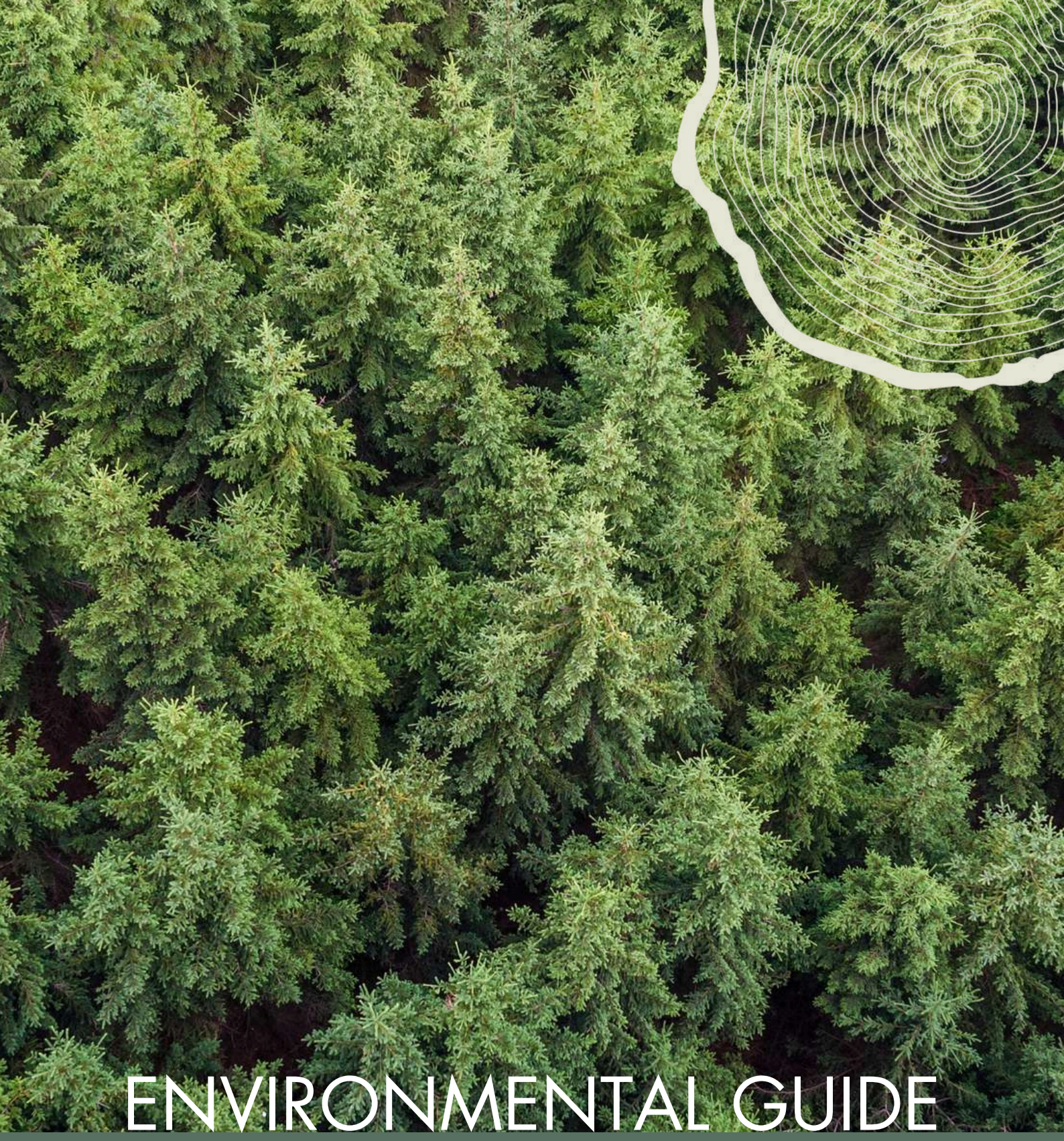


ENVIRONMENTAL GUIDE

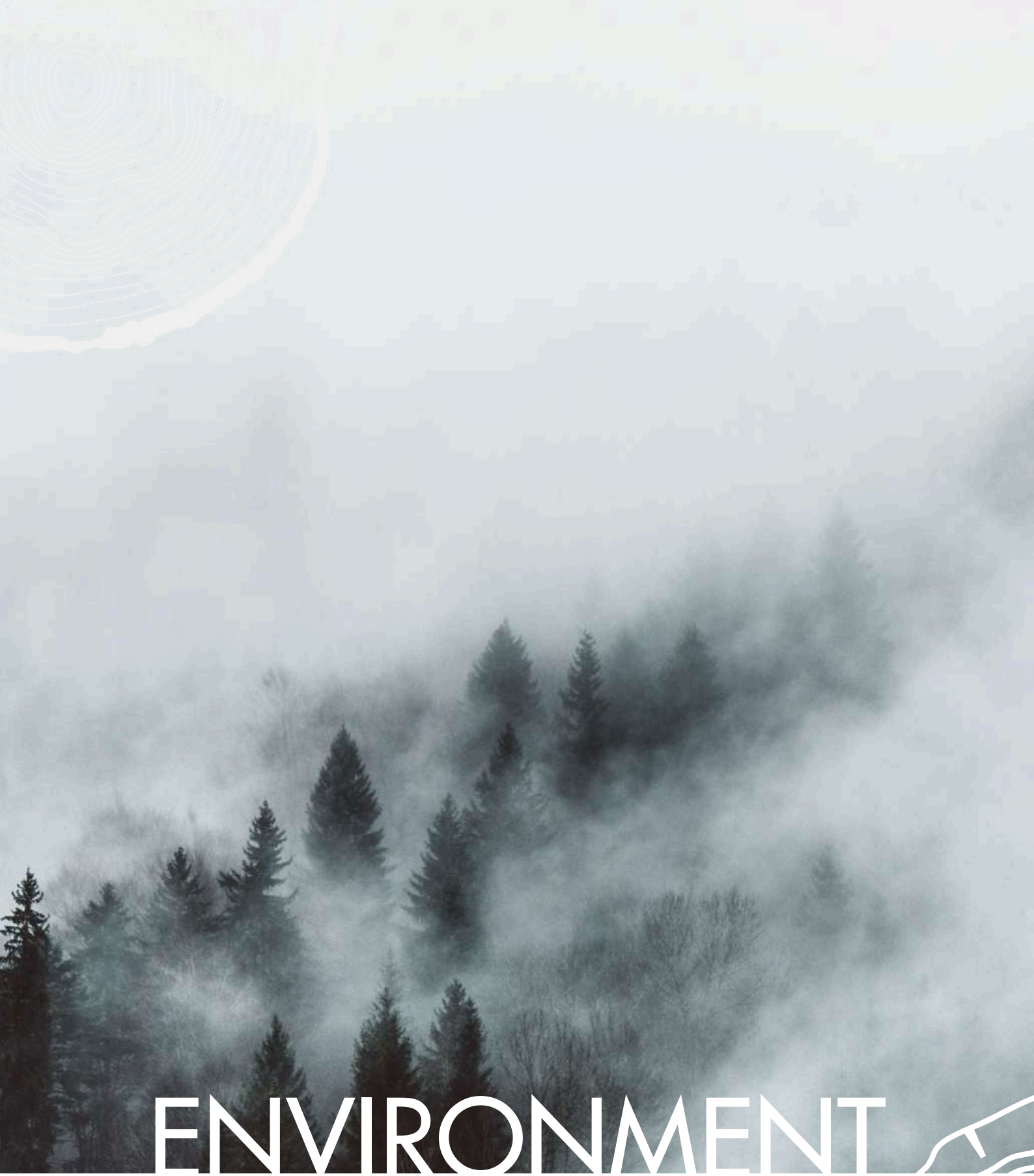
WOOD CLADDING SOLUTIONS

sivalbp®

bois, technologie & design

sivalbp®
bois, technologie & design

Discover in this booklet our environmental commitment through our industrial processes, the life cycle analysis of our products, and the wood species we use for their production.



ENVIRONMENT

ENVIRONMENT

OUR COMMITMENT

OUR ENVIRONMENTAL COMMITMENT

AN ECO-RESPONSIBLE SITE: TOWARDS NET-ZERO EMISSIONS

ECO-CERTIFIED WOOD SPECIES

- We are committed to promoting sustainable forest management by sourcing only certified species. All our wood species come from PEFC-certified sources (PEFC/10-31-1593).
- Our Douglas wood cladding is also certified "Bois de France".

OUR SOLUTIONS BY SATURATOR

- Solvent-free, water-based, and non-toxic mineral pigmentation.
- Non filforming solutions that deeply penetrate the wood.
- Provides a long-lasting protection against UV rays and weather conditions.

OUR THERMOSTABILISED WOOD CLADDING SOLUTIONS

- A highly environmentally friendly process that preserves the wood and uses no chemical additives or petroleum products.
- Provides the wood with exceptional durability and dimensional stability.
- Offers better resistance to external climatic conditions (no shrinkage or warping, neutralizes resin pockets).

OUR CARBON FOOTPRINT

As a player in the construction sector, the second-largest emitter of greenhouse gases in France, we must support and develop a strategy to build more sustainably for the planet to limit our carbon footprint.

