

Disease and Defects

Defects

- What is a defect?
- Defects can occur in trees

2 types

1. Natural Defects
2. Artificial Defects

Defects

- Defects can effect the STRENGTH and QUALITY of wood. They can also effect its value.
- Defects can be a good thing as well as a bad thing

Natural Defects



These occur naturally in nature and are not caused by man.

Natural Defects

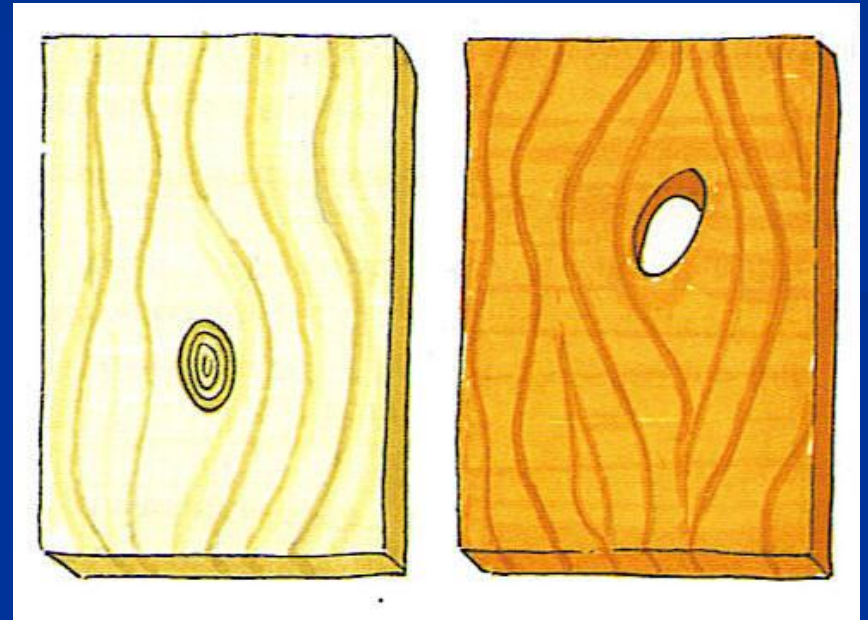
- 2 main defects
 1. Knots
 2. Shakes

Knots

Knots are formed when the branches of the tree are cut off or fall off from the trunk.

