



# **FINNISH TIMBER**

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# **GUIDE**

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WOOD  
FROM **FINLAND**

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# SAWN TIMBER

## F A C T S

Nordic sawn timber is a concept. Softwood grown slowly in the boreal climate is a strong, dense, beautiful and ecologically sustainable choice for many uses.

1. A tree matures in Finland, depending on the site, region and species, within roughly 50 to 120 years. In terms of price, slow-growing timber cannot compete with species that have more rapid harvest cycles, but the slow growth also ensures that the resulting wood raw material is the strongest in the world.

2. The Finnish forest landscape is a mosaic of tree stands of various ages. While the soil dictates the main tree species that can successfully grow in a specific site and the appropriate silvicultural methods, practically all forests naturally have several tree species and different age classes of trees living in them. Long life cycles also support forest biodiversity.

3. Harvesters cut the trees in the forest based on the sawmill's customer orders. Trunks are cut to lengths ranging from 3.1 to 6.1 metres, at 30-cm intervals, and the resulting logs are sorted at the sawmill according to their top diameter, length and grade.

4. There are more than 70 industrial-scale sawmills in Finland, and they annually produce around 11 million cubic metres of sawn timber for global markets. While this only accounts for 3% of the global sawn timber production, Finland still ranks as the fourth largest softwood timber exporter worldwide.

5. Finnish sawmills use one third of the raw timber harvested from Finland's forests, while the rest is processed by the pulp and paper industry. Even so, Finnish sawmills account for two thirds of the total annual stumpage income, EUR 2.3 billion, paid to Finnish forest-owners.

6. One cubic meter of sawn timber requires two cubic metres of logs. The raw material costs – consisting of stumpage price, harvesting costs and transportation costs – account for up to 75% of the total costs of sawmilling.



Finland is a country that has lived on its forests for centuries. It is self-evident that sustainability calls for taking care of the forests, their well-being and growth – now and in future.

**Finland is Europe's most forested country. More than three quarters of her total area is covered with forests.** Finnish forests annually grow by 110 million cubic metres of wood and the yearly felling volumes are clearly below the annual growth. The surface area of forests processed each year is less than 2% of the total forested land area, and the areas affected by clear cutting is less than 1% of the total forested area.

Forestry is regulated by the most advanced legislation of its kind in the world. One of the obligations stipulated by legislation requires forest owners to reforest their land after logging operations. To ensure reforestation, at least four seedlings are planted for each tree that is felled. The forest is indeed Finland's most significant renewable natural resource and a major source of income for tens of thousands of Finns.

Forests make up an important part of Finland's national wealth, as for more than 700,000 Finns, forest ownership is considered 'green gold'. Most of Finland's forests, roughly 60% of the total forested land area and 70% of timber growth, is owned by private individuals and ordinary Finnish families. The significance of private forest owners is very important for the country's wood-processing industries. Up to 80% of the domestically sourced timber used by the industry comes from privately owned forests.

More than half of the protected forests in Europe are located in Finland. The conservation rules are strict, and most of the protected areas prohibit all types of forestry measures. The FSC and PEFC certification systems are in use in Finland, and most of the managed forests, more than 90%, are registered in one of these systems.

## SUSTAINABLE FORESTRY







78 %

**LAND OF FORESTS**

Finland is Europe's most forested country. Up to 78% of her total land area consists of productive forest land.

30,1

**HECTARES**

More than 700,000 Finns are forest owners. The average size of a forest holding is 30.1 hectares.

,9 Mill

**PROTECTED HECTARES**

The total area of protected forests in Finland amounts to 2.9 million hectares.

60 %

**PRIVATELY OWNED FORESTS**

Most Finnish forests are privately owned. Ordinary families own 60% of the forested land area.





# NORDIC SOFTWOODS

Trees grow slowly in Nordic boreal forests. That is why it is the strongest wood in the world.



**TREE SPECIES** The sawmilling industry mainly uses pine and spruce. Half of Finland's forests grow pine and around one third is dominated by spruce. The characteristics of an individual tree trunk are affected by the age of the tree, site properties, speed of growth and the climate. The clearly distinguishable annual rings make a visual record of its growth. The lighter, less dense rings are made of early wood from spring, while the darker rings are late wood from summer.



## SPRUCE

The spruce, *Picea abies*, flourishes in shady sites rich in nutrients, reaching a height of up to 40 metres. Spruce has a consistently straight grain, is light in weight and tolerates variations in moisture well. Both its heartwood and sapwood are light in colour. Spruce is popular for both interior and exterior uses, including various cladding and boarding applications.