2019 To meet the expectations of project managers and project owners, we have implemented our first FDES. These Environmental and Health Declaration Sheets formalize the environmental impact of our products in their implementation during the construction of a building. Our individual FDES are updated every 5 years.

Download our FDES on our website in the "Documentations" section.

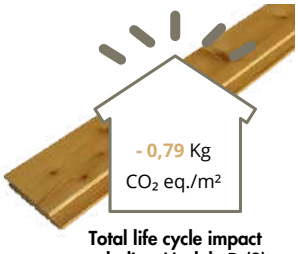
2021 To measure our real impact and commit to a low-carbon strategy, we carried out our first CarbonFootprint Report®.
Reference year 2020.

ENVIRONMENTAL AND HEALTH DECLARATION SHEET

The "Global Warming Potential" data from each Environmental and Health Declaration Sheet (FDES) of construction materials is used within the FrenchRE2020 framework to assess the carbon impact of a construction project.

GLOBAL WARMING POTENTIAL WITH MODULE D (1) - SIVALBP

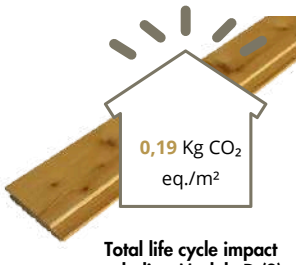
DOUGLAS FDES



Total life cycle impact excluding Module D (2):
5.38 kg CO_2 eq./m²

N° FDES 20250142022

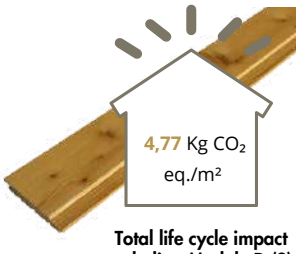
MULTI-SPECIES (EXCLUDING LARCH) FDES



Total life cycle impact excluding Module D (2):
6,29 kg CO_2 eq./m²

N° FDES 20250142023

LARCH FDES

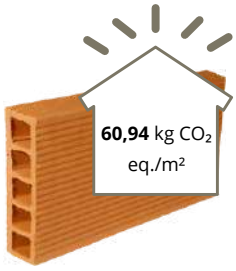


Total life cycle impact excluding Module D (2):
13,50 kg CO_2 eq./m²

N° FDES 20250142024

GLOBAL WARMING POTENTIAL WITH MODULE D (1) - OTHER SOLUTIONS

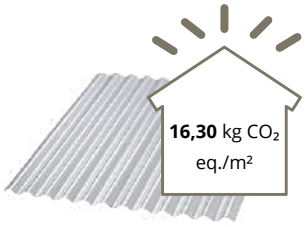
The carbon impact data for these solutions is provided for informational purposes only. For more detailed information, please refer to the INIES database.



