Genuine Timber Surfaces

Surface qualities for LIGNO elements

artevista®

Surfaces for supporting elements

The Lignotrend manufacturing process is focused in producing cross-laminated timber elements with **high quality surfaces in genuine timber**.

Nearly all load-bearing Lignotrend elements can be supplied with a ready-finished surface. **No further interior completion** is then necessary on the timber component.

1-ply-panels are used for the visible layer of the elements, for which it is possible to choose between different timber qualities. Their visual appearance is described in this data sheet.

The surfaces contours and profiles can also be inciviually chosen. **Closed timber surfaces** and **acoustic profiles with gaps** are possible here. Directly behind the surface is a transversal layer, which is crucial for the crack resistance of the closed surface alternatives.

The surface of the acoustic profiles can be designed either very delicately as a slat profile or with wider strips in the form of a board profile. Behind the surface layer, efficient **acoustic absorbers are integrated** at the factory, which are made of natural wood fibres.

If partial areas of a component need to be made without absorbers to obtain a better noise direction, it is possible to produce an unobtrusive surface that has a minor absorption effect, but whose visual appearance matches the absorbing profiles.

Surfaces for acoustic panels

The slat profiles shown are also available as a surface for the LIGNO Acoustic light acoustic panels for creating a corresponding interior design by adding panels below or in front of the building's basic construction. Board profiles and closed surfaces, however, are not available on the panels.

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subject to modifications and amendments.

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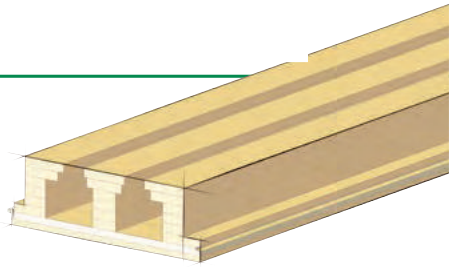
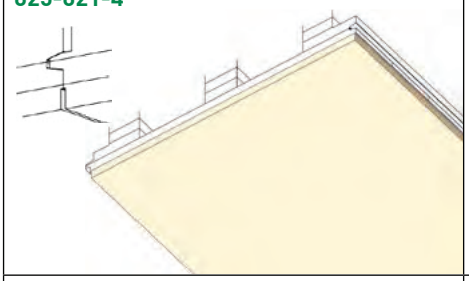
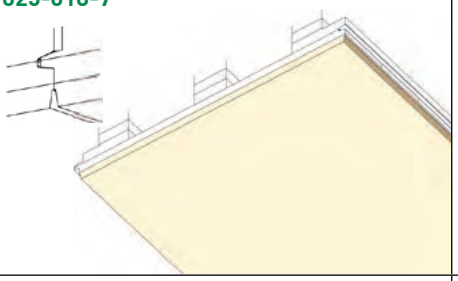


Profile versions for load-bearing cross-laminated timber elements

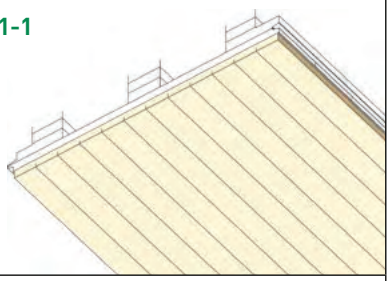
Closed surface
4 mm butt joint, sharp edges
625-621-4



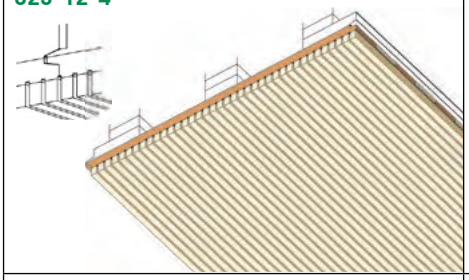
Closed surface
8 mm butt joint, V-shaped
625-618-7



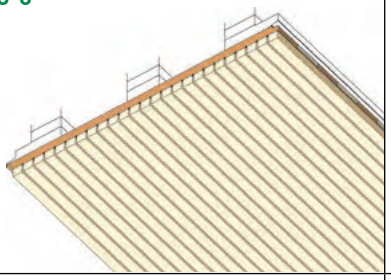
Closed surface
approx. 1.5 mm gap in surface
4 mm butt joint, sharp edges
625-51-1



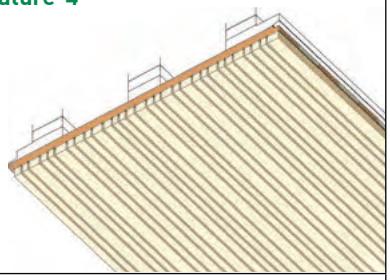
Acoustic slat profile
12 mm slat, 4 mm gap
625-12-4



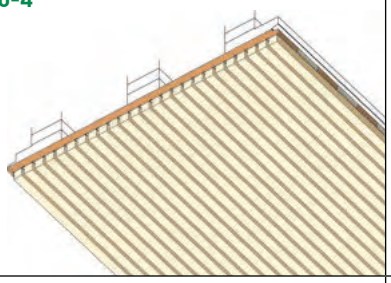
Acoustic slat profile
18 mm slat, 6 mm gap
625-18-6



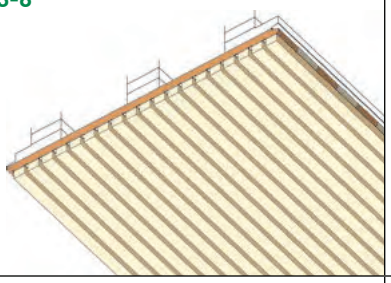
Acoustic slat profile
12-25 mm slat, 4 mm gap
625-nature-4



Acoustic slat profile
20 mm slat, 4 mm gap
625-20-4

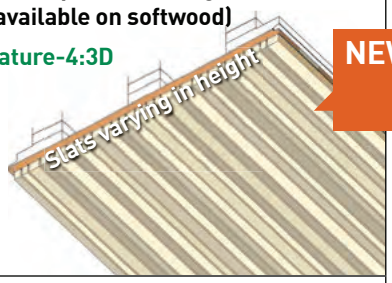


Acoustic slat profile
23 mm slat, 8 mm gap
625-23-8

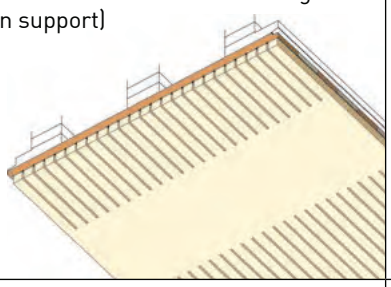


Acoustic slat profile
12- 25 mm slat, 4 mm gap,
Slats with up to 6 mm height offset
(only available on softwood)
625-nature-4:3D

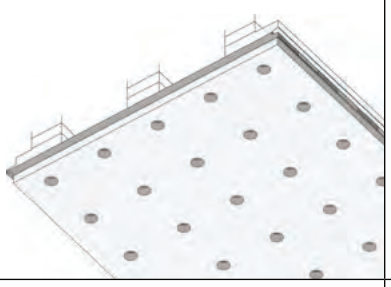
NEW



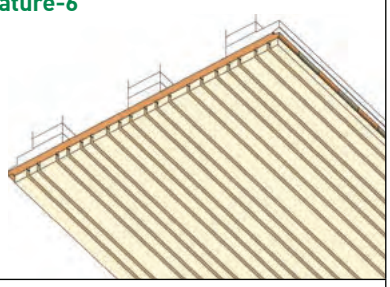
Option: Partial profile
for types 625-12-4 and 625-18-6
Gaps not continuous across the length
(e.g. on support)



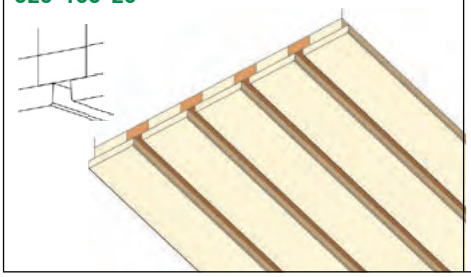
Special design: Perforation
Hole pattern by agreement



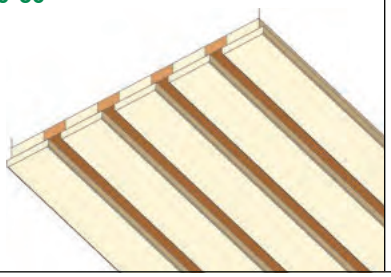
Acoustic slat profile
18- 38 mm slat, 6 mm gap
625-nature-6



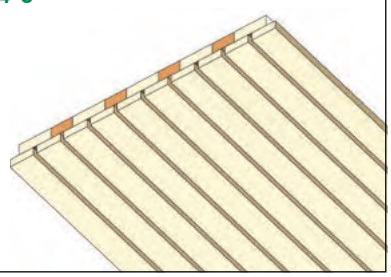
Acoustic board profile
105 mm board, 20 mm gap
625-105-20



