to cup because of the geometry of the annual rings. Some rings are much longer than the others close to the heart.

Therefore there will be more shrinkage at these parts than the others.



typical 'cupping' of tangential board showing the bulge of the heart and the cup towards the older wood

Seasoning Defects: Shakes

- Shakes are separation of the fibres along the grain developed in the standing tree, in felling or in seasoning.
- They are caused by the development of high internal stresses probably caused by the maturity of the tree.
- The shake is the result of stress relief and in the first place results in a single longitudinal crack from the heart and through the diameter of the tree.
- As the stress increases a second relief crack takes form and is shown as a double heart shake.
- Further cracks are known as star shakes and show the familiar pattern shown.