Exposed brick (3)

N° FDES 20240237043

Total life cycle impact excluding Module D (2):
61,60 kg CO_2 eq./m²



Steel cladding or roofing panel

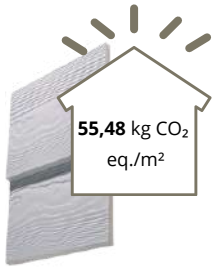
N° FDES 20240940329-FC

Total life cycle impact excluding Module D (2):
27,40 kg CO_2 eq./m²

8 mm thick PVC cladding

N° FDES 20241040492

Total life cycle impact excluding Module D (2):
21,30 kg CO_2 eq./m²



Fibre cement cladding

N° FDES 20231035275

Total life cycle impact excluding Module D (2):
57,20 kg CO_2 eq./m²

(1) Total life cycle impact with Module D: manufacturing, construction, use, end-of-life of the product, and waste recovery at end-of-life
(2) Total life cycle impact of the product excluding Module D: manufacturing, construction, use, end-of-life of the product
(3) Life cycle analysis over 100 years.

OUR ECOTHERMO SOLUTIONS


Lumipod by Lumicene - Photographer: Maudit Salaud

RECOGNIZED EXPERTISE FOR AESTHETIC, SUSTAINABLE & ECO-RESPONSIBLE SOLUTIONS

Thermostabilization consists of gradually heating the wood to a high temperature, alternating between heating phases and rehumidification phases.

We have created a thermal modification process that respects the natural properties of wood. Without the intervention or addition of chemicals, the wood is modified solely through the use of steam and heat. This gives the wood a uniform brown color throughout.

Our EcoThermo process provides exceptional stability to the boards. Dimensional variations are significantly reduced: no warping, no shrinkage, and resin pockets are neutralized.

THE ADVANTAGES OF OUR ECOTHERMO WOOD CLADDINGS

AN ECO-FRIENDLY PROCESS FOR SUSTAINABLE WOOD CLADDINGS

FOCUS ON OUR CERTIFICATIONS FOR OUR ECOTHERMO WOOD CLADDINGS

In 2023, our EcoThermo solutions will obtain CTBB+ certification, attesting to their durability (use class 3) for all our EcoThermo wood cladding.

CTBB+ CERTIFIÉ PAR FCBA BOIS PRÉSERVÉS

In 2024, we confirm our EcoThermo solutions by obtaining the very first individual CTB certification for our EcoThermo cladding, compliant with French DTU 41.2.

CTB CERTIFIÉ PAR FCBA BARDAGE ECOTHERMO CERTIFICATION INDIVIDUELLE N° 534

FOCUS ON OUR ECO-FRIENDLY SITE

OUR DIFFERENT INDUSTRIAL PROCESSES

KILN DRYING

This first heat treatment is fundamental before any other processing. It consists in lowering the moisture content of the wood by keeping it in a ventilated environment under controlled humidity and temperature conditions for one to three weeks.

Here at Sivalbp we have mastered this delicate stage of the wood drying process perfectly. Lowering the moisture content of the wood to around 18% significantly reduces curving, resin flows and splitting in the profiled boards.

Limiting the exchange of moisture in the wood, kiln-drying ensures finishes adhere flawlessly and lastingly once the boards are installed.

STEAMING

This consists in keeping the wood in an environment below 100°C and saturated in moisture for three weeks. This procedure gives it an even, brown colour all the way through, a conservation
of its mechanical resistance and properties which are inherent to each species.
After steaming, woods are dried once again:

- steamed dried to 12% (+/-2%): internal uses
- steamed dried to 14% (+/-2%): external uses

ECOTHERMO

It consists in gradually heating the wood to approximately 200°C, alternating temperature rises with re-moisturising phases.
This high-temperature treatment is particularly suitable for wood species such as pine, spruce or larch.
This procedure gives the boards exceptional stability.
Dimensional variations are considerably reduced with a significant reduction in curving, resin and shrinkage.
The wood acquires an even, brown colour all the way through.
Internal thermo-stabilisation (184°C) for internal cladding gives wide boards exceptional stability.
External thermo-stabilisation (215°C) for outdoor cladding and decking boards naturally modifies the composition of the wood cells, significantly improving its resistance to decay and insects.
This means it can be used for class 3 use applications.

FINGER-JOINTING

After kiln-drying, all the wood is passed through the automated sorting line, which is equipped with a scanner to detect the main defects (cracks, knots, pockets of resin, etc.).

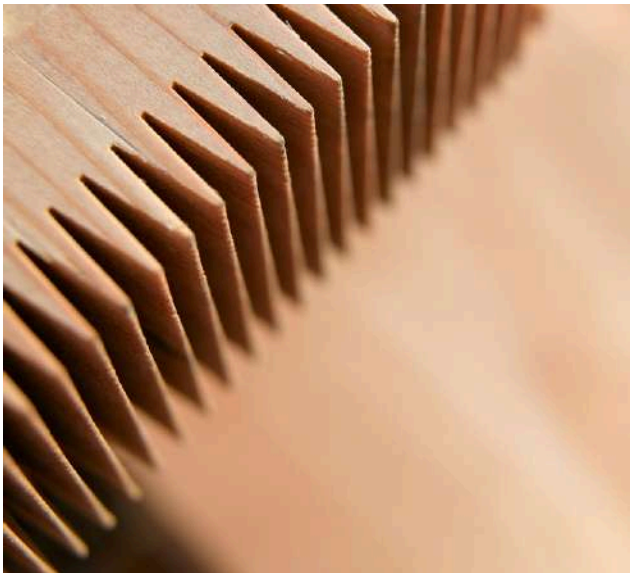
According to precise selection criteria established by Sivalbp, this ensures we achieve a regular level of quality.

FINGER-JOINTING

Our finger-jointing line enables us to offer cladding boards of unrivalled technical and aesthetic quality.
The main singularities are eliminated from the wood (loose knots, large pockets of resin, cracks, etc.) thanks to a scanner and an automatic cutting system. The boards are then toothed at the end and glued end to end under pressure to form a perfect board of a fixed length.

This finger-jointing system allows us to develop cladding ranges with unrivalled technical qualities, offering numerous advantages:

- perfectly straight boards with excellent stability after installation.
- more attractive appearance,
- fixed standard length of 4.40m or to order according to the scale of the project between 2.50 and 5.50m,
- more durable finishes



PROFILING

This is what gives the board its final shape according to use.
This highly flexible, effective tool ensures regular planing and minute accuracy in the final profile.