## PINE

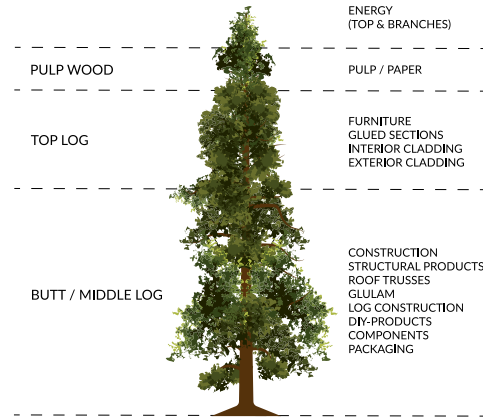
The pine, *Pinus sylvestris*, grows in well-lit, dry, even barren sites. Like spruce, it can grow up to 40 metres in height. Pine wood is hard and stiff, and tolerates moisture variations reasonably well. Pine has dark heartwood and light-coloured sapwood. The end-uses for pine include timber construction and joinery products.

# DIFFERENCES

Pine and spruce are the most common tree species used in construction. There are differences between these tree species both in their visual and technical properties, and they therefore have different applications.

## SPRUCE

Parts of the trunk and uses



### PROPERTIES OF THE SPRUCE

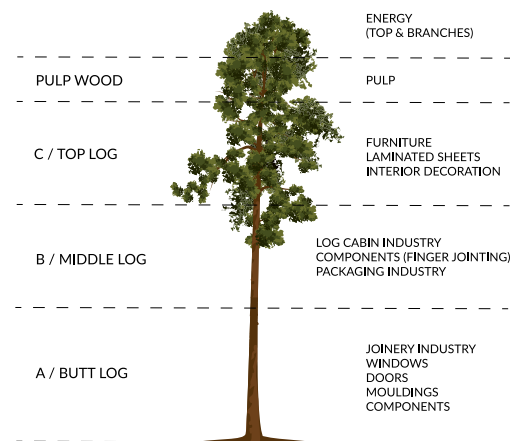
- Large share of heartwood, sapwood has a low water permeability
- Straight grain
- Small number of resin pockets, size usually less than 40 mm
- Long section of sound knots in the trunk
- Short section of dead knots, with small knots
- No difference in colour between sound knots and the rest of the wood

### IMPLICATIONS IN USE

- Does not warp easily, tolerates moisture in facade applications
- Grains do not rise up when worked on
- Good glueability and surface-treatment properties
- Usually produces sawn timber with sound knots
- Sawn timber has few edge knots
- Surface of sawn timber uniformly light in colour

## PINE

Parts of the trunk and uses



### PROPERTIES OF THE PINE

- Heartwood has no permeability to water
- Sapwood has a high water permeability
- Resin is evenly distributed in the wood
- Long section of the trunk free of knots
- The trunk section with dead knots also contains sound knots
- The butt log is denser than the top log
- The branches have low wood density and grow perpendicularly to the trunk core

### IMPLICATIONS IN USE

- Natural resistance to rot and insects
- Good impregnability, suitable for exterior uses
- Protects the wood from moisture and heat
- Boards with waney edge and sideboards with little/no knots
- Inside faces of centre-yield timber usually have sound knots
- Butt log yields strong timber
- Easy to plane

# SAWN TIMBER AND DIMENSIONS

The table shows the most common cross-sectional dimensions of sawn timber. Dimensions can also be tailored entirely to the customer's needs. These are referred to as customer dimensions.

## Dimensioned sawn timber

Dimensioned sawn timber refers to sawn timber that is rough-planed on all sides to a precise measurement. Due to a high feed speed, the product may have unplanned areas or ridges.

## All-round planed sawn timber

In all-round planed products, all sides are planed and the edges are rounded. Planed products can be used in many applications.

### MOST COMMON CROSS-SECTIONAL DIMENSIONS / Sawn finished timber

Thick-ness (mm)	Width (mm)								
	50	75	100	125	150	175	200	225	250
19 <sup>1)</sup>									
22 <sup>2)</sup>	JH	JH							
25 <sup>1)</sup>									
32									
38									
44 <sup>2)</sup>									
50		JH							
63									
75		JH							
100									
125									
150									

<sup>1)</sup> Generally pine JH is usually produced by splitting afterwards, width 2 mm smaller than the nominal size

<sup>2)</sup> Generally spruce

### MOST COMMON CROSS-SECTIONAL DIMENSIONS / Dimensioned sawn timber

Thick-ness (mm)	Width (mm)												
	48	66	73	95	98	120	123	145	148	173	198	223	248
20 <sup>1)</sup>													
42													
48													

<sup>1)</sup> Fine-sawn finish

### MOST COMMON CROSS-SECTIONAL DIMENSIONS / All-round planed sawn timber

Thick-ness (mm)	Width (mm)										
	15	21	28	33	45	70	95	120	145	170	195
8											
12											
15 <sup>1)</sup>											
18 <sup>2)</sup>											
21 <sup>1)</sup>											
28											
33											
45											
70											

<sup>1)</sup> Generally pine

<sup>2)</sup> Generally spruce

Standard size

Non-standard size



# QUALITY GRADES AND DESIGNATIONS

The main grades of sawn pine and spruce timber, according to qualitative properties.