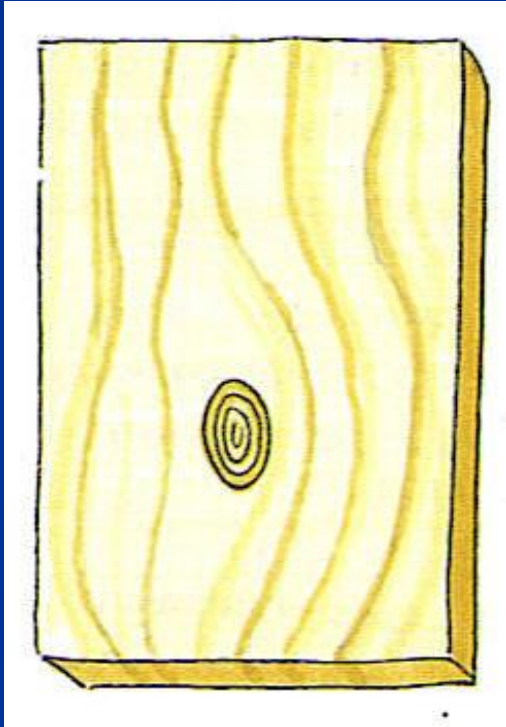
2 Types

1. Dead knot
2. Live Knot

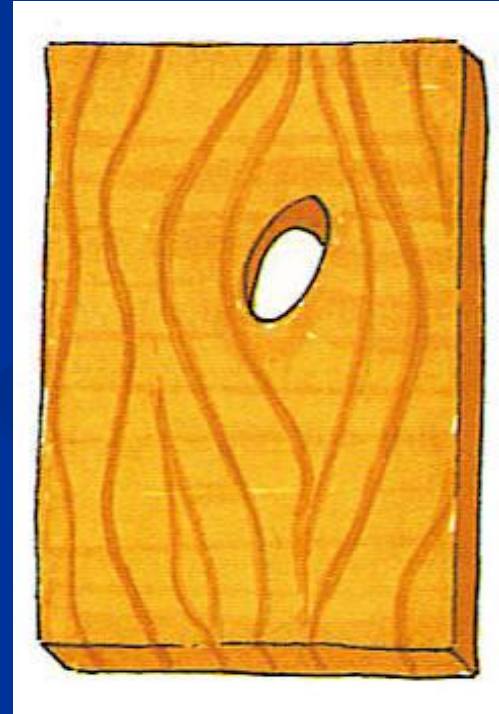


Knots

Live Knot



Dead Knot



Knots

- Why are there more knots in softwoods?
- All knots reduce the strength of wood. They are also awkward to work with i.e. saw, chisel

Shakes

- Shakes Are cracks and splits in the wood due to a build up of pressure in the tree.

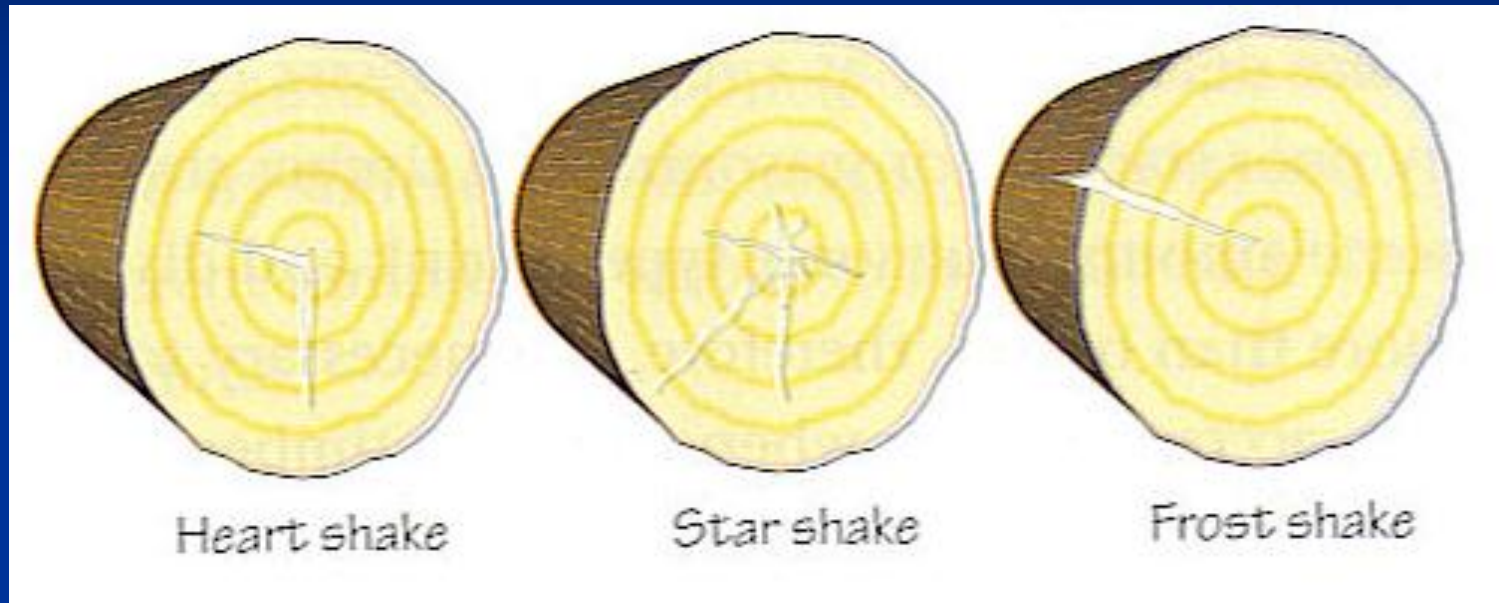
- Shakes weaken the wood. There are different types.
 1. Compression shakes
 2. Heart Shakes
 3. Cup Shakes