Sivalbp has selected a range of few complete, technical profiles adapted to the required constraints and aesthetic appearance. Other bespoke profiles can also be offered according to the project.

Machining a tongue and groove at the ends of our boards means they are easy to fit.

PREPARATION OF THE SURFACE

All our boards come in a range of possible surfaces (planed, brushed, sanded, smooth-sawn brushed or rustic) according to their use.
Brushing or sanding the board is an essential step before a finish is applied. This ensures the finish adheres perfectly to the wood and thus provides long-lasting durability. Slow-speed brushing eliminates any soft parts thus bringing out the hard grain in relief on the surface, which will create a play with the contrasts with the various finishes.
Industrial sanding gives the surface a smooth appearance.
It is absolutely necessary to prepare the wood to receive the various finishes.

FINISHING LINE

Offering the best you can get in industrial finishes, Sivalbp has invested in a high-performance industrial facility opening the way for a new generation of indoor or outdoor cladding boards with finish.
Over 200m long, flexible and effective, the finishing line is composed of a succession of robots and hot-air, UV and IR drying systems for optimum application. Its environmentally friendly operation only uses water-based, solvent-free finishes.
When combined with the different types of wood, it offers a subtle panel of finishes according to the desired applications and advantages.

THE SPECIFIC CHARACTERISTICS OF WOOD

WOOD : A LIVING MATERIAL

For example:
A board 150mm wide delivered with a moisture content of 18% will vary as follows:

In the city of Lyon (France) :

- Equilibrium moisture of the wood in summer = 11%
  Equilibrium moisture in winter = 20%

• I n summer: the board will have a width of 150 - 0.25% * 150 * (18-11) = 147.4mm
• I n winter: the board will have a width of 150 + 0.25% * 150 * (20-18) = 150.8mm

Calculation of the variation (withdrawal or increase):
0.25% x useful width x difference in humidity delivered and humidity of the location, in summer or winter.

PROPERTIES INHERENT TO WOOD:

Wood is a natural, heterogeneous material which, depending on the species, the exposure and the weather, may present variations in colour and characteristics specific to each species.

Wood may have sound knots, sometimes star shakes, fissures, small cracks, pith, cross-grain, fluffy fibres and resin exudation. These are natural phenomena.
The acceptance of these characteristics in our finished products is defined in standard NF EN 14519.
Over time, if no finish is applied, the wood will naturally turn into an heterogeneous shade of grey depending on the species, the exposure to UV light, rainwater and the design of the house.
These characteristics are inherent to wood; they are in no way a quality defect and cannot be attributed to Sivalbp.

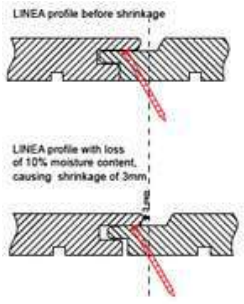
A HYGROSCOPIC MATERIAL:

As a reminder, wood is a hygroscopic material. This means that it is likely to lose or take up moisture according to the temperature and especially depending on the relative humidity of the ambient air.
In a given environment, according to the temperature and humidity of the ambient air, the wood stabilises at an equilibrium moisture content, termed the hygroscopic equilibrium, which is independent of the species of wood.
The hygroscopic equilibrium of the wood varies according to the place it is installed and depending on the time of year (winter or summer).

DIMENSIONAL VARIATIONS IN WOOD:

Changes in the moisture content of the wood naturally lead to variations in the dimensions of the wood.
Variation in the length of the boards is deemed to be non-existent.
However, according to the standard NF EN 14519, "the thickness and width of a board may increase or decrease in 0.25% steps for every 1.0% increase or decrease in the moisture content of reference."

Summer/winter dimensional variation phenomenon (example using the Linéa profile)



To avoid increasing these natural variations in moisture content, you are advised to observe the following conditions:

TRANSPORT
Wood boards should be protected from the elements during transport. The use of sheeted lorries is recommended.

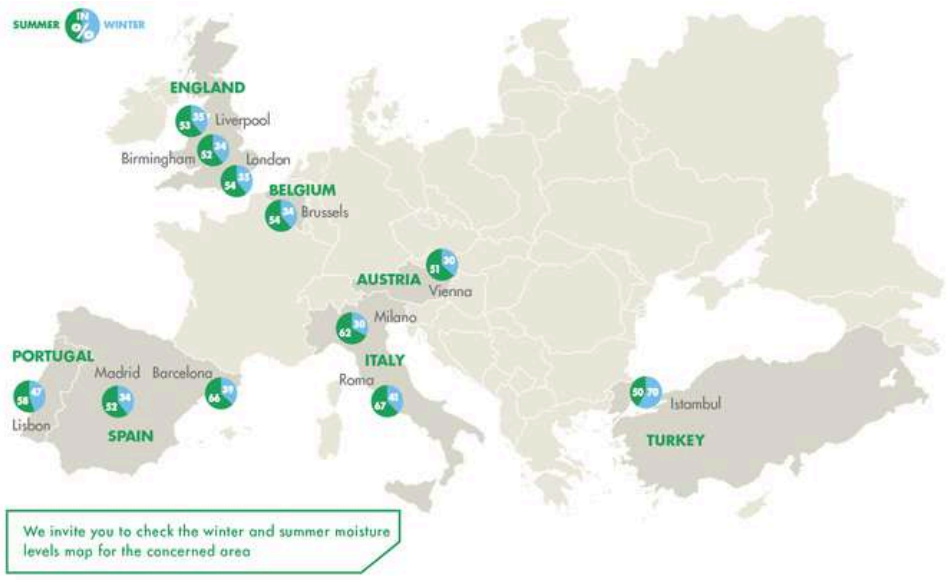
STORAGE
The wood must be stored in its undamaged packaging. According to French DTU 41.2 and DTU 51.4, sheltered storage on the construction site in an open stack raised off the ground and protected from splashing is recommended.

INSTALLATION
During installation of cladding and decking boards, the maximum moisture content of a batch of boards must never exceed 19% (softwood). The use of a moisture meter is recommended.