### GRADE US, SPRUCE

The highest quality grade. Includes sawfalling grades from US I to US IV. US = Unsorted.



### GRADE US, PINE

The highest quality grade. Includes sawfalling grades from US I to US IV. US = Unsorted.



### GRADE V, SPRUCE

Sawfalling grade V, 'fifths'. The second highest quality grade. No subdivision into subgrades.



### GRADE V, PINE

Sawfalling grade V. The second highest quality grade. No subdivision into subgrades.



### GRADE VI, SPRUCE

Falling grade VI at the grading of the production. Not divided into sub-grades.



### GRADE VI, PINE

Sawfalling grade VI. No subdivision into sub-grades.



### GRADE VII, SPRUCE

No numerical values for this grade. All characteristics of timber are permitted. The sawblade must have touched most of the surfaces.



### GRADE VII, PINE

No numerical values for this grade. All characteristics of timber are permitted. The sawblade must have touched most of the surfaces.

Nordic Grading Book compiles the fundamental principles of sawn timber grading. Because wood is a living material, there will always be minor variations depending on the region and the sawmill.

**SAWN TIMBER  
IN USE**

**Versatile, easily workable and natural material**

Sawn timber is used for construction applications such as floor and roof structures, exterior cladding, windows and doors, and wall structures. Other uses for sawn timber include various engineered wood products, such as glued laminated timber, cross-laminated timber (CLT) and industrial packaging.

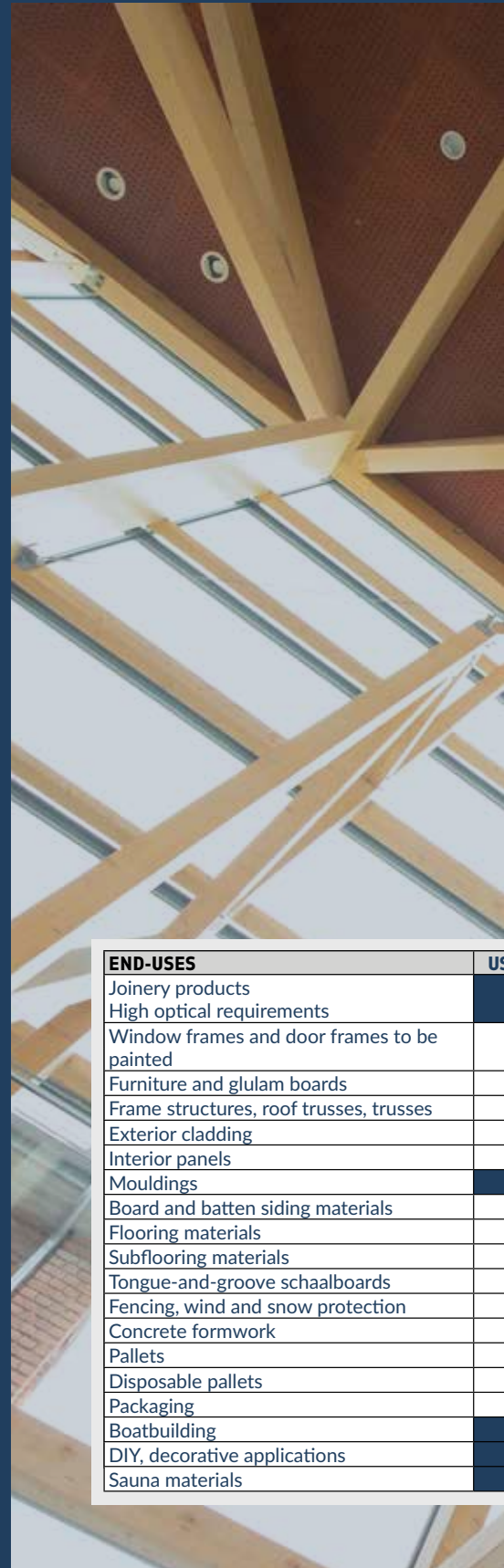
Sawn timber serves as a raw material for many interior decoration products, such as mouldings, flooring and panelling, furniture as well as solutions for outdoor living areas and gardens.

10,5 Milj.m<sup>3</sup>

**PRODUCTION**

IN 2023

A total of 7,7 million m<sup>3</sup> of Finnish sawn and planed timber was exported to the global markets in 2022.



