

SLEEPERS AND DUNNAGE TIMBER

DEFINITION AND ROLE

"Sleepers" mainly refer to the timber pieces that are intended for use under rails. Railroad sleepers are distinguished from appliance and shunting timber. In both cases, they are heavy duty timber that is intended to support rails and rolling stock. The sleepers ensure contact by distributing support efforts along the ground and they maintain the spacing between the rails. The filling and wedging within the ground is carried out using ballast.

This category also applies to dunnage timber used in the navy to support ships when they are pulled out of the (aground and dry docks). These square timber pieces with precise sections are referred to as "boat slips".

STRESSES AND EXPOSURE

Sleepers are used in extreme conditions that vary depending on the geographical area and the climate, but they are always laid down on draining ground. They support very strong forces and they must absorb the deformations of the metal rails, as well as vibrations and friction.

Boat slips are mainly used in transverse compression. In general the wood must be delivered green, i.e. above the Fibre Saturation Point, in order to limit the dimensional variations that may occur during its use during the dunnage of ships.

REQUIRED PROPERTIES

The pieces must have a heavy duty section and be cut in such a way as to limit deformations. The timber must be highly durable, have hardness properties that are adapted to the stresses when in use and not be subject to cracking from vibrations and vertical and horizontal loads.

PRINCIPLES OF IMPLEMENTATION

Implementation principles are typically outlined in specific specifications provided by a railway or maritime company.

USAGE CLASS

Sleepers and dunnage timber fall under usage class 4.



Photo: Boat slips packaged for maritime transport© M. Vernay



Photo: Boat slips © F. Codron, PELTIER BOIS



Photo: Sleepers of a shunting line© WIJMA