In addition to this general rule, this moisture level must be systematically adapted to the climatic conditions in the region. Ideally the wood to be installed should have a moisture content as close as possible to the equilibrium moisture of the site. To do so, the installer should allow the cladding boards to stabilise before installation.
It is essential to follow our advice for installation and to ensure that the D.T.U. (French codes of practice) currently in force are observed.

WINTER AND SUMMER MOISTURE LEVELS FOR SOME EUROPEAN CITIES

(Source Europa-Planet.com)

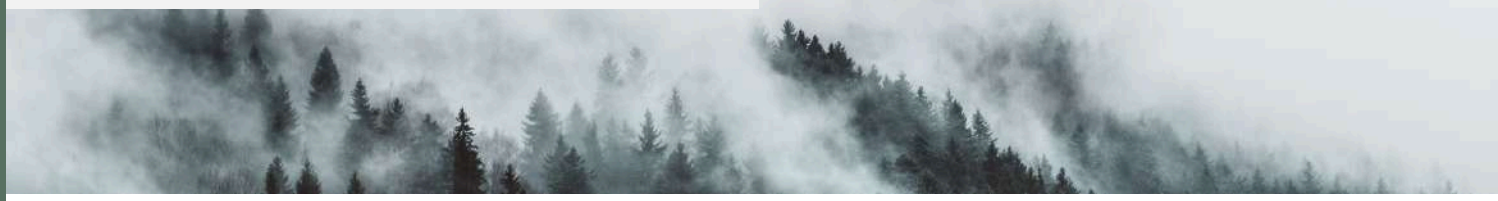


CLASS OF EMPLOYMENT AND NATURAL SUSTAINABILITY FOR SIVALBP WOOD CLADDINGS

(Classes governed by French regulations)

WOOD SPECIES	SIVALBP RANGES	Sustainability class: natural durability of wood without sapwood	Longevity of wood: longevity «L1» : between 10 and 50 years	Use class: cladding and decking use
		according to NF EN 350-2 and FD P 20-651 documentation		according to NF EN 335
Western Red Cedar	ELEGANCE - NEW AGE - AUTHENTIC	3	L1	3.1
EcoThermo Nordic Pine	ELEGANCE - NEW AGE - VINTAGE	3	L1	3.1
EcoThermo Nordic Pine	AUTHENTIC	3	L1	3.2
European larch	ELEGANCE - NEW AGE	3	L2	3.1
EcoThermo European Larch	AUTHENTIC	3	L1	3.1
Nordic Spruce	ELEGANCE - NEW AGE - COLORS	3	L1	3.1
EcoThermo Nordic Spruce	ELEGANCE	3	L1	3.1
Ecothermo Alps Spruce	AUTHENTIC	3	L1	3.1
Douglas	ELEGANCE - NEW AGE	3	L2	3.1
Douglas Rouge	AUTHENTIC	3	L2	3.2

A RIGOROUS SELECTION OF WOOD SPECIES



Sivalbp selects high-quality wood according to an eco-responsible approach.
We ensure that our wood is from sustainably managed forests which are PEFC certified (PEFC/10-31-1593).
We select our suppliers extremely rigorously, taking into account their forestry and industrial methods and with the aim of optimising the flow.

WESTERN RED CEDAR
(THUJA PLICATA)

Canadian timber, lasting-up to 50 years, rot-proof and naturally 3.2 class.
Wood with contrasting hues, pink to brown.
Knot-free, particularly suited to contemporary architecture.

- Origine : Canada
- Qualité : Clear II, sorted out by Sivalbp, 98% of boards are knot-free
- Classe d'emploi : 3.2 according to FD P 20-651
- Certification : PEFC

SPRUCE
(PICEA ABIES)

Light fine grained wood, with slow growth, it reveals small knots which are well integrated into the board.

- Origine : Scandinavia & France
- Qualité : US+Vth re-sorted by Sivalbp
- Certification : PEFC

LARCH
(LARIX DECIDUA)

Species originating from the Alpine Arc, durable for up to 50 years, rot-proof and naturally class 3.2. Mountain Larch can be recognized by its marked, pink veining. More rustic in appearance, it is more appropriate for authentic architecture.

- Origine : Alpine Arc
- Qualité : A/B Choice
- Classe d'emploi : 3.2 (excluding sapwood) according to FD P 20-651
- Certification : PEFC

NORDIC PINE
(PINUS SYLVESTRIS)

Scandinavian timber, lasting-up to 50 years, (3 class with heat treatment), from sustainably managed forests.

- Origine : Scandinavia
- Qualité : Saw-falling
- Classe d'emploi : 3 class
- Certification : PEFC

DOUGLAS FIR
(PSEUDOTSUGA)

This is a fast-growing specie, characterised by a marked grain, a pink colour and the presence of tight, sound knots.
Made in France wood specie

- Origine : France
- Qualité : I/III re-sorted by Sivalbp
- Certification : PEFC

Douglas fir (Pseudotsuga menziesii

- 3.1 with CTB B+ preservation and the application of a Sivalbp finish

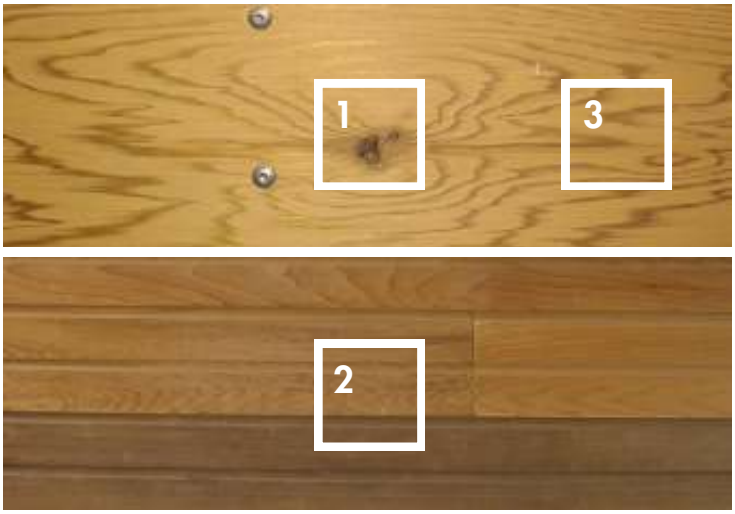
Red Douglas fir (Pseudotsuga menziesii)