END-USES	US
Joinery products	
High optical requirements	
Window frames and door frames to be painted	
Furniture and glulam boards	
Frame structures, roof trusses, trusses	
Exterior cladding	
Interior panels	
Mouldings	
Board and batten siding materials	
Flooring materials	
Subflooring materials	
Tongue-and-groove schaalboards	
Fencing, wind and snow protection	
Concrete formwork	
Pallets	
Disposable pallets	
Packaging	
Boatbuilding	
DIY, decorative applications	
Sauna materials	











## STARTING FROM THE FOREST

Sawing is a “disassembling” industry where the aim is to produce the highest possible quality and even product of individual naturally growing raw materials. The production chain starts in the forest, where the trees are cut down according to a production plan built by customer orders.

Sawmilling is like a big jigsaw puzzle, where several grades and lengths are being handled simultaneously between different customers and markets in a most profitable way. In practice the emphasis between products and markets can change very quickly – for instance due to demand, supply or exchange rates. If one market’s demand alters markedly this will have an immediate effect on the falling products, which may have been going to other countries.

The cutting matrixes - the way the trees are cut - are decided primarily by market requirements and strategic choices, because by steering the lengths the mill combines the market specific length stipulations also with different delivery types like containers and trailers, where the right length combination is vital for the correct utilization of freight space.

The way production and sales planning are conducted varies between different companies, depending on their strategies, resources and the raw material procurement.

In order to get full benefit from the planning one needs to have relatively accurate customer information of the existing customers and also of the potential ones: volumes, enduses, dimensions, grades, lengths, etc.

One can say that the first step of adding value to the log takes place in the forest, where the trees are cross cut from the quality, length and top diameter point of view in the best possible way in order to meet the requirements set by the end uses.

The purpose of the sawing process is to use sawing and edging to produce as much high quality timber that meets the requirements of the buyer as possible. The special feature of the sawmilling industry is the challenge of falling products: in order to produce one top quality product according customers needs, there are always several other products and by products, which need to be placed as well.

# SAWN TIMBER PRODUCTION



## NORDIC PRACTICE

### Brings out the best of log

**SAWING IN THE NORDIC TRADITION** requires that the cant is halved from the middle in the resawing stage. Other cuts divide the log into the centre yield and side yield. The centre yield consists of two or more sawn pieces that may be of the same thickness or different. Exceptions to this sawing method (e.g. heart-free) are called special sawing methods and their use is always agreed separately between the sawmill and customer.

#### ADVANTAGES

- The internal stresses are removed by heart splitting: the good stability of timber
- Most of the pith also disappears due to the saw kerf in heart splitting.
- “Normal” practice splits the heartwood and “heart free” practice removes the heart.

# TERMS

## TIMBER PRICE

Timber is sold at the global markets and its price fluctuates due to the changes in the demand and supply. Timber has no standard price but instead the price is made up by several factors such as tree specie, dimension, length, grade, batch volume, port of delivery and other terms.

**CROSS-CUTTING MATRIX** determines the cutting of logs in the forest. It is derived from end-use lengths given by the sawmill, added with various tolerances during the sawing, kilning and grading.

**CENTRE CUT PIECES** (heavier sections) are produced from the middle of the log at the end of quarter sawing process. Pieces produced at this point of the process are more valuable and expensive, as the material is of high quality and the production process is demanding.

**SIDEBOARDS** - like the lower visual grades - are falling products from the centre cut production. Therefore the volumes are dependent on production volumes, but their volumes cannot be increased nor decreased like the centre cut production.

**LENGTH** After sawing timber is dried and trimmed into final lengths. Logs are bucked to lengths, which allows 5 cm to be trimmed from both ends at final grading. Therefore the sawn goods lengths are 10 cm below log lengths.

**GRADING OF SAWN TIMBER** Sawn timber can be graded both according to the visual quality and the strength of the products. In grading by quality, all four sides of a piece of timber affect the evaluation as described on the previous page. Strength-graded sawn timber is used for load-bearing structures.

**STRENGTH GRADING OF SAWN TIMBER** Structural sawn timber is strength graded either by machine, using various machine vision, X-ray, ultrasonic or natural frequency methodologies, or visually. Visual strength grading is based on properties such as the number and location of knots, warpage and fissures.

**REGULARISED TIMBER** (as opposed to planed timber) is roughly planed timber mainly for structural end uses. It can be partly "hit and miss".



## FROM KILNS TO ABROAD



### DRYING

Sawn timber is dried in a progressive kiln or a chamber drying kiln.

The moisture content of sawn timber kilned for exporting is generally 20  $\pm$ 4%, but depending on the end use, the timber can also be dried to the customer's specifications.



### STAMPING

The end of each piece of timber is stamped with a so-called shipping mark, which indicates the producer and the timber grade. Manufacturers generally present their stamps on their websites.

Strength-graded sawn timber is sorted and stamped according to the agreed standard.



### PACKAGING

Stacks of sawn timber are banded and packaged as required in plastic wrapping to protect the goods during transfers, transports and warehousing. Each package has product information on it.

