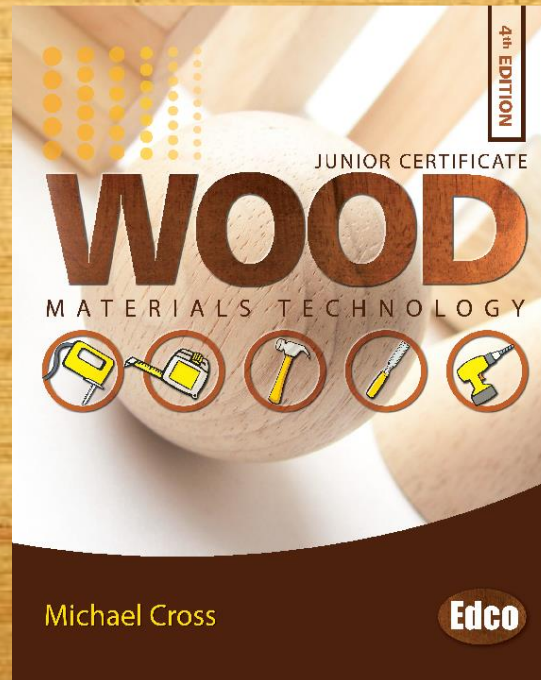


WOOD MATERIALS TECHNOLOGY

4th Edition



Chapter 12

Timber Seasoning



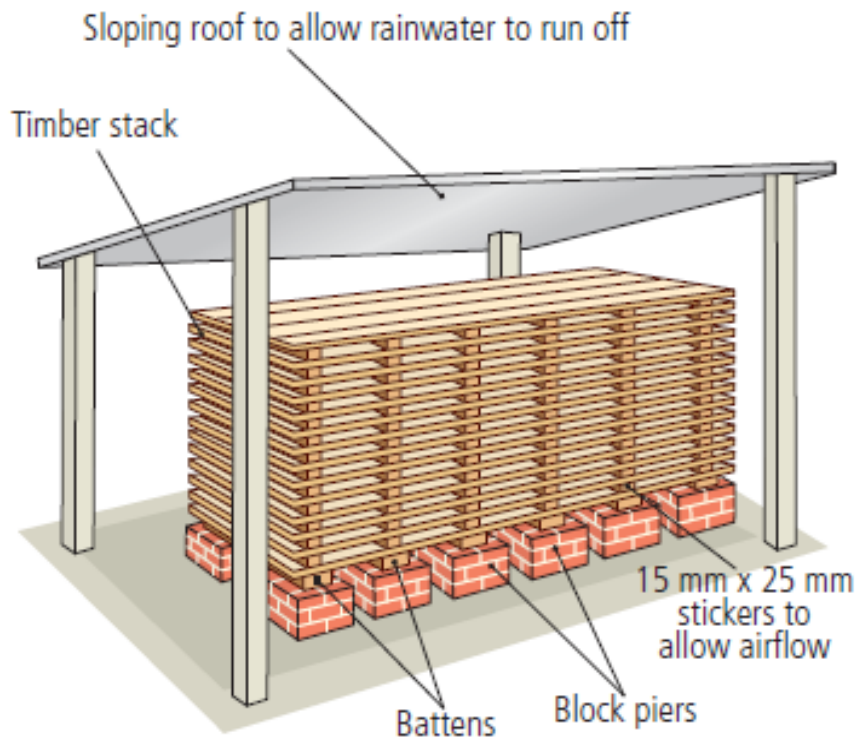
Seasoning

– The controlled drying out of timber

- Why is timber seasoned?
 - To allow drying process to be controlled
 - Helps to prevent splits in the wood
 - Fungi do not attack dry timber
 - Dry wood doesn't shrink as much
 - Dry wood is easier to work with
 - Dry wood is lighter, harder and stronger