Compression shakes



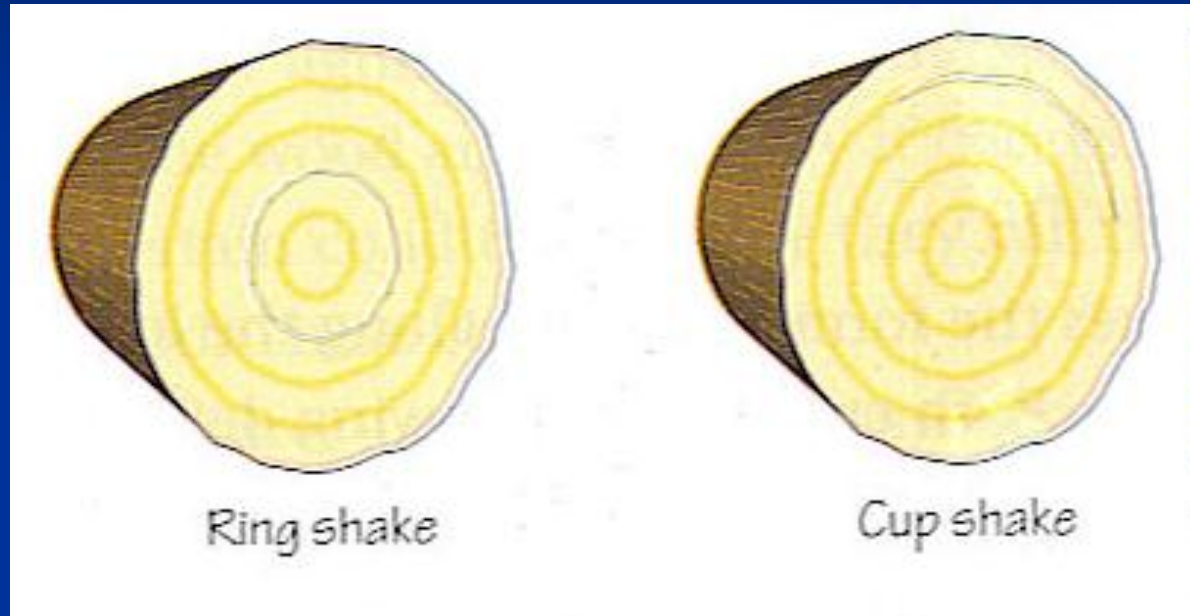
- Cracks across the grain

Heart Shake



- Splits along a medullary

Cup Shake



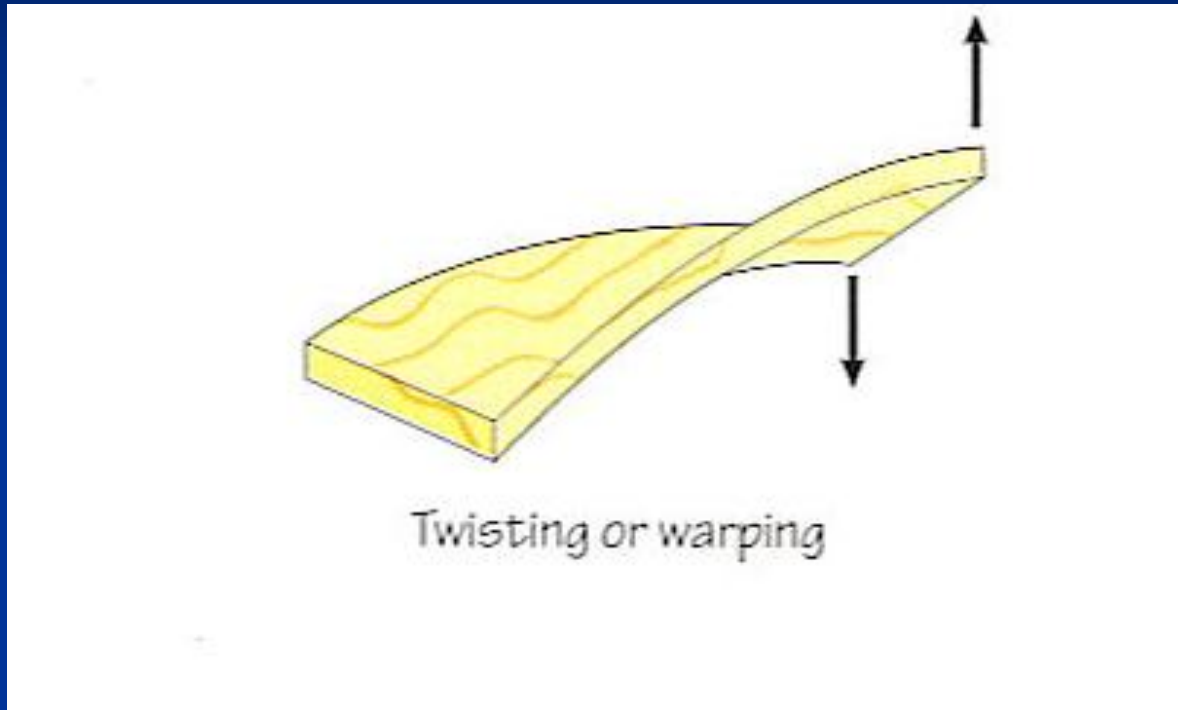