A finished package will measure roughly 1 x 1 metre. The length depends on the sawn timber dimensions.





Nordic sawn timber production accounts for the standards required in the country in question. The goods are delivered to the customer fast, using the shortest route, and in compliance with INCOTERMS.

## CE MARKING

DIRECTIVE 93/68/EEC

Mechanically graded sawn timber must have a CE marking that indicates its compliance with a harmonised product standard. A CE-marked product meets the essential safety and health requirements set by the Construction Products Directive.

### EXAMPLES OF PRODUCTS FOR WHICH A CE MARKING IS OBLIGATORY

Strength-graded timber  
Wood panelling and cladding  
Glued laminated timber  
Structural finger-jointed timber  
Wood flooring  
Wooden electrical poles  
Windows and doors

<b>CE</b>
01234
AnyCO Ltd
11
M / Kuivanan lajiteltu AnyCo No. 789/2010
C24

## FURTHER-PROCESSED PRODUCTS



### PLANED

Planed timber is often special kiln-dried, split and/or surface-treated. There is an endless number of various plane profiles available and new ones can be made per customer request. Planed products include mouldings, floor boards, and interior and exterior cladding panels.



Wood is gaining renewed popularity in more and more applications and in various forms.



### FINGER-JOINTED

A finger joint is a strong joint used for extending the length of a timber product. Finger joints make it possible to produce strong, straight, knot-free and long sawn timber, or to only use heartwood, for example. Finger-jointed sawn timber is used, for example, in the furniture and window industries.



### GLUED LAMINATED TIMBER

Glued laminated timber is made by gluing together at least two lamellas of strength-graded sawn timber. Various solutions, dimensions and strength grades are available. The primary uses for glulam timber are load-bearing structures, and the products are standardised according to SFS – EN 14080.



### IMPREGNATED TIMBER

The rot-resistance of timber products designed for exterior uses is improved by impregnation. The impregnation agents used for sawn timber contain copper-based compounds and give the timber either a green or brown colour. There are two impregnation classes, A and AB, to match the intended use.



### THERMALLY MODIFIED

Thermal modification, or heat treatment, increases the biological durability of sawn timber and decreases deformations due to moisture variations. The process does not involve chemicals, and relies only on a high temperature and steam. The treatment may also modify the colour of the wood.



## **BUILDING THE FUTURE WITH WOOD**

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Wood is a renewable and ecological material that acts as a carbon sink. Using wood can both reduce CO<sub>2</sub> emissions and replace non-renewable materials that pollute the environment.

Ecological benefits have gained in importance also in construction applications. In addition to supporting global sustainability and circularity goals, using wood also provides a versatile, beautiful, impressive and warm material that has many positive impacts on people's health and well-being. Users of timber buildings – such as schools, day-care facilities, offices and multi-storey residential buildings – report various benefits including pleasant acoustics, well-being, and good quality of indoor air.

Sawn timber products are made from a natural resource that sequesters carbon in production plants that have a nearly closed loop of material flow. Timber structures, interior decorations, furniture and other products made from wood store carbon throughout their life-cycle. At the end of their life-cycle, the products can still be recycled or utilised for renewable energy, for example.

Wood-based construction products can replace other materials with a higher strain on the climate. According to research, this reduces the consumption of natural resources and energy as well as emissions by several dozen per cent.

# PLANING AND GLULAM

Sawn timber is further processed for many different purposes.



## TYPICAL PLANED GOODS

### A. STRUCTURAL PRODUCTS

### B. EXTERIOR

- cladding (non painted, painted, thermowood)
- garden products (decking, pergolas, fencing)

### C. INTERIOR

- flooring
- panelling
- mouldings

Planing is a very typical form of further processing of sawn timber. In addition to structural purposes there are several different end uses for planed goods. At planing, sawn timber is usually split to smaller sizes and exterior and interior products can often be sourced with some kind of treatment or painted surface.



## TYPICAL END USES OF GLULAM BEAMS

- Industrial and agricultural buildings
- Supermarkets
- Sports halls and stadiums
- Schools

Glulam beams are manufactured by gluing together pre-graded lamellas. Lamellas are made of strength graded timber, which may also have finger joints. Glulam by definition consists of minimum two, maximum 45mm thick lamellas, but in Duo and Trio (2 and 3 lamellas) beams the lamellas can also be thicker. Lamellas are planed before gluing and readymade beams are also planed all round.



# FINGER-JOINTED AND GLULAM SCANTLINGS

Glulam scantlings are produced according to customers unique requirements e.g. the quality of visible and hidden surfaces, dimension, length, butt joints' size, finger length, heartwood proportion



Timber products' length can be extended with finger-joints. Finger-jointing can also be used for other purposes, like in joinery applications, where for instance the knots are removed and then the remaining knotless material is finger-jointed into continuous, long pieces.