Natural seasoning

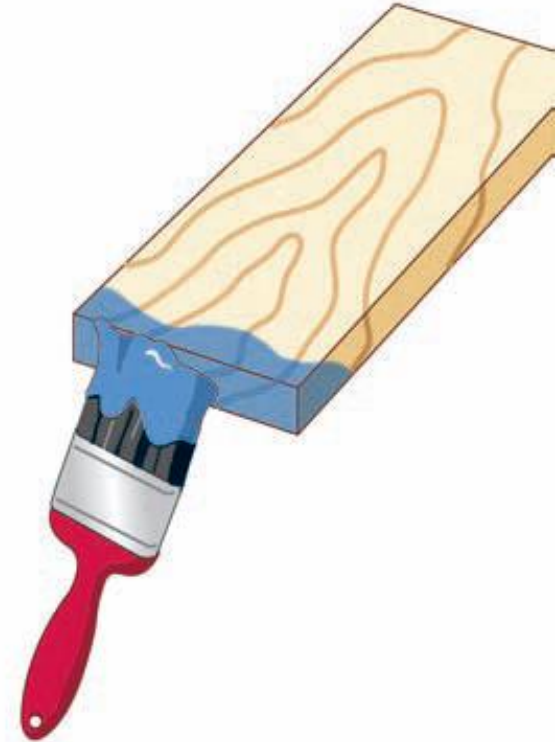
Air seasoning



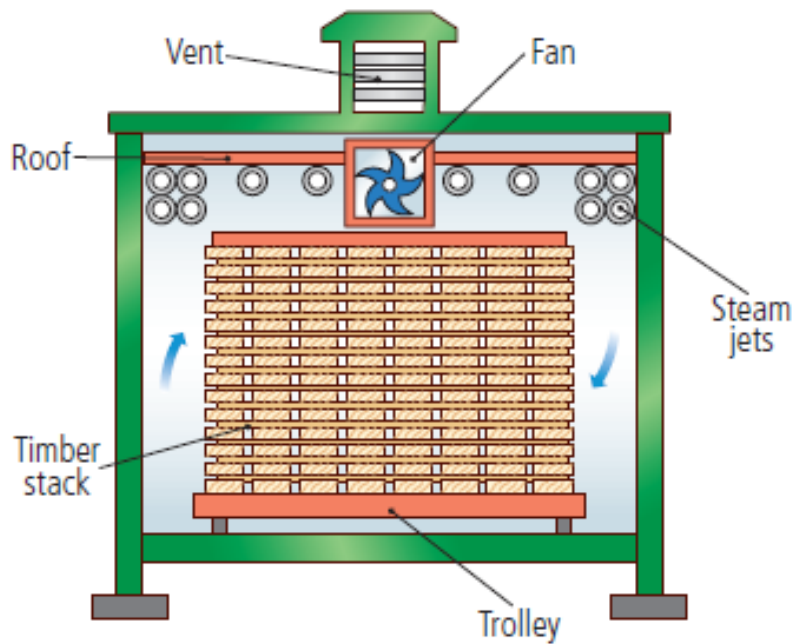
- Overhanging roof
- Stack raised off the ground
- Stickers give space for air to flow through
- Ends of boards protected

- How are the ends of boards protected from splitting?