Acoustic board profile
95 mm board, 30 mm gap
625-95-30



Acoustic board profile
54 mm board, 8 mm gap
625-54-8



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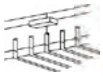
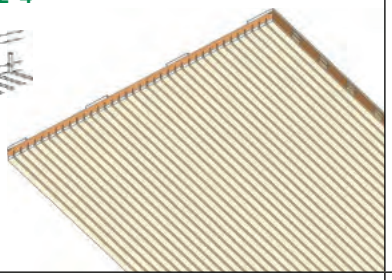
Profile versions for acoustic panels

Acoustic slat profile
12 mm slat, 4 mm gap

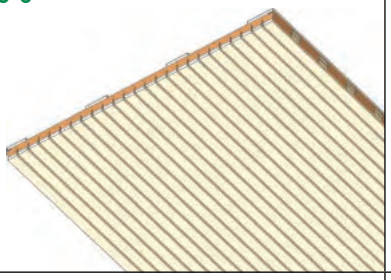
625-12-4





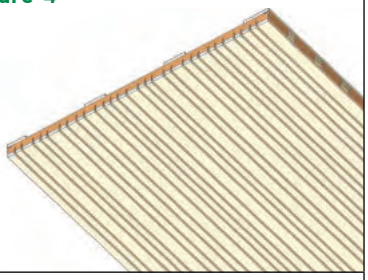
Acoustic slat profile
18 mm slat, 6 mm gap

625-18-6



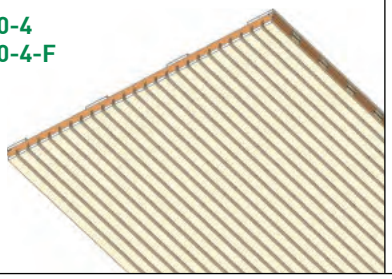
Acoustic slat profile
12- 25 mm slat, 4 mm gap

625-nature-4



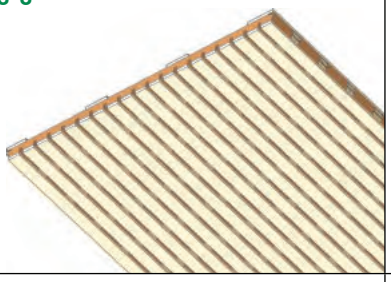
Acoustic slat profile
20 mm slat, 4 mm gap
without or with bevel

625-20-4
625-20-4-F



Acoustic slat profile
23 mm slat, 8 mm gap

625-23-8



Acoustic slat profile
12- 25 mm slat, 4 mm gap,
Slats with up to 6 mm height offset
(only on softwood)

625-nature-4:3D

NEW

Acoustic slat profile
18 - 38 mm slat, 6 mm gap

625-nature-6

Exact description of the technical properties

- Technical data sheet for LIGNO Rippe, LIGNO Block, LIGNO Acoustic classic
- Technical data sheet for LIGNO Acoustic light

Silver Fir knotless, patterned WTL, also impregnated as WTL-i

Acoustic slat profiles

available on acoustic panels
and on load-bearing CLT elements

625-12-4

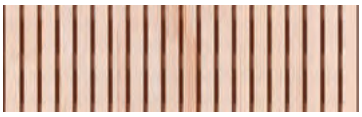
625-20-4
as a panel
also with bevel
625-20-4-F

625-nature-4

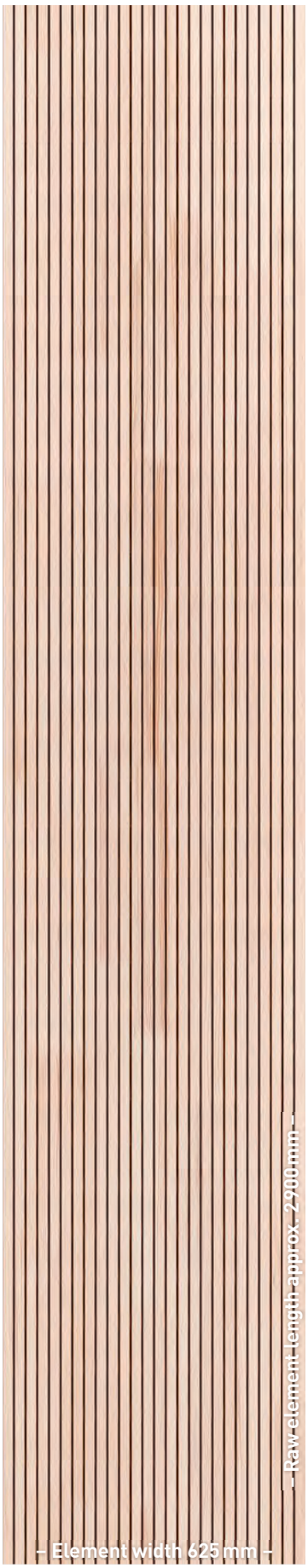
625-nature-4:3D

625-18-6

625-nature-6



625-23-8



Predestined for understated architectural design: The light timber of the Black Forest Silver Fir. It is processed in knotless quality: knots are cut out during production; the knotless sections are put together to make the high quality visible surfaces. The timber is cut in the so-called rift/semi-rift.

Because the Silver Fir does not contain any resin, its timber is ideally suited for interior surfaces. It comes from the Black Forest, from PEFC-certified sources.

The 1-ply panels used for the WTL surface are made of knotless timber pieces, which vary considerably in terms of lightness. This creates a **patterned visual appearance**, which underlines the natural quality of the material.

Lightness variation	slight				■	■	■	strong
Grain	fine			■	■	■	■	coarse, wavy or curly

Closed surfaces

available on load-bearing CLT elements

625-618-7

625-621-4

625-51-1

The currently most popular knotless grade combines natural vibrancy with design-oriented understatement.

OPTIMAL

Acoustic board profiles

available on load-bearing CLT elements

625-105-20

625-95-30

625-54-8

Options / information

▶ Page 30

Options: Textured brushing (standard), sanded, acoustic panels also rough sawn

Options: UV protective wood finish against darkening, for acoustic panels also final treatment with varnish/oil

Option: Flame retardant surface (only on acoustic panels and in selected configurations)

Silver Fir knotless, economy WTE

Acoustic slat profiles

available on acoustic panels
and on load-bearing CLT elements

625-12-4

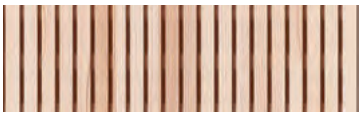
625-20-4
625-20-4-F

625-nature-4

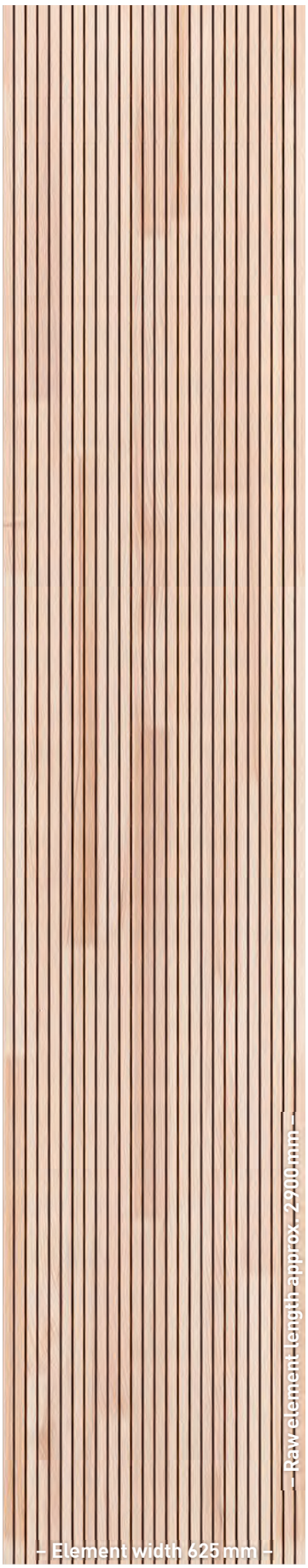
625-nature-4:3D

625-18-6

625-nature-6



625-23-8



Silver Fir economy WTE is an affordable, almost **knotless quality with irregularities**, which are by many people are not recognised as obtrusive (e.g. with also somewhat larger lengthways cracks, knots, break-outs). Appropriate for surfaces with lower quality requirements, for example in side rooms or for ceilings at a great height.

Available for acoustic slat profiles, as a closed surface only in the profile 625-51-1.

The manufacturing principle with finger joint lamellae basically corresponds to the WTL surface.

Lightness variation	slight		strong
Grain	fine		coarse, wavy or curly

Closed surfaces

available on load-bearing CLT elements

625-51-1

More patterned? For many applications, this grade with irregularities is adequate.

