# Regulations noise barriers

**Due to the strong increase in traffic noise in residential areas, it is necessary to install noise-reducing facilities around (high)ways, such as noise barriers or noise walls. Platowood wood is a renewable resource with a beautiful natural appearance that is particularly suitable for noise barriers.**

Through the unique Platowood process the wood is refined in an environmentally friendly, clean and sustainable way, improving the dimensional stability and durability of the wood. In addition, both the thermal and sound insulation values are better than untreated wood. The noise barrier can be constructed entirely from Platowood wood, but combinations with other materials are also possible. In consultation, Platowood noise barriers can also be supplied in cross-sections and lengths outside the standard range.

Below we describe aspects that are important for the application of Platowood noise barriers.

**Design**
When designing and producing a noise barrier, existing standards and/or guidelines (including GCW) must be used. Some important points are:

- Avoid horizontal joints unless measures are taken to prevent moisture accumulation or capillary moisture absorption. In the longitudinal direction a tolerance of ± 5 mm is permitted.
- The width of the boards may be limited; according to the GCW the width of the boards may not exceed 160 mm.
- Boards should preferably be joined by tongue and groove, where the length of the tongue must be 10% of the working width of the board. The joint may also be made by using a loose tongue.
- The occurrence of sound leaks must be prevented.

**Fastening material**
Preferably use stainless steel fasteners and fittings, such as A2 or A4 quality steel. In the vicinity of salt water, preferably use A4 quality steel.

Platowood **B.V.**
Westervoortsedijk 73, 6827 AV Arnhem
Postbus 5197, 6802 ED Arnhem

+31 88 60 500 60
info@platowood.nl
www.platowood.nl

**Finish or natural**
With Platowood Color you can finish the noise barrier in a desired colour. It is recommended that after installation of the colour-finished parts, the barriers are given an additional finishing layer. If desired, Platowood can provide you with an extra quantity of colour component to also finish the screw holes afterwards. If required, the wood can also be supplied with an anti-graffiti coating. For more information about maintaining Platowood Color products, you can refer to the corresponding instructions.

Platowood wood can also be used without finish. Under the influence of sunlight, weather and wind, the wood will naturally weather quickly and evenly. This weathering does not affect the durability of the wood but will give the wood surface a silvery-grey tint over time. During the weathering period the wood surface may have a somewhat patchy appearance. This can be enhanced by the adhesion of dirt and/or aerosols on the wood surface.

By taking a step into the future and allowing the weathering process to take place in a more uniform way, Platowood can also be supplied pre-weathered. The cladding elements then immediately have a weathered appearance, and this layer will slowly degrade while the underlying wood naturally weathers. In this way, the visual transition process from the brown Platowood to a weathered façade is bridged.

**Mechanical properties**
Because the Platowood process is carried out at a relatively high temperature, the physical and mechanical properties of the wood can be strongly influenced. Some physical and mechanical properties decrease; among others density, bending strength, impact strength and tensile strength. While other properties increase; bending stiffness, hardness and workability.

At present it is (still) not possible to supply thermally modified wood strength-graded since the existing regulations do not apply to thermally modified wood. It is therefore (still) not possible to supply thermally modified wood with CE marking for structural applications. When applying Platowood wood it is therefore advisable to determine which forces will play a role in a structure and how large these forces can become, for example due to wind load. The use of Platowood products must be adjusted accordingly.

The table below shows some relevant properties of Platowood Spruce. More relevant information can be found in the Information sheet Physical and Mechanical properties of Platowood.

Platowood **B.V.**
Westervoortsedijk 73, 6827 AV Arnhem
Postbus 5197, 6802 ED Arnhem

+31 88 60 500 60
info@platowood.nl
www.platowood.nl

**Physical and mechanical properties of Platowood Spruce**

| SHR-report 2.793-1w, 2.793-2w and 7.026 | | Platowood Vuren | |
|---|---|---|---|
| | | Average | Stdev |
| Volumieke massa | Kg/m3 | 414 | 28 |
| Equilibrium moisture content<br>- 65% RV (20°C)<br>- 90% RV (20°C) | %<br>% | 5.2<br>9.8 | |
| Shrinkage wet -> 65% RV<br>- Radial<br>- Tangential | %<br>% | 1.0<br>1.8 | |
| Shrinkage wet -> oven dry<br>- Radial<br>- Tangential | %<br>% | 1.9<br>3.5 | |
| Buigsterkte* | N/mm2 | 79 | 19 |
| Elasticiteitsmodulus* | N/mm2 | 10514 | 2665 |

*The bending strength and bending stiffness (modulus of elasticity) are determined with clear test specimens (20x20 mm)

**Fire behaviour**

Based on the density, Platowood Spruce and Fraké meet Euroclass D-s2, d0. If desired, these wood species can be treated with a fire retardant so that they meet Euroclass B-s2, d0. For expert advice regarding the treatment of Platowood, please feel free to contact us.

**Re-use**

During the unique Platowood process no (toxic) chemicals are used, resulting in a completely environmentally responsible, clean and sustainable product. Even in the later phases of its lifespan Platowood can still be used economically, for example through re-use or as fuel for a power plant.

**Transport and storage**

When realising a high-quality project, proper handling of the product before it is applied in practice is also essential. To prevent damage, the packaging, transport and storage of the Platowood noise barriers or noise barrier components must therefore be carried out with due care. For example, ensure that the forks of the forklift are set wide enough when transporting large and/or long (5100-5400 mm) packs.

The packs must be stored and transported clean, dry, ventilated, out of the sun and flat. Use sufficient stickers and place the stickers directly above each other. Storage must be such that the given properties are preserved, so no heating and maintaining the moisture content. These measures also apply on the construction site.

Platowood **B.V.**
Westervoortsedijk 73, 6827 AV Arnhem
Postbus 5197, 6802 ED Arnhem

+31 88 60 500 60
info@platowood.nl
www.platowood.nl