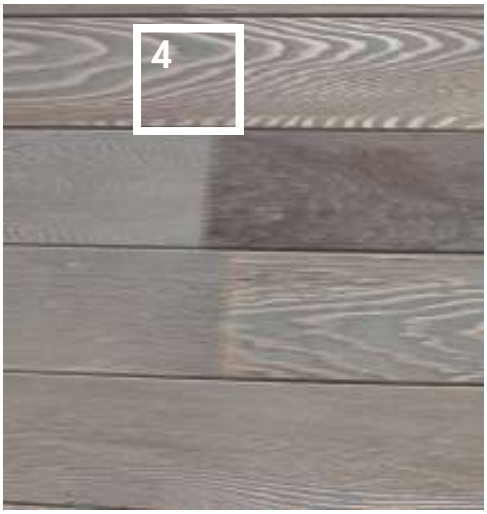
- 3.2 (without sapwood*) according to FD P 20-651

** Sapwood: the part of the tree just below the bark, generally soft and white, unsustainable.*

WOOD SPECIES
WESTERN RED CEDAR
(THUJA PLICATA)

Canadian timber, lasting-up to 50 years, rot-proof and naturally 3.2 class. Western red cedar is a very light, stable and soft wood that is easy to machine.
This wood species has contrasting aspects and hues. Knot-free, particularly suited to contemporary architecture.

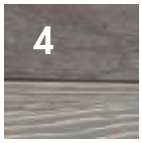




Knots

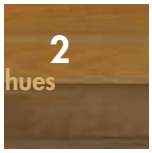
Clear II quality, the tolerance is about 1 knot of 20 mm per board.
However, Sivalbp is committed to fi ltering its boards to offer globally 98% without knots.

Ageing



Western red cedar is a naturally sustainable wood. If it is not fi nished, with time and depending on its exposure, its shades appear silver gray.

Color variations



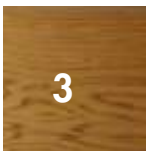
Wood is a natural material that can present differences in heterogeneous hues. The particularity of western red cedar is that it presents very contrasting shades ranging from beige brown to pinkish brown, sometimes even dark brown to black.

Other singularities

Shards of planing

Western red cedar is a soft wood, easy to machine.
However, it marks easily and can sometimes present shard of planing.

The grain aspect

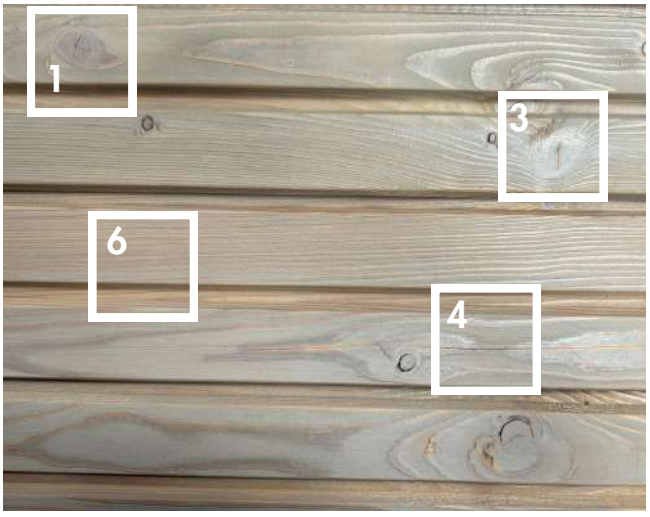


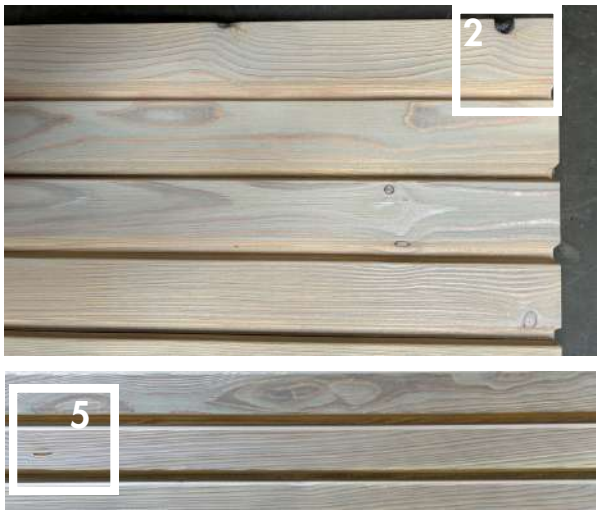
The wood grain is usually straight and regular, however it can show on some pieces of fl amed aspects.

The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

WOOD SPECIES
LARCH
(LARIX DECIDUA)

These are the only conifers which lose their needles in the winter. They are conditioned by an exceptional climate leading to their slow growth rate. Larches are hardwoods, dense and nervous, and they are references in terms of durability. The drying process is deciding. The control of the moisture content makes it possible to limit the risks of structural deformation (curving). Larches can be dried or thermostabilized, for external use.





Knots

Knot finds its origin in a branch. Healthy, sticky and starred knots do not compromise the durability of the cladding.
Are not allowed jumped knots (assimilated to holes).

Hole on the edge

This singularity has its origin in the profi ling, by the shard of a knot ringed or dead located on the edge. With a maximum allowed diameter of 15mm, the covering with the bottom board is enough to insure the waterproofness of the cladding.

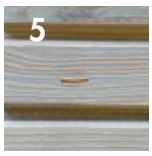
Cross-grained

Singularity revealed during the machining, it can be assimilated to the detachment of fi bers near the knots

Surface cracks

They appear as narrow surface crack oriented along the length of the board. They appear mainly throughout drying or dry weather. They close partially during wet or rainy periods.

Resin pockets



They are common and are due to the exposure and the architecture of the building which can favor pull resin up. (except EcoThermo).

Color variations

Wood is a natural material that can present heterogeneous tints. These differences of hues will harmonize with time. Larches colors are going from pale yellow to pale brown red and orange.