ECONOMY

Acoustic board profiles

available on supporting CLT elements

625-105-20

625-95-30

625-54-8

Options / information

▶ Page 30

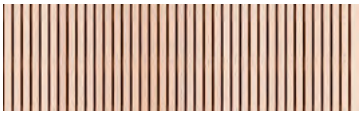
Options: Textured brushing (standard), sanded, acoustic panels also rough sawn

Options: UV protective wood finish against darkening, for acoustic panels also transparent final treatment.
Coloured final treatment of WTE not provided.

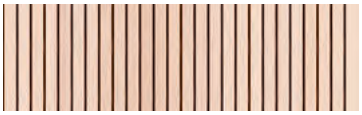
Silver Fir knotless, continuous lamella WTD

Acoustic slat profiles

available on acoustic panels

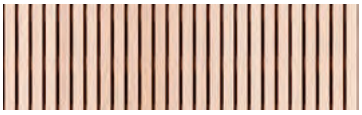


625-12-4



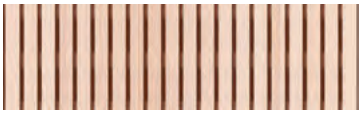
625-20-4
625-20-4-F

625-nature-4

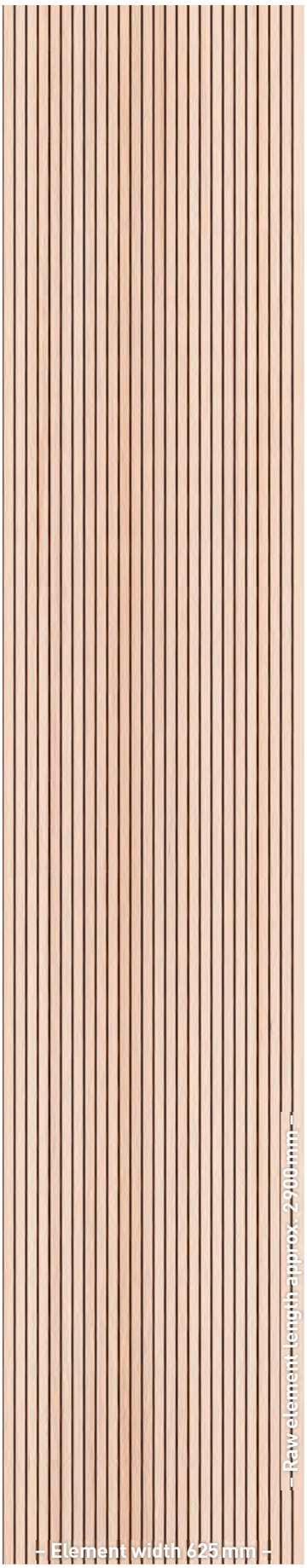


625-18-6

625-nature-6



625-23-8



On the WTD grade, the lamellae have a **continuous grain** along the raw element length of approx. 3 m, i.e. the lamellae are not finger joint. It has a similarly **patterned visual appearance** as WTL.

Availability is limited, therefore **extended delivery times** are possible.

Lightness variation	slight				■	■	■	strong
Grain	fine			■	■	■		coarse, wavy or curly

Closed surfaces

available on load-bearing CLT elements

625-618-7

625-621-4

625-51-1

Acoustic board profiles

available on load-bearing CLT elements

625-105-20

625-95-30

625-54-8

Unlike on the other Silver Fir grades, the growth rings run across the length of nearly 3 m without a joint.

ELEGANT

Options / information

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Attractive alternative
for wall claddings with acoustic panels

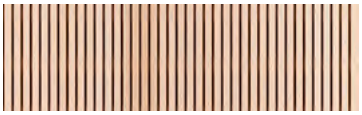
Options: Textured brushing (standard),
sanded, acoustic panels also rough sawn

Options: UV protective wood finish against darkening,
for acoustic panels also final treatment.

Silver Fir knotless, plain WTS

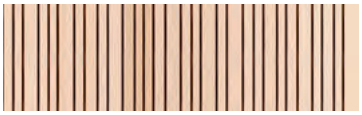
Acoustic slat profiles

available on acoustic panels
and on load-bearing CLT elements

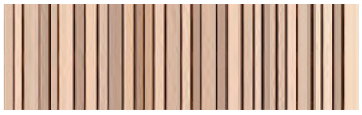


625-12-4

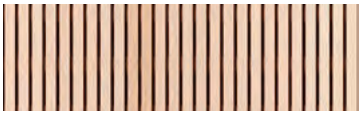
625-20-4
625-20-4-F



625-nature-4

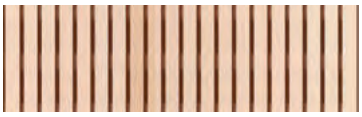


625-nature-4:3D



625-18-6

625-nature-6



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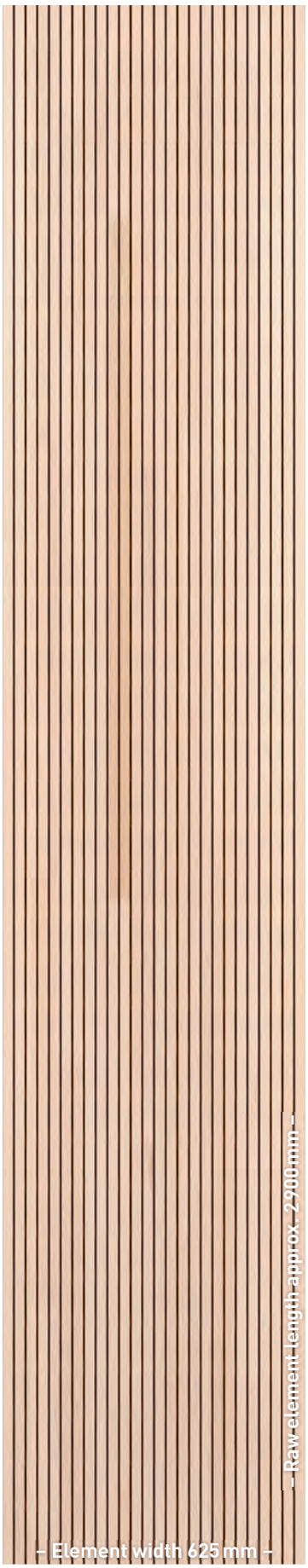


The Silver Fir knotless, plain surface quality is something special: A small amount of particularly evenly coloured and fine grained timber can be obtained from the fir tree trunks, from which this refined grade is produced.

The 1-ply panels used for the WTS visible surface are made of knotless timber sections, which vary less markedly in terms of lightness and are finer grained than is the case with WTL grade. This therefore creates a **more serene visual appearance**.

Availability is limited, therefore **extended delivery times** are possible.

Lightness variation	slight	■ ■ ■ □ □ □ □	strong
Grain	fine	■ ■ ■ □ □ □ □	coarse, wavy or curly

Closed surfaces

available on load-bearing CLT elements

625-618-7

625-621-4

625-51-1

Acoustic board profiles

available on load-bearing CLT elements

625-95-30

625-54-8

Options / information

▶ Page 30

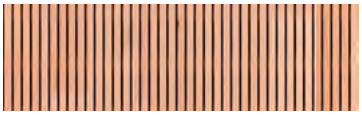
Options: Textured brushing (standard), sanded, acoustic panels also rough sawn

Options: UV protective wood finish against darkening, for acoustic panels also final treatment. More affordable alternative for all-over final treatment: Poplar.