- Splits along an annual ring

Artificial Defects

These usually occur due to seasoning too quickly and uneven shrinkage.

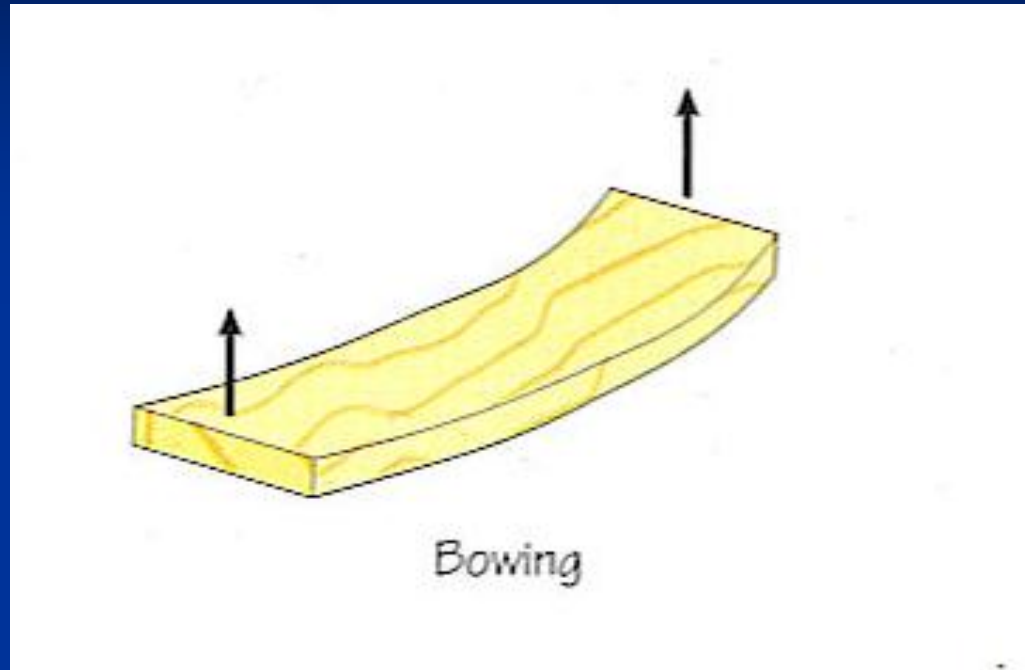
(Influence of man)