Finger-jointing usually takes place on automated lines. The camera detects the knots and other defects and the remaining lengths are optimised. Finger-jointing takes place automatically, as does the bonding with glue and final pressing, too.



## TYPICAL END USES

### FINGER-JOINTED COMPONENTS

- Window scantlings, frames and beams
- Door scantlings and frames, beams, rails and sills
- Timber mouldings, skirting boards, furniture industry
- Stud wall frames

### GLULAM SCANTLINGS

- Window scantlings, frames and beams
- Door scantlings and frames, beams,
- Stairs and other indoor carpentry

## Long-lasting material for structures exposed to weather and moisture

Impregnated timber is manufactured by pressure impregnating the planed sap wood part of timber in a pressurized cylinder. In Finland, the pressure treated timber is Redwood (Pine), which is impregnated with a copper-based agent (C impregnation) to classes A and AB according to the NTR classification.

Impregnated boards are marked with either yellow (Class AB) or white (Class A) stickers, which also states the producer's name, treatment class and the impregnation agent product name.

Class A timber is used in applications, where the timber is in contact with earth or water, such as frames and foundations in deckings, pergolas, jetties, stairs, fences, beams, exterior cladding and children's play areas. Class AB is aimed only for use above ground.

Impregnated timber is delivered surface dry. Special drying according to the customer's needs is possible. Impregnated wood is heavier than sawn timber, approx. 800 kg/m<sup>3</sup>.





## PRESSURE IMPREGNATION

1. INITIAL VACUUM opens the cell of the wood with negative pressure
2. FILLING OF THE IMPREGNATION CYLINDER with impregnating agent
3. OVERPRESSURE forces the impregnating agent into wood with excessive pressure
4. TRANSFERRING the remaining pressure treatment solution into the storage tank
5. FINAL VACUUM removes the excess impregnating agent

There are two coloring options – green and brown. The process for both colors is the same.

### NTR A-CLASS BOARDS

Thick-ness (mm)	Width (mm)					
	48	100	123	148	173	198
48						
100						

### NTR AB-CLASS BOARDS

Thick-ness (mm)	Width (mm)		
	95	120	145
21			
28			
33			

### RESISTANCE

Pressure impregnation multiplies the lifespan of wood in exterior structures. The service life of pressure-treated wood in a conventional terrace structure is about 20 years. The service life is essentially influenced by the conditions of use of the wood, i.e. mechanical stress on the wood, weather stress and the ventilation of the structure.

### MACHINING

Impregnated wood can be worked with conventional woodworking methods. Cutting surfaces are recommended to be treated with a wood preservative.

### SURFACE TREATMENT

Pressure-impregnated timber can be left without surface treatment, but especially terraces are recommended to maintain with a surface treatment agent annually to maintain the visual appearance. The surface treatment protects the surface of the wood, reduces its cracking and facilitates cleaning.



ThermoWood® products are well suited to applications involving demanding weather conditions.

Ecological ThermoWood is durable, dimensionally stable and 100% natural choice for the demands of modern wood architecture in facades and landscaping. Beautiful and natural visual outlook, dimensional stability and non-resinous material make the products also desirable for interior decoration and saunas.

The thermal modification process with heat and steam, enhances the properties of the Nordic spruce and pine, without chemicals or toxins. As a result, ThermoWood is a durable and long-lasting material for decorative surfaces. The natural graying combined with easy maintenance and long life cycle of the products, increase the wood's attractiveness for projects where a low carbon footprint plays a key role. All these properties make ThermoWood thoroughly sustainable material and technically pre-eminent alternative for Siberian Larch, which grows in Russia and for tropical hardwoods in all climates.

ThermoWood® is a registered trademark owned by International ThermoWood Association.

The ThermoWood® trademark is the sign of wood products manufactured via a patented manufacturing process developed in Finland.

#### MACHINEABILITY

Processing does not affect the unique performance properties of ThermoWood, as it is modified throughout. Sawing ThermoWood is just as easy as sawing ordinary wood.

#### MAINTENANCE

ThermoWood does not require maintenance to withstand time. However, regular maintenance for instance with oil is recommended to keep the original appearance and avoid small cracks and splits over time. Without any surface treatment the surface of ThermoWood turn in beautiful silver gray.

#### DISPOSAL

In the end of its service life ThermoWood can be exploited in energy production or placed into the normal waste system like normal wood.