Douglas Fir (Oregon Pine) knotless DO

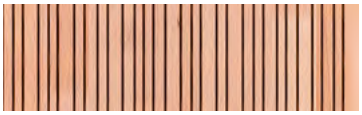
Acoustic slat profiles

available on acoustic panels

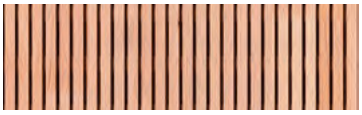


625-12-4

625-20-4
625-20-4-F

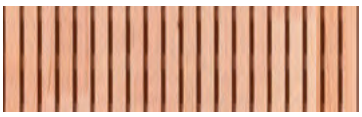


625-nature-4

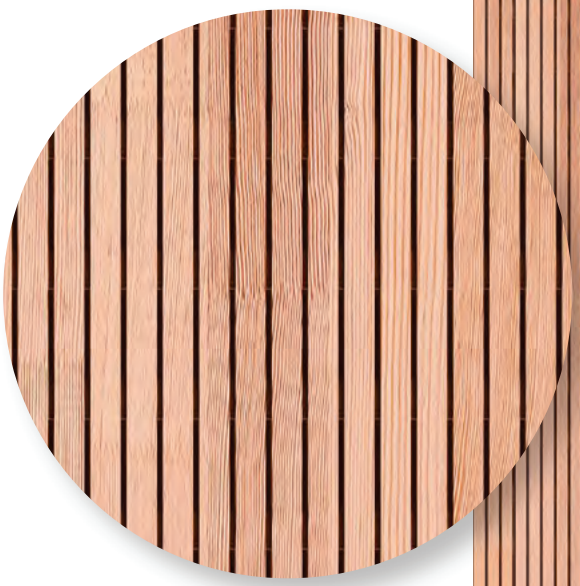


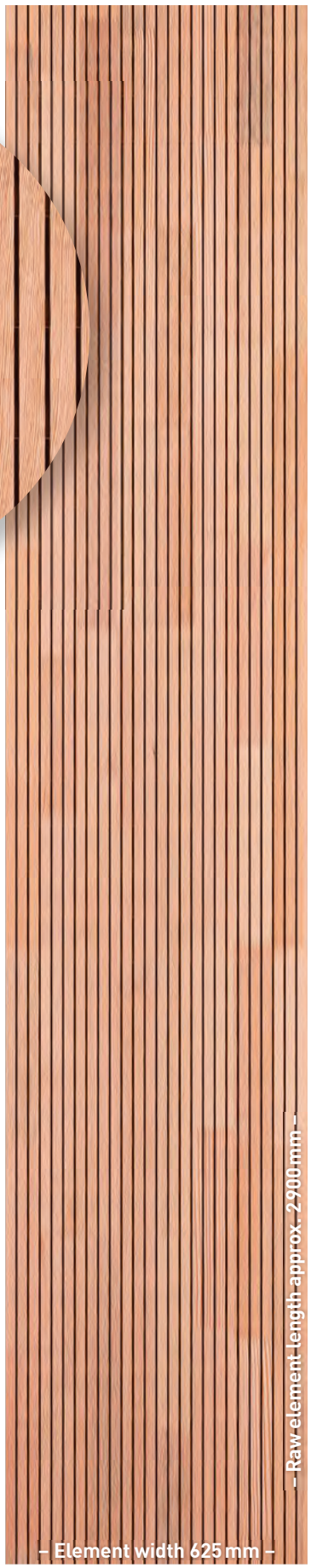
625-18-6

625-nature-6



625-23-8





Closed surfaces

Version also possible without acoustic joints, see Silver Fir patterned WTL.

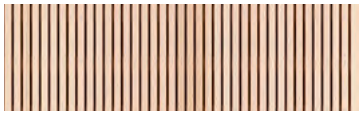
The 1-ply panels used for the DO surface are made of knotless Douglas Fir timber sections, which vary in terms of lightness. The grain is evenly fine in this case. This therefore creates a **patterned visual appearance.**

Lightness variation	slight			■	■	■			strong
Grain	fine		■	■					coarse, wavy or curly

Spruce knotless, plain FIS, also impregnated as FIS-i

Acoustic slat profiles

available on acoustic panels and on load-bearing CLT elements



625-12-4

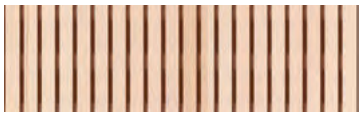
625-20-4
625-20-4-F

625-nature-4

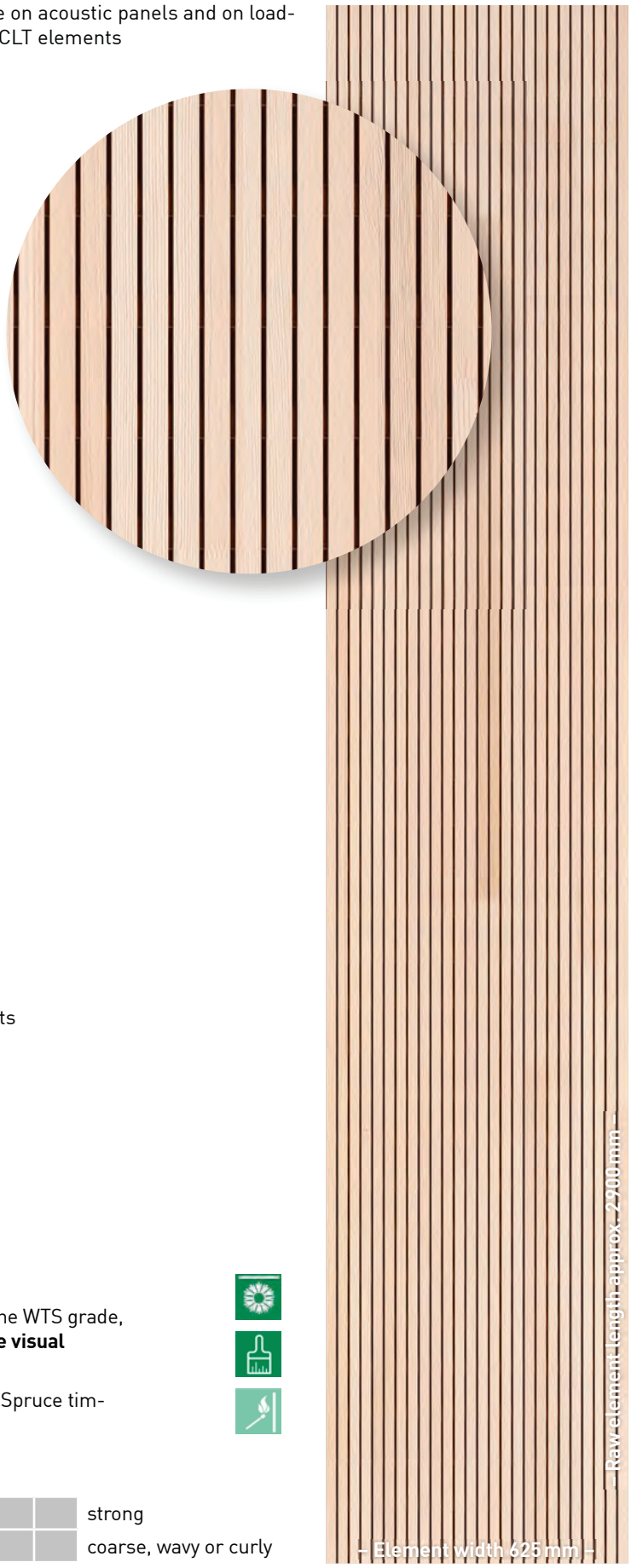
625-nature-4:3D

625-18-6

625-nature-6



625-23-8



Closed surfaces

available on acoustic panels and on load-bearing CLT elements

The surface quality Spruce knotless, plain is comparable with the WTS grade, but has even less variation. This therefore creates a very **serene visual appearance.**

The 1-ply panels used for the FIS surface are made of knotless Spruce timber sections.

Lightness variation	slight	■	■	□	□	□	□	□	strong
Grain	fine	■	■	■	□	□	□	□	coarse, wavy or curly

Spruce knotty (quality A)
FI-ä, also steamed as FI-äd

Acoustic slat profiles

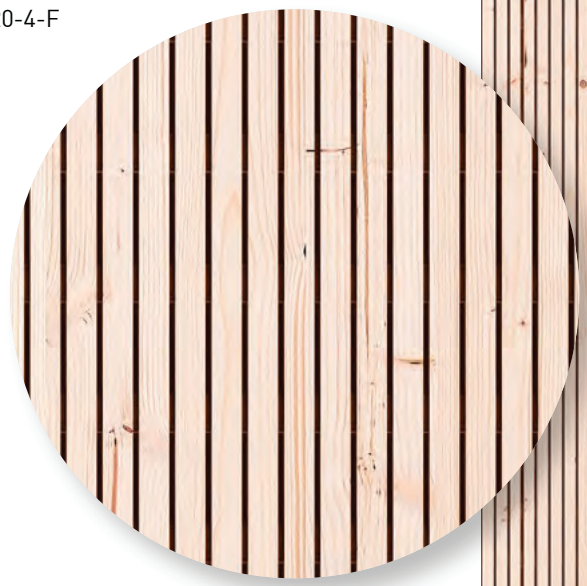
available on acoustic panels, on load-bearing CLT elements only not steamed version

625-20-4 / 625-20-4-F

625-18-6

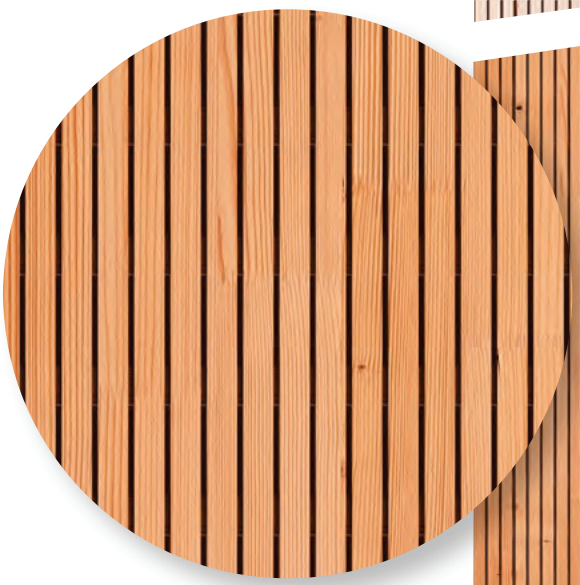
625-nature-6

625-23-8



Closed surfaces

Version also possible without acoustic joints, see Silver Fir patterned WTL.