Warping/twisting



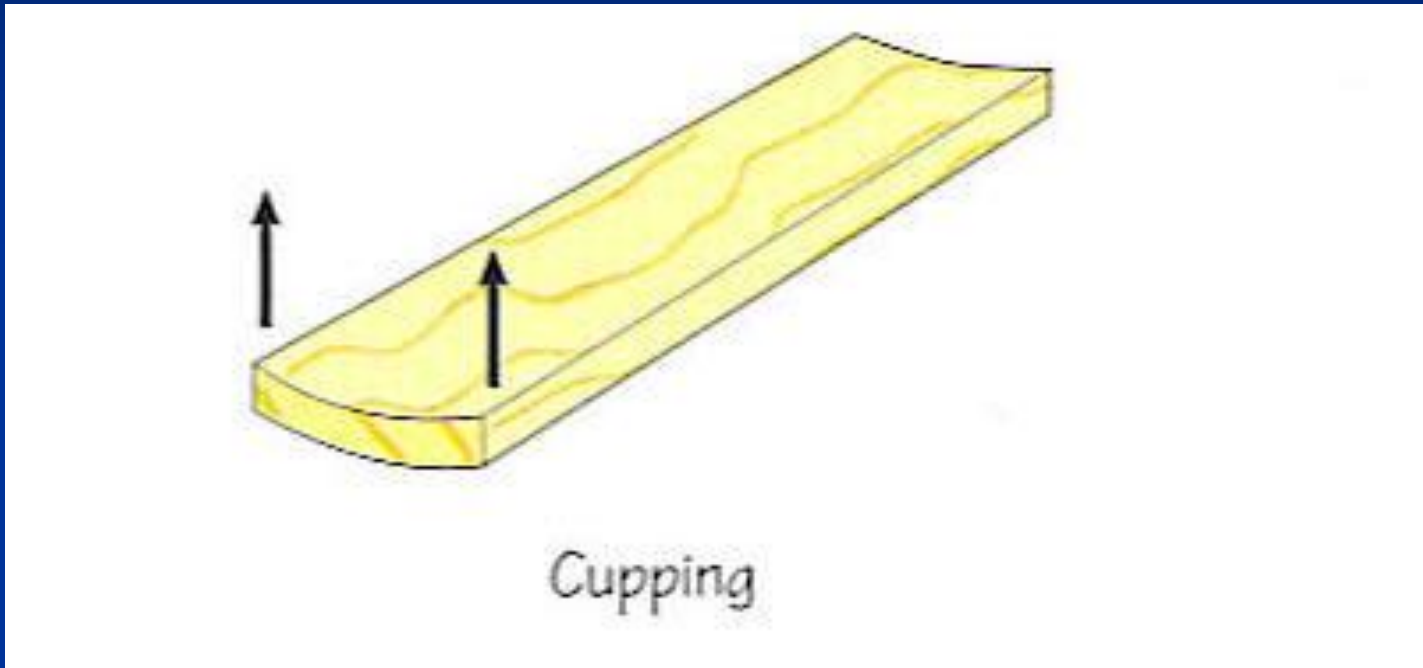
- Occurs when the ends of the board twist in opposite directions

Bowing



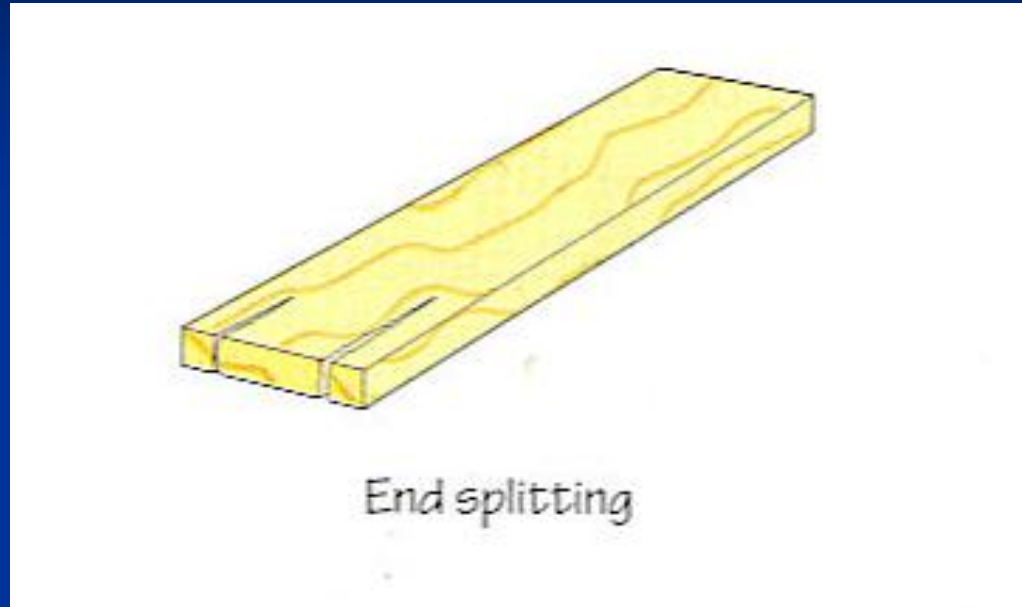
- A bend along the length of the piece.
- Usually occurs due to uneven stacking of boards