**THERMALLY  
MODIFIED**

Sources: Thermowood.fi, Lunawood.com

Project name Loft Green Apartments  
Architect Maxim Calujac  
Photographer TMC Video Production, ©Lunawood  
Country Romania

Project name Casa Dos Profesores  
Architect Arqxé Arquitectos  
Photographer Iván Casal Nieto, ©Lunawood  
Country Spain

Project name Maxx Royal Kemer  
Architect Baraka Architects  
Photographer Baraka Architects, ©Lunawood  
Country Turkey





## THE THERMOWOOD® PROCESS

The end-result of thermal modification process is TMT, thermally modified timber, which has different properties depending on the used process scheme, i.e. for example the specie, temperature and duration of the process.

The patented ThermoWood® process is suitable for both hardwoods and softwoods and it is always optimised for the wood species used as the raw material. The most common species for thermal modifications in are Nordic Pine (*Pinus Sylvestris*) and Nordic Spruce (*Picea Abies*).

The process has three phases. In phase 1 the temperature is rapidly increased and timber dries. During phase 2 occurs thermal modification with heat and steam, which also influences the permanent changes that take place in the timber. In phase 3, the temperature in the kiln is decreased with a water-spray system.

## STANDARD THERMOWOOD® TREATMENT CLASSIFICATION

Genuine ThermoWood has two standard thermal modification classes, Thermo-S and Thermo-D. S stands for Stability and D stands for Durability. Thermo-D is suitable for Use class 3 (BS EN 335) applications, "situations in which the wood is above ground and exposed to the weather (particularly rain)".



**BUILD BETTER  
WITH WOOD**

## Wood is suitable for all types of construction

Wood is increasingly being used for various decoration details, but also for large, impressive building solutions. Thanks to its structural properties – low weight and high strength – wood is suitable for demanding applications and enables long spans for spacious structures without extra support.

In addition to sustainability aspects, timber construction is also up to 30% less costly than conventional construction methods.

60 %

LESS  
EMISSIONS

Replacing concrete with timber in construction can decrease the total emissions from material production and construction by up to 60%.







# 45%

## FASTER

Installation times at worksites are reduced significantly because the surface treatment tasks, curing times or grouting of construction joints typical to concrete are eliminated.

# 120

## MINUTES

Timber retains its load-bearing capacity well in a fire and the failure times are long. Glued laminated timber does not burn through, but instead chars at a rate of less than 1 mm per minute. A timber structure can easily resist fire for up to 120 minutes.

# 100%

## RECYCLABLE

Timber used for construction purposes is a recyclable material that can be repurposed for producing other types of wood products or composites. Timber can also be combusted for energy.





# SAWMILL INDUSTRY IN NUMBERS

The sawmilling industry is essential for the success of the bioeconomy.

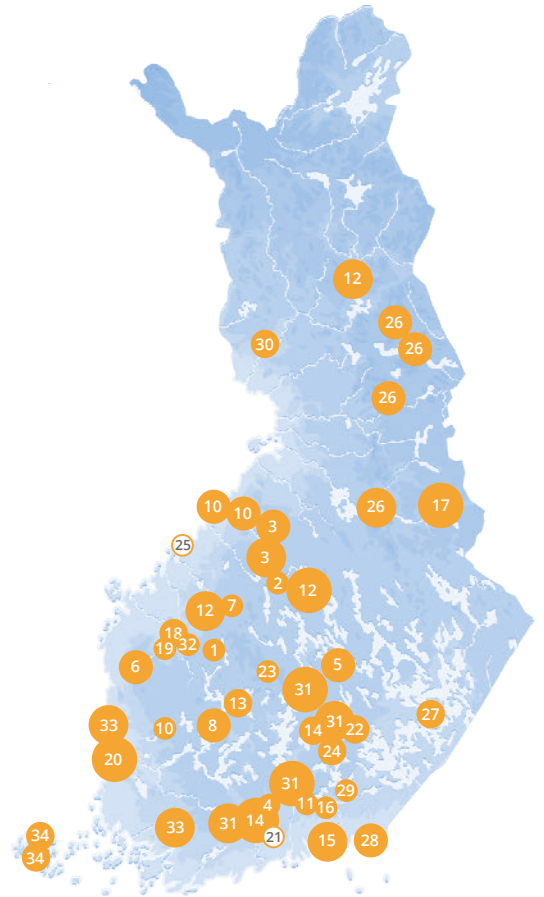
## INDEPENDENT SAWMILLS IN FINLAND

The Finnish Sawmills Association consists of more than 30 independent sawmilling companies throughout Finland. Up-to-date information on the sawmills and further-processing companies participating in the Wood From Finland project is available at [www.woodfromfinland.fi](http://www.woodfromfinland.fi)

