VEHICLE, WAGON AND CONTAINER BOTTOM (OR FLOOR)

DEFINITION AND ROLE

Timber is one of the most widely used materials for the manufacture of floors designed to support heavy loads for handling and transport (wagons, truck beds, container bottoms, etc.). Thanks to its easy installation, timber enables an easy and quick replacement of floors in the event of damage. Its high resistance/density ratio and its ability to absorb shocks distinguish it from many other competing materials in this sector.

STRESSES

The floor must be able to withstand heavy loads and withstand shocks without major deformations. Rolling stock used for handling also causes horizontal stresses that accentuate shearing in terms of floor fastenings.

REQUIRED PROPERTIES

The timber must have excellent mechanical properties, especially in flexion, and have a high level of hardness in order to withstand handling shocks and sharp falls from heavy loads. The timber must also be highly resistant to splitting and bursting under heavy loads.

Its durability must allow for use in all climatic conditions: marine environments during maritime transport, repeated or permanent moisture, presence of chemical products, alternating temperatures and thermal shocks.

PRINCIPLES OF IMPLEMENTATION

The timber present in vehicle bottoms and other means of transport is installed in the form of boards, featuring an assembly profile or not, in a thickness that matches the stresses that are encountered. The timber is shaped with facing that is free from defects. The board edges must not present any risk of chipping and are thus generally chamfered. The assembly of the cladding (floor) is done by attaching it to a supporting structure referred to as the "base", using screws or bolts depending on the situation.

USAGE CLASS

Depending on the nature of the means of transport, the timber used covers usage class 3 or 4.

Photo: Trailer bottom © V. Legris, SBLF