Other singularities

End cracks

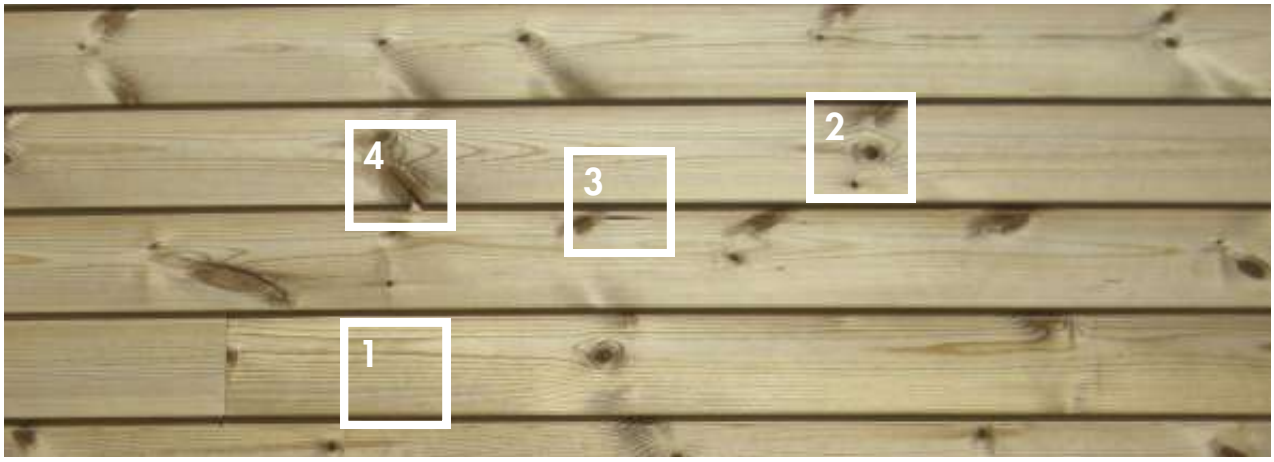
They come from to the natural drying of wood. They are aproved if the length are less than 5 cm.

The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

WOOD SPECIES
NORDIC PINE
(PINUS SYLVESTRIS)

Originating from Finland, this wood comes from responsibly managed forests. It is durable for up to 50 years with enhanced durability, achieving Class 3 through thermo-stabilization.

- EcoThermo Sivalbp is an environmentally friendly process that preserves the wood and does not use any chemical additives or petroleum-based products.
- This process gives the wood exceptional durability and stability, as well as better resistance to external climatic conditions (no shrinkage, no warping, neutralizes resin pockets).
- It thus becomes an excellent material for outdoor use.



Hues

The Nordic Pine has a heartwood (the core of the wood) with a pinkish to reddish-brown color. Its growth rings create a contrasting grain pattern. The sapwood is wide, cream-colored, and displays a less contrasting grain. The grain is generally straight, and the texture is (moderately) fine.

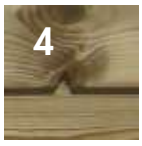
Knots

Of Saw-falling quality, it includes sawn wood from classes 1 to 5, in proportions typically defined by sawmills and/or importers. This species has brown-colored knots, which are fairly large and arranged in a crown pattern.

Resin pockets

They are common when the wood is only dried and are caused by exposure, which can promote resin exudation. This phenomenon is neutralized by thermo-stabilization.

Edge holes



This singularity originates during profiling, caused by the breaking of an encircled or dead knot located on the edge. With a maximum allowed diameter of 15mm, the overlap with the lower board is sufficient to ensure the cladding's waterproofing

Other singularities

Drying

Nortdic Pine dries well and quickly, but still presents risks of cracks or discoloration at high temperatures.

The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

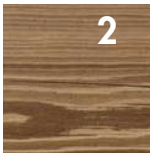
WOOD SPICIE
SPRUCE
(PICEA ABIES)

Light wood with a fine grain and slow growth. Of Sawfalling quality, it features small knots that are well-integrated into the board. The wood is sourced from French forests certified PEFC.
Spruce can be dried, steamed, or thermally stabilized, for both outdoor and indoor use.

Knots

The knot originates from a branch. Healthy, adhered, and star-shaped knots do not compromise the durability of the cladding. Knots that have fallen out (similar to holes) are not allowed.

Surface cracks



They appear as narrow surface cracks running along the length of the board. They mainly occur during drying or in dry weather conditions. They partially close during humid or rainy periods.

Drying

For naturally dried wood, resin exudations may occur if the wood is exposed to heat. Artificial drying of spruce above 70°C prevents this issue, as well as steaming or thermal stabilization.

Resin pockets

They are common and are caused by exposure and the building's architecture, which can promote resin rising (except for EcoThermo).

Other singularities

Fuzzing

This peculiarity is common in the softer part of the board and will be more pronounced in humid weather.

Bark pockets

Natural peculiarity. This phenomenon usually occurs when the tree experiences stress (such as injury, friction, a fork, or the merging of branches).

Color variations

Wood is a natural material that may exhibit heterogeneous color variations. These color differences will harmonize over time.

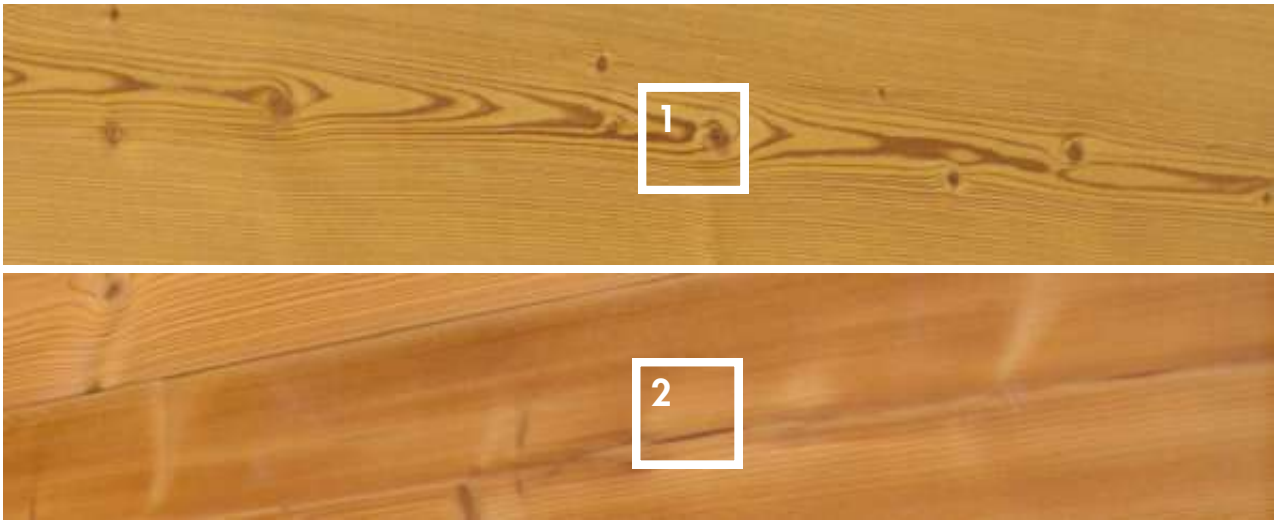
The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

