

6.1.2. Storage

Selection of storage place is very important. Plywood must be stocked in a place well protected against rain and snow, with a good air circulation.

An appropriate store for plywood has a floor in concrete, or coated with other materials.

Plywood must not be stacked in direct contact with the floor, but on pallets or underlayers minimum 8 cm thick. This is mainly to avoid damages caused by drops of water, mud or other liquids, but also to avoid panels from absorbing moisture from the ground.

The panels are stacked horizontally on the pallets or underlayers, which are of equal height and lay on the same horizontal line.

A stack must be supported by at least 3 underlayers with a distance of about 800 mm, or on pallets.

When plywood packages or stacks are piled one on another, the intermediate underlayers must be at the same horizontal line, as shown in Figure 6.3

Figure 6.3. Properly and improperly made stacks of plywood panels



6.1.3. Acclimatisation

Plywood, as other wood materials, is hygroscopic i.e. a moisture absorbing material.

Moisture content variation causes swelling or shrinking of plywood.

To obtain good results in further processing it is therefore important that plywood is well acclimatised and reaches an equilibrium moisture content corresponding to the prevailing conditions at the further processing site.

An equilibrium moisture content is the one that plywood reaches under constant relative humidity and temperature of air, during a long time period.

Taking into account the above mentioned, there should be selected storage place with air parameters similar to parameters of final application place. Placing plywood for acclimatisation in stacks the height of stack shall be minimum to provide short time of acclimatisation. Examples of stacks are shown in Figure 6.4 and 6.5. In an ideal case, intermediate beams separate every panel in stack. Plywood in a tight stack absorbs or releases moisture uniformly through uncovered surfaces of the panels, i.e. only through the edges and the uncovered upper and bottom surfaces of the panels. If the stacked panels are separate with intermediate beams, all faces and sides of the panels are uncovered, thus allowing a constant and equal acclimatisation of all panels. This reduces significantly the required acclimatisation time. The time required for plywood acclimatisation depends on various factors - (1) the difference between equilibrium moisture content of plywood and the respective moisture content of the environment; (2) air flow; (3) thickness of the panels; (4) other factors. A panel has reached the equilibrium moisture content if its weight remains constant for 24 hours. The edges of the panels must not touch the floor or the wall (Figure 6.5).

When stocking plywood packs in a humid environment, packing straps (usually made of metal or plastic) must be opened, because straps may damage the edges of the panels due to swelling of the panels. Absorption or release of 1% of moisture, leads to the following alterations of the plywood panel dimensions: length 0.02%, width 0.02%, and thickness 0.3%.