Spruce is the classic among timber surfaces, used as it has grown. Also available in a steamed version.

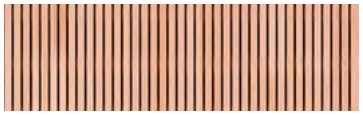
The **even knot pattern** creates a homogeneous overall appearance for the structural element surface. On grade FI-ä, the lamellae have a **continuous grain** along the raw element length of approx. 3 m, i.e. the lamellae are not finger joint. In the case of FI-äd, on the other hand, they are made of finger joint sections.

Lightness variation	slight		■	■				strong
Grain	fine			■	■	■		coarse, wavy or curly

Hemlock Spruce, knotless HE

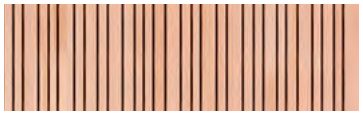
Acoustic slat profiles

available on acoustic panels

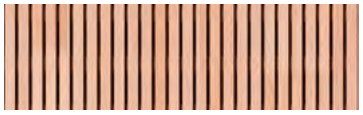


625-12-4

625-20-4
625-20-4-F

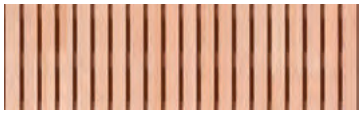


625-nature-4

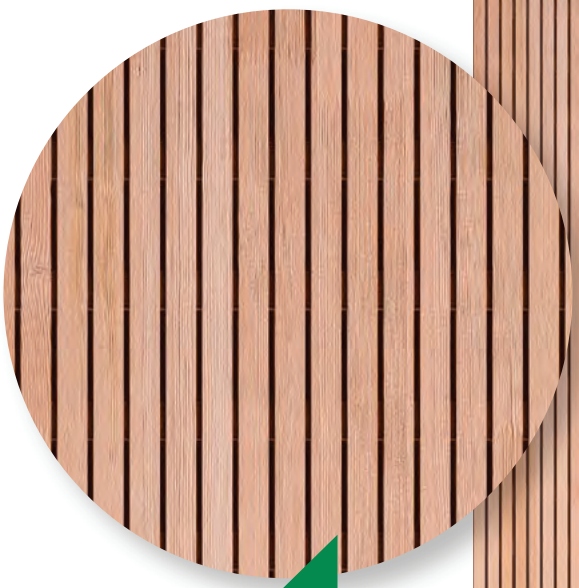


625-18-6

625-nature-6

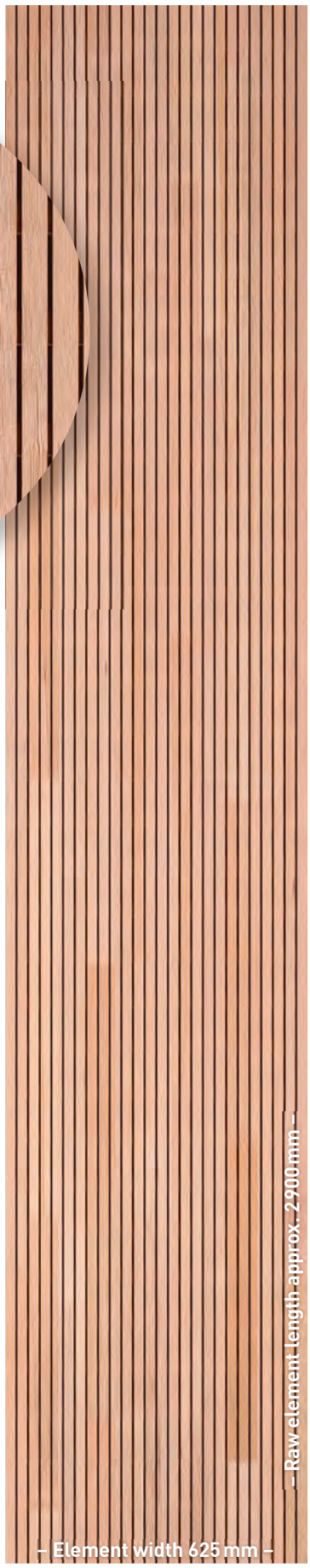


625-23-8



Thanks to a fine growth ring structure, the timber of the slow-growing hemlock spruce is harder than other types of softwood.

ROBUST



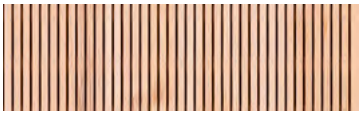
The 1-ply panels used for the HE visible surface are made of knotless sections, which vary little in terms of lightness. Darker stripes may appear now and then. The grain is evenly **very fine**.

Lightness variation	slight		■	■	■				strong
Grain	fine	■	■						coarse, wavy or curly

Pine knotless KF

Acoustic slat profiles

available on acoustic panels



625-12-4

625-20-4
625-20-4-F

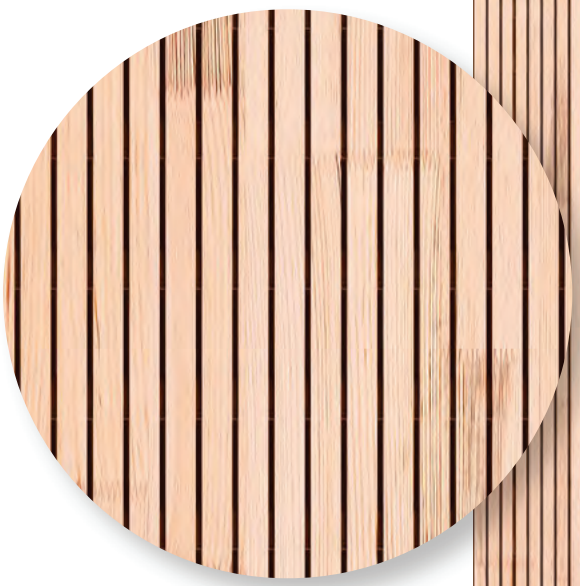
625-nature-4

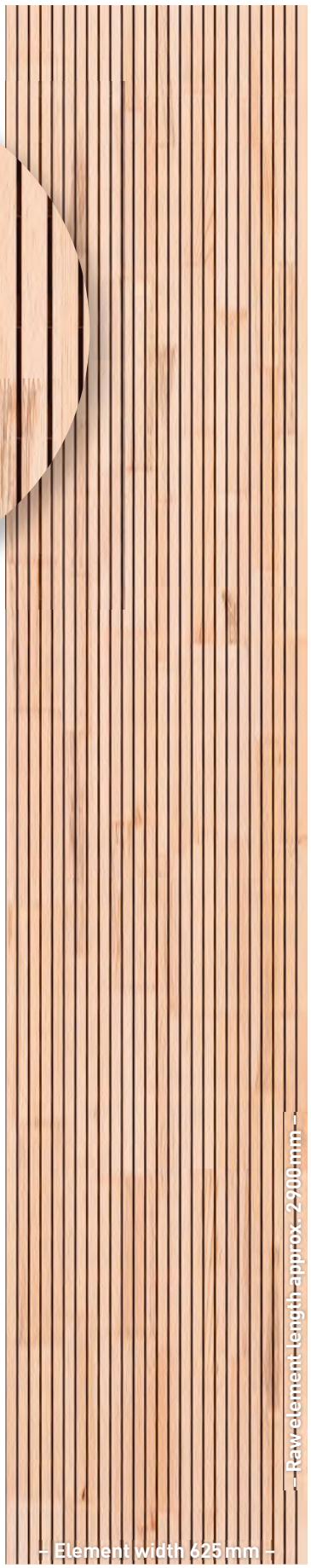
625-nature-4:3D

625-18-6

625-nature-6

625-23-8





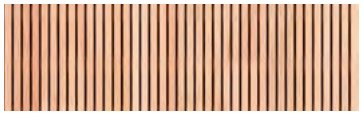
The 1-ply panels used for the KF surface are made of knotless sections, which vary in terms of lightness. Typical of Pine are lamella areas with dark spotty changes. The grain varies.