WOOD SPECIES

NORDIC SPRUCE

(PICEA ABIES)

Light-colored wood with a fine grain and slow growth. Of Sawfalling quality, it reveals small, well-integrated knots in the board. This species comes from PEFC-certified Scandinavian forests. Northern spruce can be dried, steamed, or thermo-stabilized for both outdoor and indoor use.



Knots

The knot originates from a branch. Healthy, adhered, and star-shaped knots do not compromise the durability of the cladding. Knots that have fallen out (similar to holes) are not allowed.

Drying

For naturally dried wood, resin exudations may occur if the wood is exposed to heat. Artificial drying of spruce above 70°C prevents this issue, as well as steaming or thermal stabilization.

Surface cracks

They appear as narrow surface cracks running along the length of the board. They mainly occur during drying or in dry weather conditions. They partially close during humid or rainy periods.

Resin pockets

They are common and are caused by exposure and the building's architecture, which can promote resin rising (except for EcoThermo).

Other singularities

Fuzzing

This peculiarity is common in the softer part of the board and will be more pronounced in humid weather.

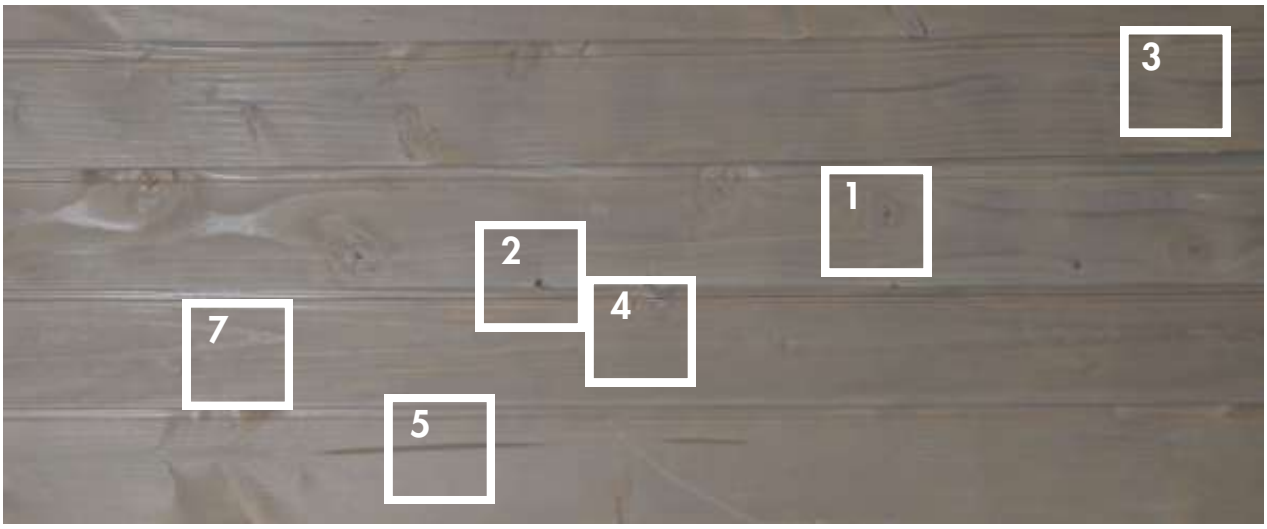
Bark pockets

Natural peculiarity. This phenomenon usually occurs when the tree experiences stress (such as injury, friction, a fork, or the merging of branches).

The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

WOOD SPECIES
DOUGLAS FIR
(PSEUDOTSUGA)

A fast-growing species, Douglas fir is characterized by prominent veining, a rosy color, and the presence of healthy, adherent knots. A true reference for cladding, it offers excellent value for money. Of French origin and certified PEFC and Bois de France, its particularity is its good durability over time.



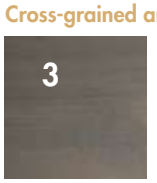
Knots

Knots originate from branches. Healthy, adherent, and star-shaped knots do not compromise the durability of the cladding. Knots that are loose (considered as holes) are not permitted.

Hole on the edge

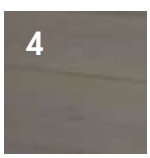
This singularity originates from the profiling process, due to the splitting of an encased or dead knot located on the edge. With a maximum authorized diameter of 15mm, the overlap with the lower board is sufficient to ensure the watertightness of the cladding

Cross-grained and fuzzing



Cross-grained: A singularity revealed during machining, it can be likened to fiber separation near knots.
Fuzzing : A common singularity in the softer part of the board, it will be accentuated in humid conditions.

Surface cracks



They appear as narrow surface cracks oriented along the length of the board. They mainly occur during drying or in dry weather. They partially close during humid or rainy periods.

Pith

It is a sign of the presence of the heartwood exposed on the board. A planed or sanded surface helps to minimize the hollowed appearance sometimes encountered with this feature on brushed wood.

Resin pockets

They are common and are due to the exposure and architecture of the building, which can promote the rise of resin.

Color variations

Wood is a natural material that can exhibit heterogeneous color variations. These color differences will blend over time.

The presence of these singularities does not compromise neither the stability and strength of the boards, nor the durability of the external cladding.

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