### Sawmills in Finland

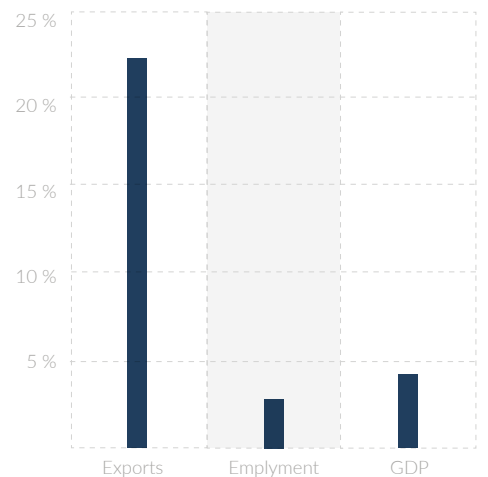
Tuotantovolyymi 1000 m<sup>3</sup>  
Produktionsvolym 1000 m<sup>3</sup>

- 0 - 49
- 50 - 99
- 100 - 199
- 200 - 299
- 300+



## KEY INDUSTRY FOR THE ECONOMY

The forest industry – sawn timber, pulp and paper – account for more than 20% of Finland's total exports and nearly 5% of the GDP. The number of people employed indirectly by the entire forestry sector in Finland, including suppliers, totals nearly 140,000.





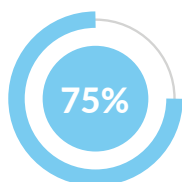
TOP EXPORT COUNTRIES OF FINNISH TIMBER

2023, m³

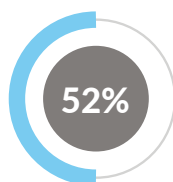
- 01 EGYPT
- 02 CHINA
- 03 THE GREAT BRITAIN
- 04 ESTONIA
- 05 JAPAN
- 06 FRANCE
- 07 GERMANY
- 08 SAUDI ARABIA
- 09 ALGERIA
- 10 ISRAEL

FACTS ABOUT THE SAWMILLING INDUSTRY

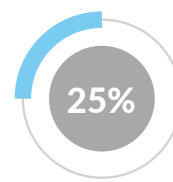
The sawmilling industry produces raw materials for several other industries. Sawn timber trade is a global business forecasted to grow significantly over the next decade.



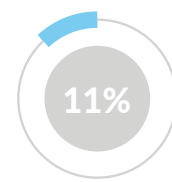
Finnish sawmills export 75% of their production.



The stumpage price of logs accounts for 52% of the total costs of Finnish sawmills.

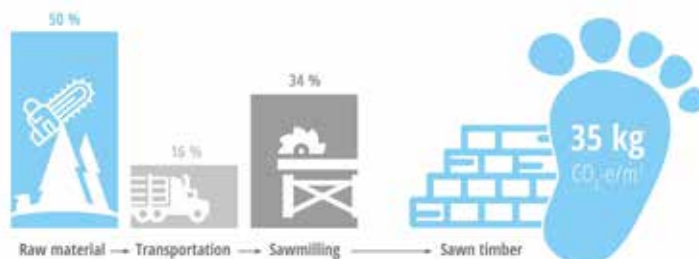


The three biggest export markets, Egypt, China and Japan accounts roughly 25% of all the exports.



Around 10% of the sawmills' turnover comes from the wood chips, a by-product of sawmilling, sold to pulp and paper mills.

CARBON FOOTPRINT OF THE SAWMILLING INDUSTRY



# KOSKISEN SAWMILL INDUSTRY



## KOSKISEN

Quality has a name. Koskisen.

Koskisen is one the largest wood products companies in Finland. Our product pallet includes among others following productions: sawn timber, planed goods, primed / painted outdoor claddings, plywood, chipboard. The annual sawn timber output is about 380 000 m3 of spruce and pine species, spruce being the dominating one. Both spruce and pine products are available either PEFC CS, PEFC 100% or FSC CW certified.

We trust to be able to provide reliable delivery and service experiences for our current long-term customers as well as for new customers.

**PRODUCTS** sawn timber, planed goods, plywood, chipboard

Full list of contacts with their responsibilities markets can be found:

<https://koskisen.fi/en/contacts/>

### EXPORT SALES TEAM WITH MAIN MARKET RESPONSIBILITIES:



**JESSE KUUSISTO**

Export Manager

jesse.kuusisto@koskisen.com

Poland, Turkey Jordania, Saudi-Arabia, Denmark, Sweden



**MIKA LEHMONEN**

Export Manager

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Egypt, Algeria, Morocco, Tunis, Sudan



**TIMO PIISPANEN**

Export Manager

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Australia, Austria, Germany, Greece, Italy, Malaysia, Korea, Vietnam



**TOMMI SNECK**

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Estonia



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Export Manager

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**JUHA VIRMIALA**

Export Manager

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Japan, The Philippines, UK, Ireland, India, USA



# THE NEW SAWMILL IS RUNNING COME AND GET TO KNOW THE SAW LINE AND ITS POSSIBILITIES



<https://koskisen.fi/en/sawmill/>

## TIMBER GUIDE

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WOOD  
FROM **FINLAND**