Lightness variation	slight			■	■	■			strong
Grain	fine			■	■	■	■		coarse, wavy or curly

Larch knotless, Siberian or European LÄS or LÄE

Acoustic slat profiles

available on acoustic panels, on façade elements and on load-bearing CLT elements


625-12-4

625-20-4
625-20-4-F

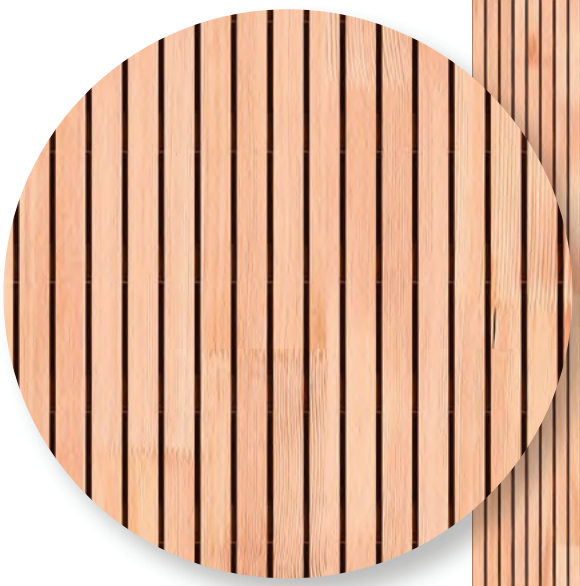
625-nature-4

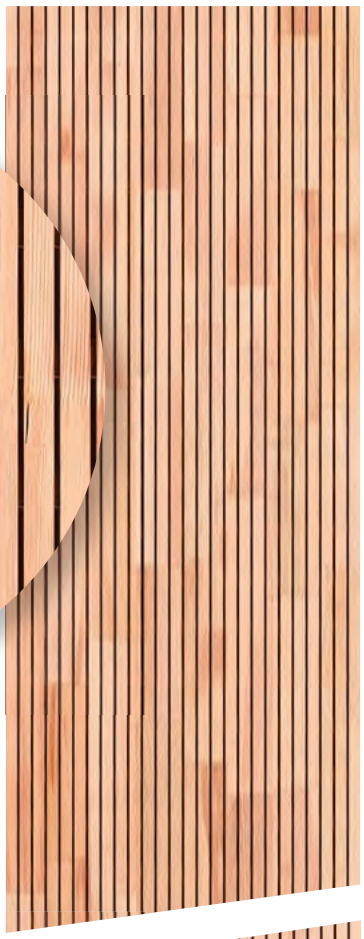
625-nature-4:3D

625-18-6

625-nature-6

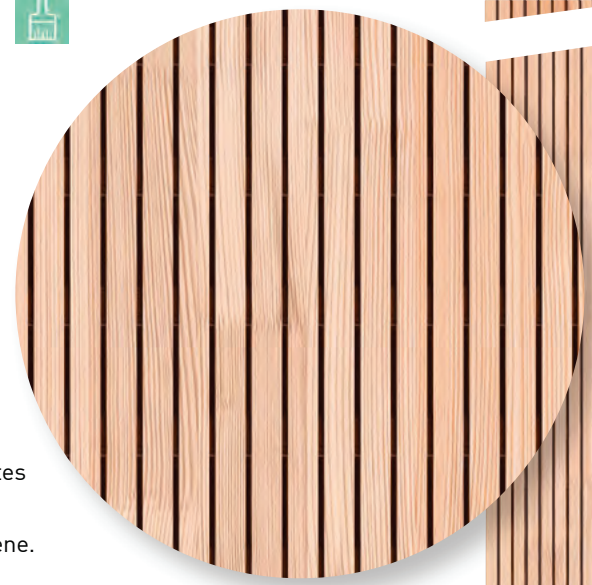
625-23-8





Façade profile

625-50-13



Closed surfaces

Version also possible without acoustic joints, see Silver Fir patterned WTL.

The LÄS surface consists of knotless timber pieces which vary in terms of lightness. This therefore creates a **patterned visual appearance**.

Compared to LÄS, the grade LÄE is a little more serene.

Larch is suitable for use on façades.

LÄS

Lightness variation	slight				■	■		strong
Grain	fine			■	■	■		coarse, wavy or curly

LÄE

Lightness variation	slight		■	■	■			strong
Grain	fine			■	■	■		coarse, wavy or curly

Larch knotty, steamed
LÄ-äd

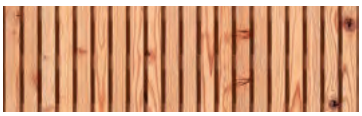
Acoustic slat profiles

available on acoustic panels

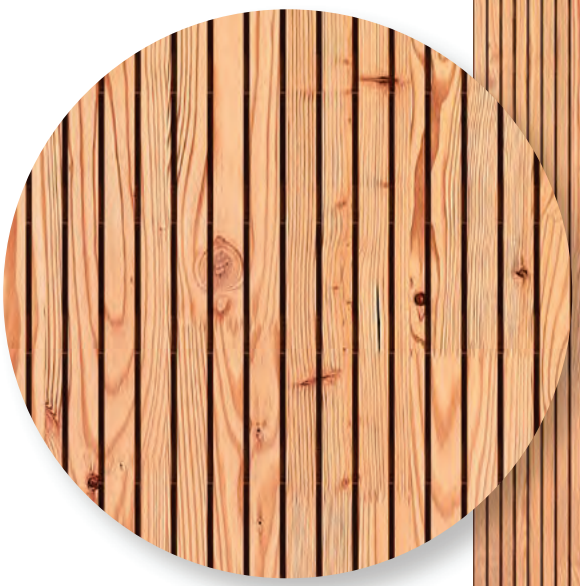
625-20-4
625-20-4-F

625-18-6

625-nature-6



625-23-8



The profiles **625-12-4** and **625-nature-4** in a knotty Larch timber surface are not standard versions and are only produced when expressly requested, as it is not possible to rule out knots from breaking out in narrow acoustic slats.

Larch wood surface is also available in a knotty grade as a steamed version. The lamellae here are finger joint lengthways.

The characteristic **even grain and knot pattern** creates a homogeneous overall appearance for the structural element surface.

Lightness variation	slight		strong
Grain	fine		coarse, wavy or curly

Arolla Pine knotty ZI-ä

Acoustic slat profiles

625-20-4
625-20-4-F

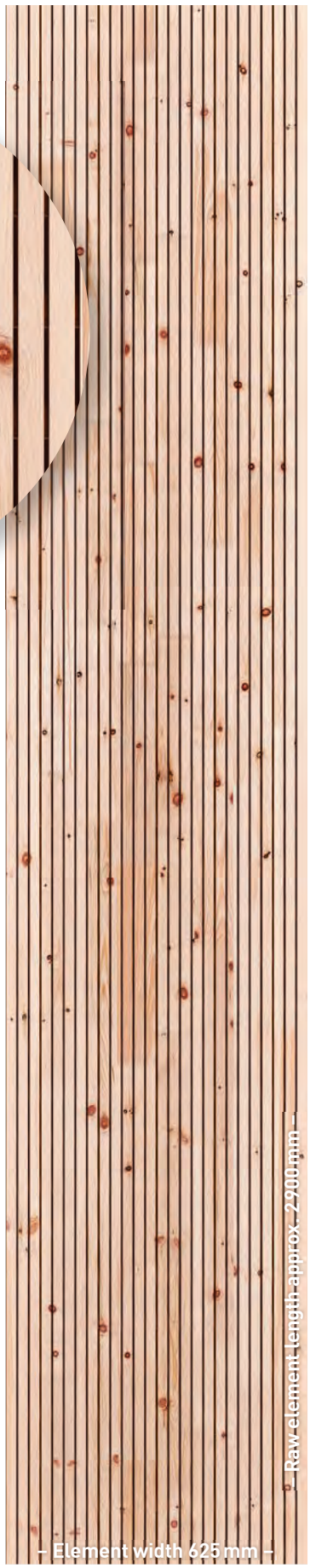
625-nature-4

625-18-6

625-nature-6

625-23-8

available on acoustic panels and on load-bearing CLT elements



Closed surfaces

Version also possible without acoustic joints, see Silver Fir patterned WTL.

The profile **625-12-4** in a knotty Arolla Pine surface is not a standard version and is only produced when expressly requested, as it is not possible to rule out knots from breaking out in narrow acoustic slats.

Balance and good sleep thanks to Arolla Pine in the bedroom: scientific research suggests a positive effect from Arolla Pine.

HEALTHY

The Arolla Pine (also: Swiss Pine) is indigenous to the Alps. A positive physiological effect is attributed to its wood – it is supposed to ensure a healthy night's sleep, for example.

The 1-ply panels used for this surface are made of knotless Arolla Pine wood pieces, which vary in terms lightness and knottiness. This creates a very striking visual appearance, which underlines the natural quality of the material.

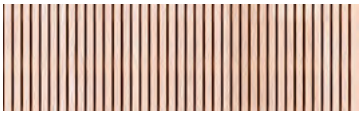
Typical of Arolla Pine wood are **dark knots** as well as the change between areas with predominantly large knots and those with medium-sized and smaller knots.