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

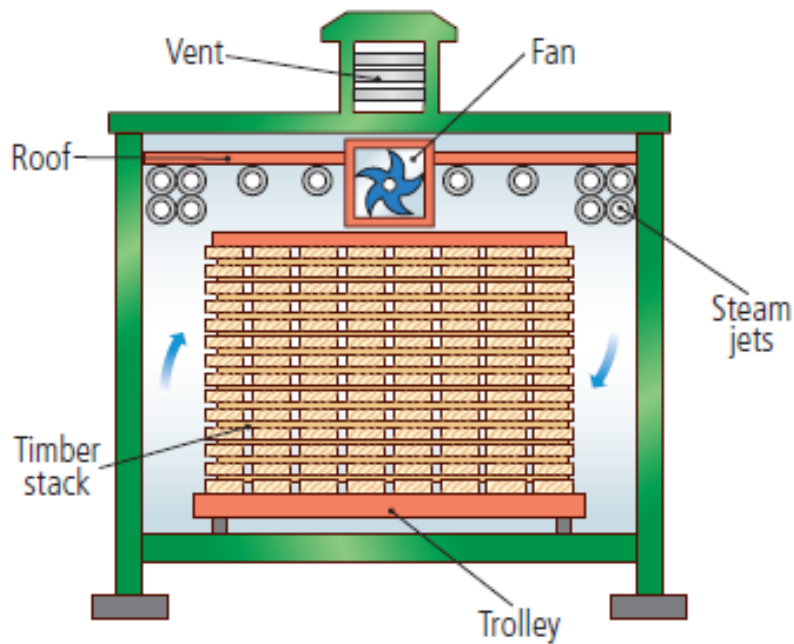


Kiln seasoning



- Kiln is a large oven
- Timber is stacked on a trolley and wheeled in
- Steam is pumped in to heat the wood and maintain moisture levels
- Fans keep the air circulating
- Hot air is allowed to escape through the vents

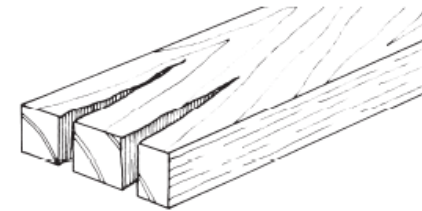
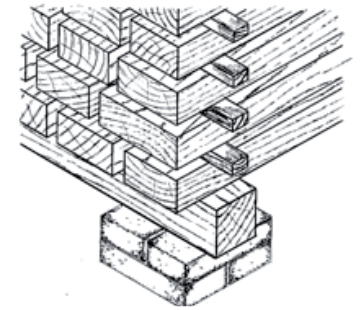
Kiln seasoning



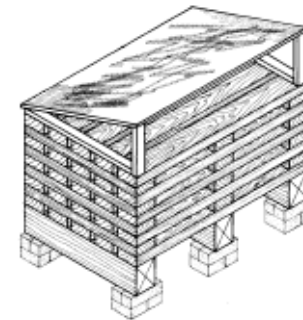
- Advantages and disadvantages
 - Dries more quickly
 - Final moisture content is lower
 - Can be properly controlled
 - Defects associated with seasoning are minimised
 - Heating the kiln uses a lot of energy
 - It is an expensive method
 - Requires a skilled operator

Exam question

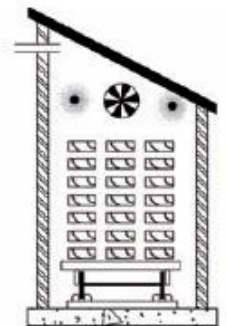
- 1 When air seasoning, the planks being seasoned are raised up on bricks or blocks. Why is this important? (JC, OL, 2005)
- 2 Splitting may occur on the end grain of a piece of timber during seasoning. Suggest one method of preventing this from happening. (JC, HL, 2007)
- 3 (a) Name the two methods of seasoning, A and B, shown in the diagram and state two advantages and two disadvantages of each method.
(b) Explain what is meant by the term: **Equilibrium Moisture Content (EMC)**. (JC, HL, 2006)



A



B



Sample answer to exam question

- 1 The planks are raised on bricks to keep them off the ground. This keeps them clean and dry.
- 2 Splitting can be prevented by painting the end grain or by hanging sackcloth over the end of the stack of boards. This stops the ends drying too quickly.
- 3 (a) The two methods of seasoning are:
 - A Air seasoning/natural seasoning
 - B Kiln seasoning

Sample answer to exam question

3 (a) Advantages of air seasoning

- Low labour cost once the stack is made
- Low energy method as it does not require any heating

Disadvantages of air seasoning

- It takes a lot of time and so uses a lot of space to store the stacks
- It is dependent on weather conditions and it is difficult to control the drying rate

Sample answer to exam question

3 (a) Advantages of kiln seasoning

- A quick method
- Careful controlled drying is possible

Disadvantages of kiln seasoning

- Requires a skilled operator
- High energy cost so it is an expensive method

3 (b) Equilibrium Moisture Content

Wood absorbs moisture and releases it through evaporation into the air all the time. As boards of wood dry out, they reach a balance (equilibrium) with the air and so are neither absorbing nor releasing moisture. This balance or equilibrium moisture content will change as the humidity of the air changes.