

# Living with wood

Wood – a modern, flexible material

## Large-scale as well as tailor-made wood products

**Sweden is a** country with abundant and sustainably-managed forests. Wood is one of our most commonly used materials due to its good availability, excellent material properties and unique sustainability. Wood is a renewable resource with an eco-efficient life-cycle; wood products can be reused, repaired, recycled and, at the end of their life, their energy can be recovered.

Swedish sawmills are technically-advanced and lead the world in quality and productivity, delivering the benefits of large-scale, as well as increasingly tailor-made, production.

About half of the sawmilling products go directly to the building sector. A major part of this is construction timber used for beams, studs and other load-bearing elements. Spruce/whitewood (also called Norwegian spruce) is the predominant species for building and

construction timber. It is stress-graded and available in different strength classes.

Other sawmilling products are used for further processing. Indoor and outdoor panelling is a big segment, with many sawmills planing the timber to different profiles to provide a variety of panel types. Spruce/whitewood is predominant for outdoor usage and pine/redwood (also called Scots pine) for indoor usage.

The wood-working industry also uses timber for carpentry, doors, floors, windows, stairs, kitchen and bathroom furnishing, furniture, boats etc. While pine/redwood is mainly used for interior decoration, pine heartwood is chosen for its durability, for example in windows.

Today, many sectors require more specialized products from the sawmills,

such as components kiln-dried to specific moisture contents, special profiles, mouldings, cross-laminated timber, glue line or straight-glued joints, prefabricated components for the industries making windows, doors, floors and furniture, pressure-treated timber, thermowood etc. The sawmilling products used are either further processed in the Swedish woodworking industry or exported for further processing.



*The auditorium Aucusticum in Piteå, Sweden.*

## Swedish Production

**Special drying techniques** can be used on all products to achieve a moisture content of 12% or lower.

One technique uses large quantities of steam in the drying process, giving a

considerably better drying result than conventional kiln-drying. The steam is used at the beginning of the process to heat up the timber, which minimizes splits and shakes. It is also used at the end of the drying process to level out the moisture content, producing tension-free timber.



**Some products for which special drying is recommended are:**

- Furniture grades; target moisture content 8%
- Floor materials; target moisture content 8% in heated buildings
- Turning components; target moisture content 10%
- Windows, target moisture content 12%



*One Tonne Life house in Stockholm*

**Wood windows** are now available in a wide variety of styles and finishes, to suit all types of buildings, both modern and traditional. It is also possible to design special profiles in wood.

Every **wood floor** has its own specific appearance and, whether solid wood or made of lamellas, will look beautiful over a long life, although the appearance of the wood can change over time, depending on the species. Wooden boards can have different strip lengths, giving different designs, from one solid board to boards that typically have three rows of strips each.

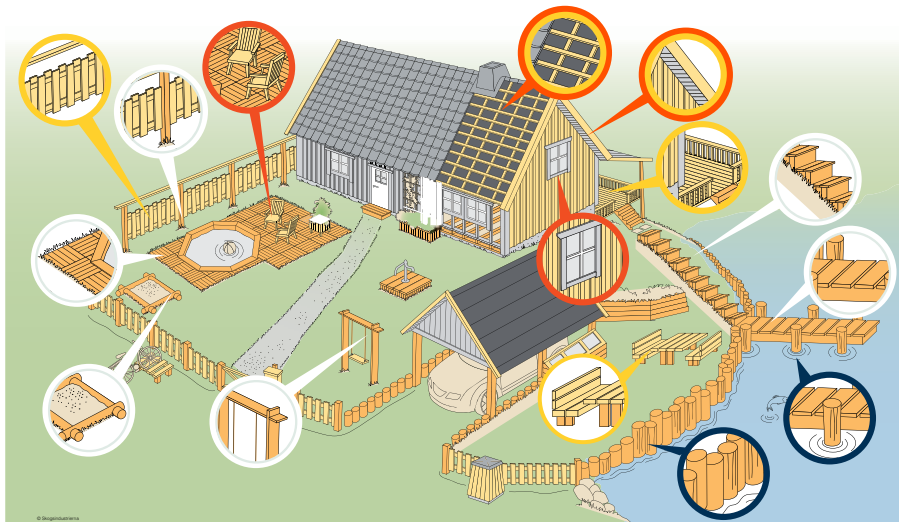
**Panels** can have different profiles and can be delivered ready-painted from the factory.

**Furniture** manufacturing is an important sector for the sawmill industry, and has a long tradition of using wood. From a tradition of excellent workmanship, the Swedish furniture industry has developed into a modern, efficient industry with significant world-wide exports.



*Kvarnhuset, Västra Karup*





NTR (Nordiska Träskyddsrådet) is the Nordic Wood Protection Council. NTR has developed the Nordic classes and requirements for preservative treated wood, and the strict rules for factory production control and third party control of the treated wood.

**Wood processing** and finishing technologies often require the use of chemicals, such as adhesives, paints and coatings, as well as impregnation or pressure treatment to improve wood's (biological) long-term durability (fungi and insects/termites) and moisture resistance. The application of wood preservatives is made under very strict control in closed systems and conforms to the relevant national regulations.

**Pressure-treated timber** for construction, agriculture, landscaping, marine, railway and garden products, and many other applications, enjoys an extended service life and provides a good alternative to non-renewable materials.

The illustration above shows different treatments for different applications. NTR/M wood is intended for permanent

contact with sea water, such as piers and harbour installations.

NTR/A is intended for wood in permanent contact with ground or fresh water, or in above ground constructions where personal safety demands that it does not weaken, or in situations where it is difficult to inspect or replace. Applications of class NTR/A treated wood include posts, balconies, garden wood and freshwater constructions (docks, etc.).

NTR/AB is intended for wood that is exposed to weather and wind or condensation, but is not in contact with ground or water, and where replacement of damaged sections and personal safety are not the foremost concerns. Applications of class NTR/AB treated wood include fences, planking, trellises, pergolas, deck/patio flooring and play-ground equipment.

NTR/B is only for external joinery above ground, such as windows and doors, given a surface protection by painting.



Pressure impregnated wood.

## SWEDISH WOOD

part of the Swedish Forest Industries Federation

**Swedish Wood** spreads knowledge, provides inspiration and encourages development relating to wood, wood products and wood construction. The goal is to increase the use of wood in Sweden and in selected international markets through information and inspiration.

Swedish Wood is a department within the trade and employer organisation the **Swedish Forest Industries Federation**. Swedish Wood is supported by the Swedish sawmill sector.

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