Lightness variation	slight			■	■	■			strong
Grain	fine			■	■	■			coarse, wavy or curly

Maple knotless, European or Canadian AHE or AHK

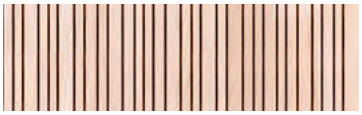
Acoustic slat profiles

available on acoustic panels

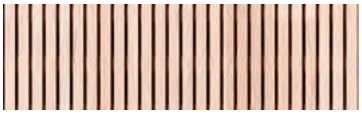


625-12-4

625-20-4
625-20-4-F

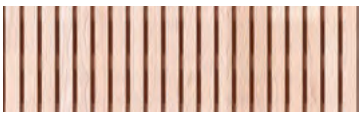


625-nature-4

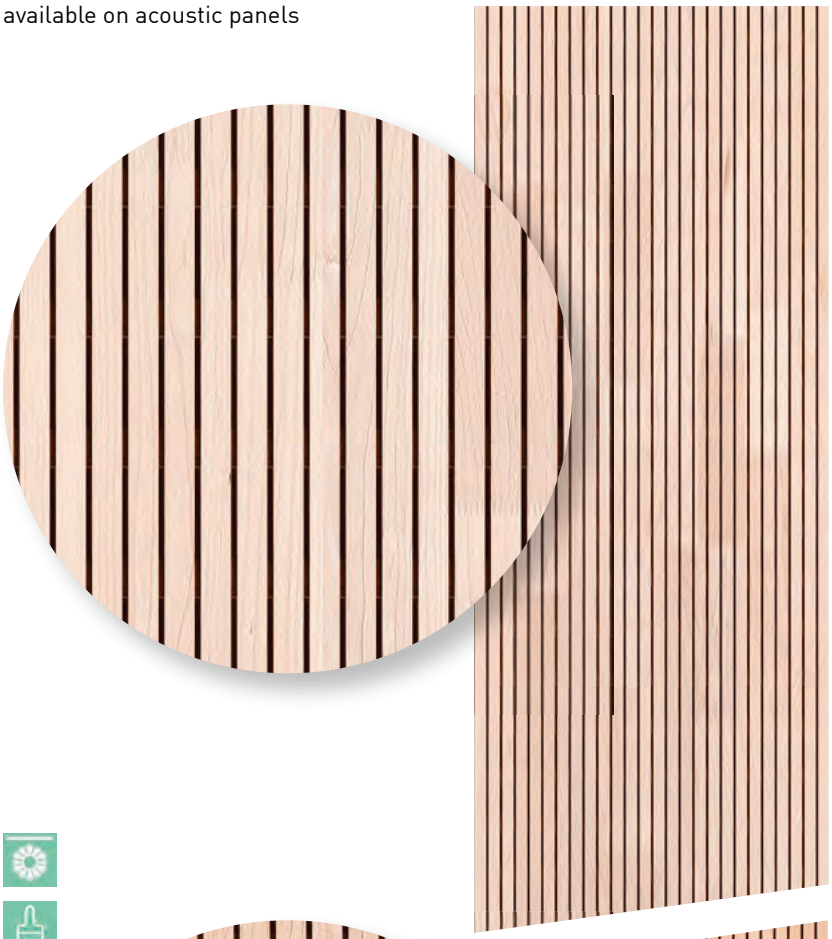


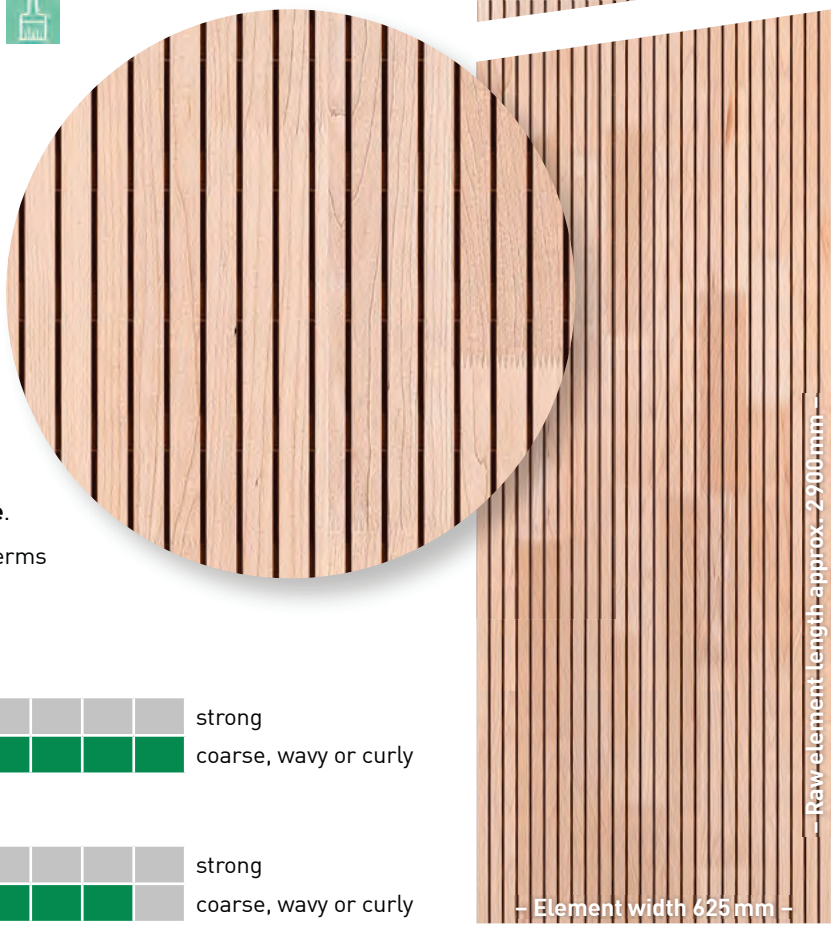
625-18-6

625-nature-6



625-23-8





The AHE surface consists of knotless pieces, which vary in terms of lightness.
This therefore creates a **patterned visual appearance**.

Compared to AHE, AHK features less distribution in terms of lightness and looks more homogeneous overall.

AHE

Lightness variation	slight	■ ■ ■ □ □ □ □	strong
Grain	fine	□ □ ■ ■ ■ ■ ■	coarse, wavy or curly

AHK

Lightness variation	slight	■ ■ ■ □ □ □ □	strong
Grain	fine	□ □ □ ■ ■ ■ □	coarse, wavy or curly

Beech knotless BU

Acoustic slat profiles

available on acoustic panels

625-12-4

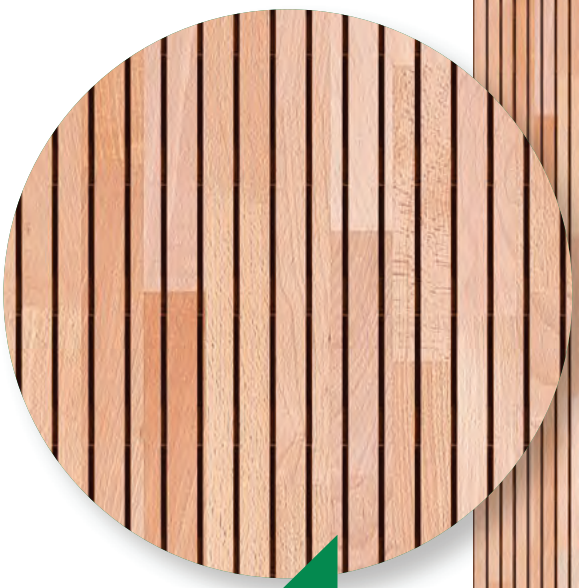
625-20-4
625-20-4-F

625-nature-4

625-18-6

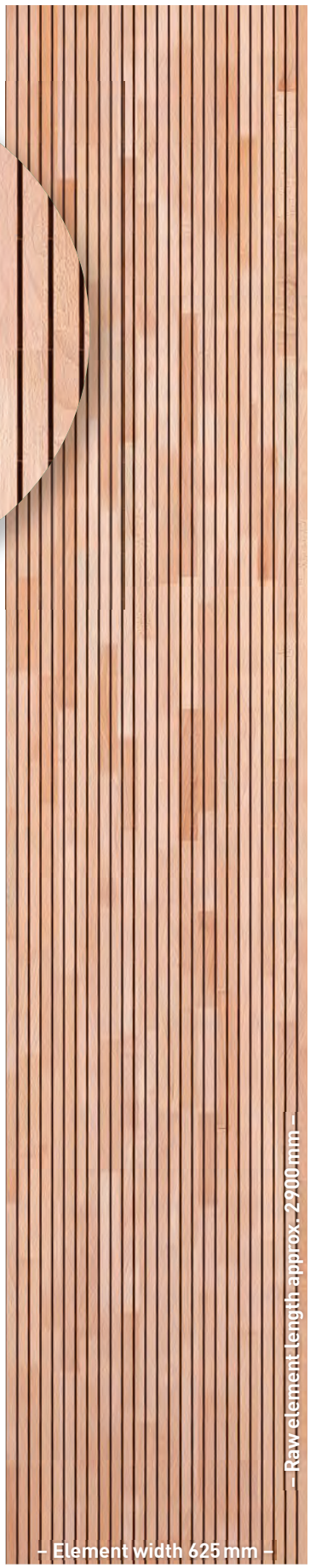
625-nature-6

625-23-8



Beech wood is hard yet exudes warmth, is very robust, why is why it is also used to clad impact walls.