Cupping



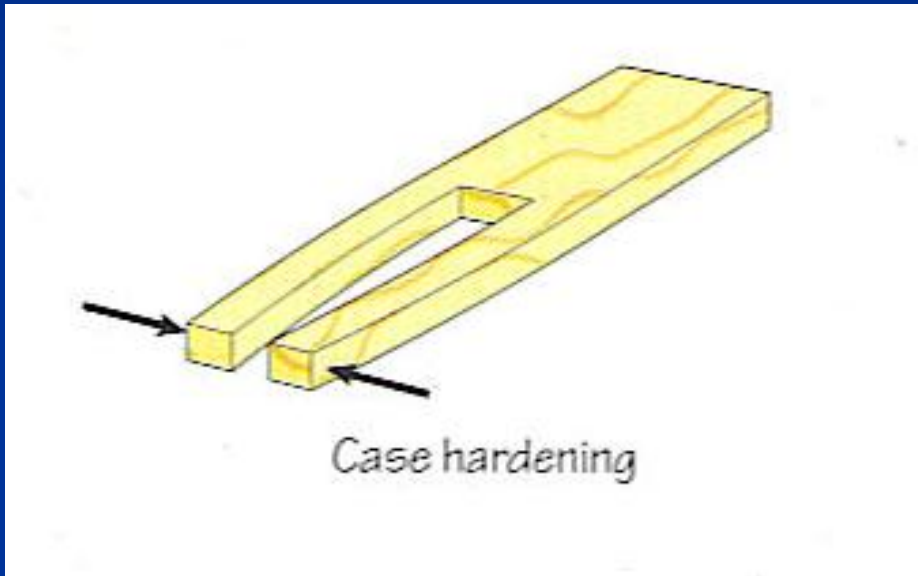
- The bending of a plank across its width

End Splitting



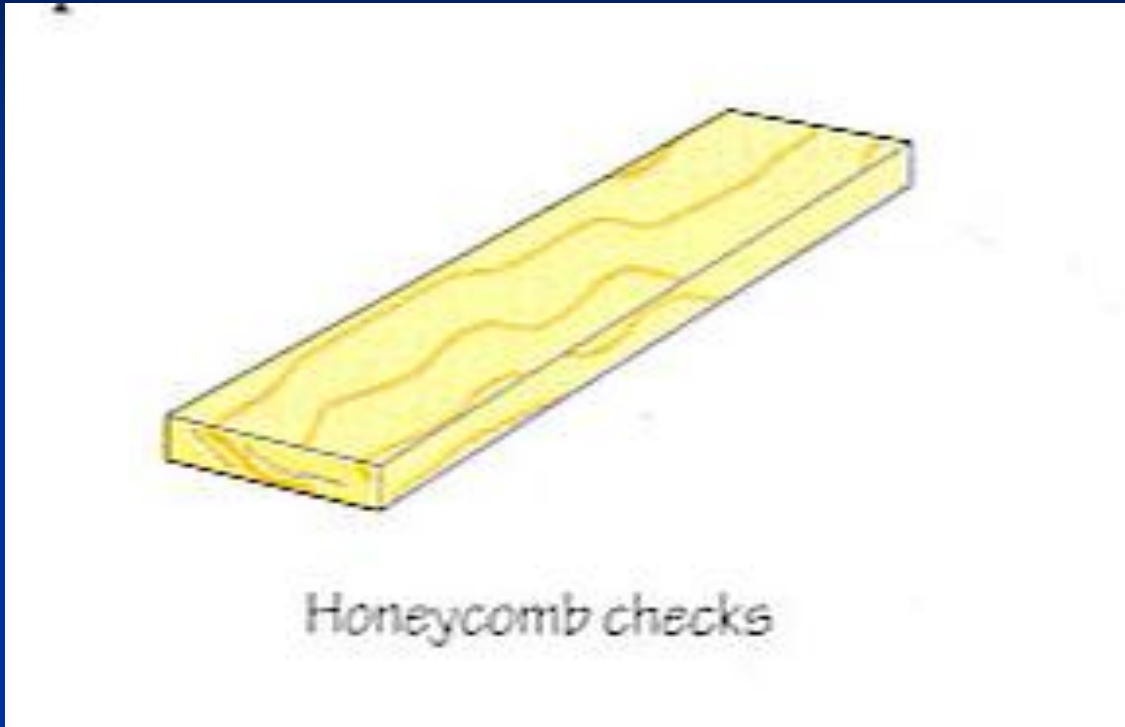
- Splits at the end of a plank.
- Usually caused by a board drying out too quick

Case Hardening



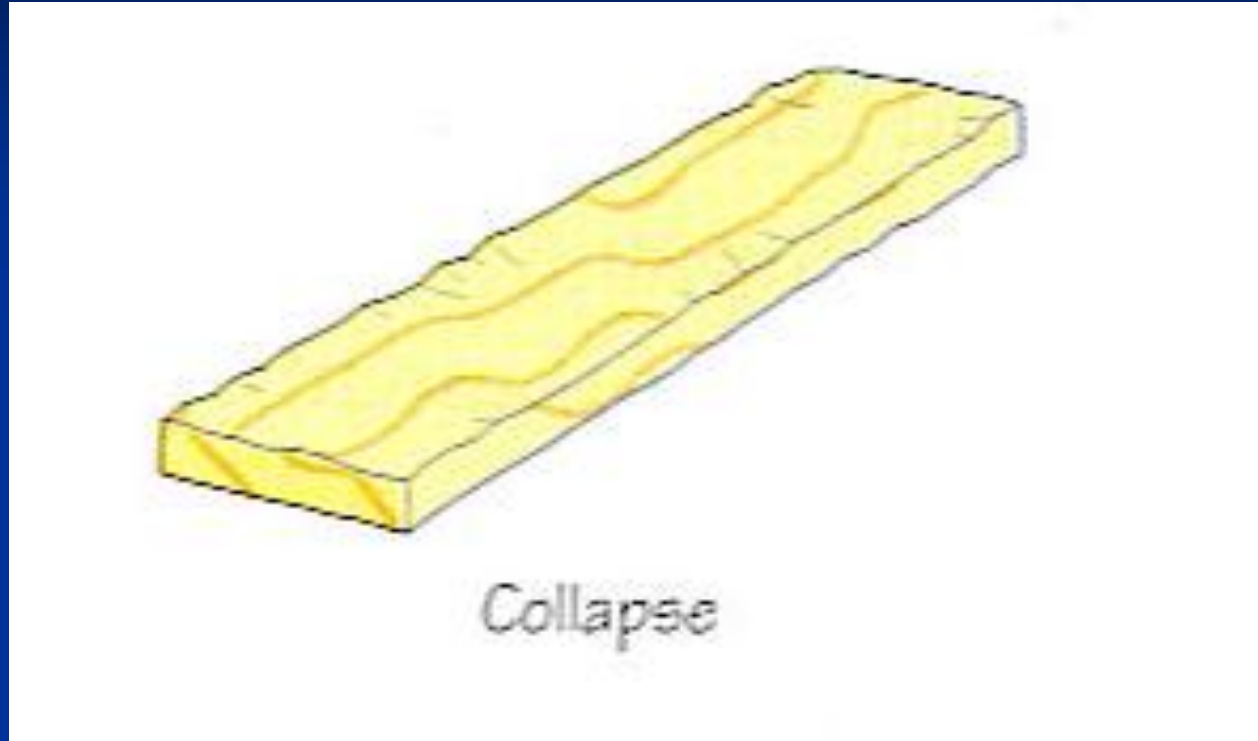
- Happens during Seasoning. The outer surfaces dry out too quick trapping moisture inside. As a result planks may twist/warp or split during sawing.

Honeycombing



- Splits which occur in the centre of a board.
- Due to rapid seasoning

Collapse



- Complete distortion of a plank (cells collapse).
- Due to rapid seasoning