ROBUST



Surface made of knotless beech wood pieces with grain characteristic of this hard timber species. Visual appearance with lightness of varying distribution.

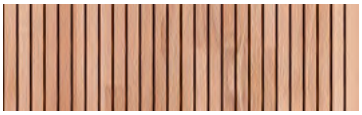
Lightness variation	slight		strong
Grain	fine		coarse, wavy or curly

Oak knotless EI

Acoustic slat profiles

available on acoustic panels and on load-bearing CLT elements

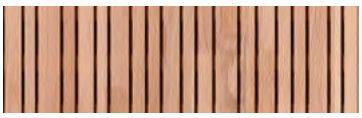
625-12-4



625-20-4
625-20-4-F

625-nature-4

625-18-6



625-nature-6

625-23-8

Closed surfaces

Version also possible without acoustic joints, see Silver Fir patterned WTL.

Oak timber tends to develop stress cracks when subjected to surface machining. A closed surface is possible under special production conditions – please get in touch with us.

In no way old-fashioned – oak is in vogue! This robust, refined element surface is also made out of knotless pieces of timber, which are connected, however, with a horizontal finger joint in such a way that the **lamella joints are recognisable as a fine, straight line**, not by the zigzag line of vertical finger joints.

This creates surfaces with a very high quality impression.

Lightness variation	slight		■	■					strong
Grain	fine			■	■	■			coarse, wavy or curly

Oak knotless, veneer (carrier impregnated) EIF-i

Acoustic slat profiles

available on acoustic panels

625-12-4

625-20-4

625-nature-4

625-18-6

625-nature-6

In order to obtain a flame retardant surface, a sliced veneer of oak is applied to a suitably impregnated carrier plate.

The veneer is very homogeneous across the element width, although differences in lightness may occur on the surface to adjacent elements.

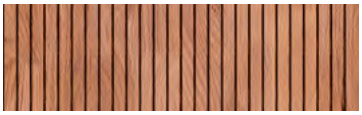
Lightness variation	slight	■	■	■	□	□	□	□	strong
Grain	fine	□	■	■	□	□	□	□	coarse, wavy or curly

Oak knotty, steamed
El-äd

Acoustic slat profiles

available on acoustic panels

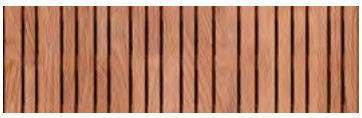
625-12-4



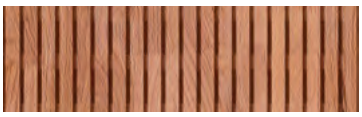
625-20-4
625-20-4-F

625-nature-4

625-18-6



625-nature-6



625-23-8

With this type of oak timber, some knots are left in the surface. Together with the steaming process, this creates a striking option on which the **oak grain is highlighted**. The lamellae are finger joint lengthways.

Lightness variation	slight			■	■	■			strong
Grain	fine				■	■	■		coarse, wavy or curly

Ash knotless, patterned ESL

Acoustic slat profiles

available on acoustic panels

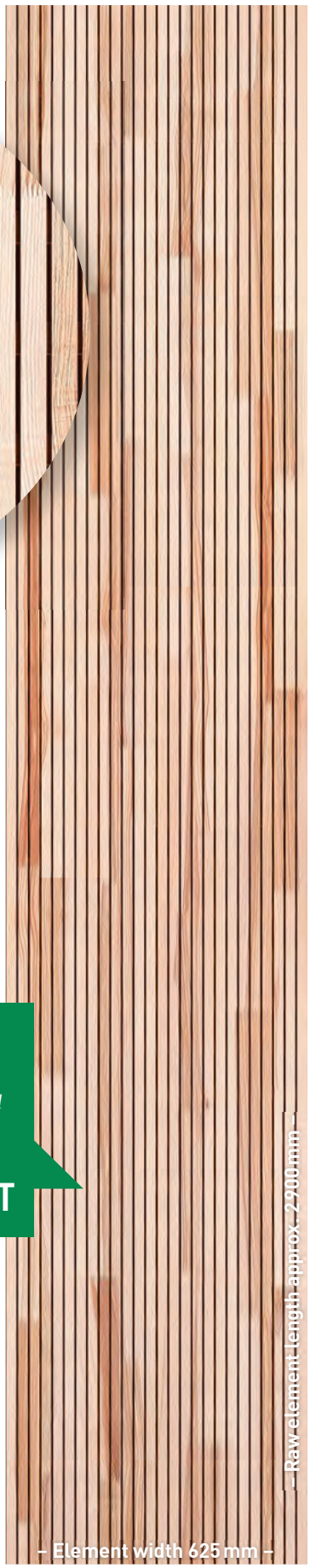
625-12-4

625-20-4

625-nature-4

625-18-6

625-nature-6



This surface gets its extraordinary character by deliberate placement of the brown core typical of ash.

EMINENT

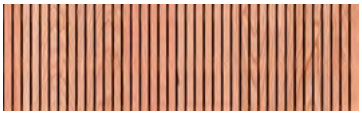
For this visible surface, 1-ply panels are used on which the brown core of the Ash is put together in the same axes, thus creating a **striped look**. The lamella pieces are also connected by finger joints.

Lightness variation	slight						■		strong
Grain	fine				■	■			coarse, wavy or curly

Cherry knotless KI

Acoustic slat profiles

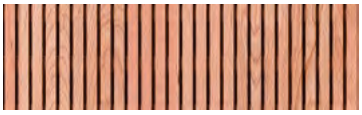
available on acoustic panels



625-12-4

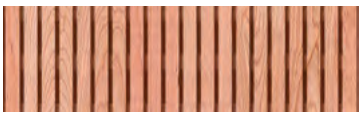
625-20-4
625-20-4-F

625-nature-4

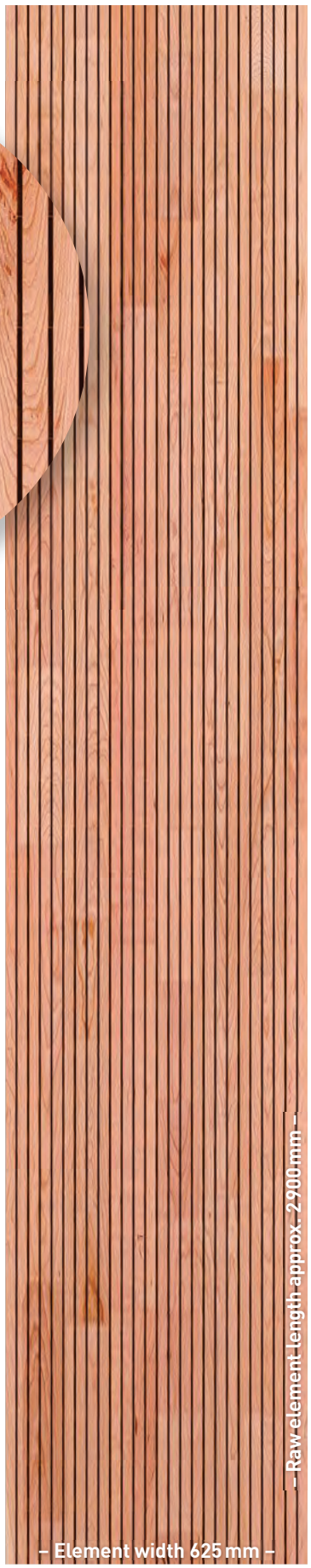


625-18-6

625-nature-6



625-23-8



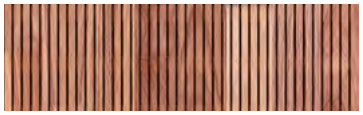
The surface made of cherry wood has a slight reddish tint, characteristically a homogeneous, **slightly veined grain**. The lamellae are finger joint lengthways.

Lightness variation	slight			■	■	■			strong
Grain	fine					■	■		coarse, wavy or curly

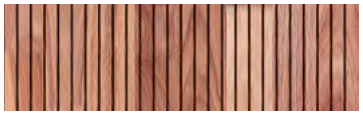
Walnut knotless, patterned or elegant NAL or NAE

Acoustic slat profiles

available on acoustic panels

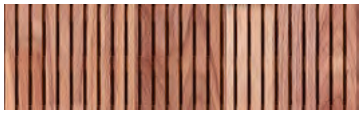


625-12-4



625-20-4
625-20-4-F

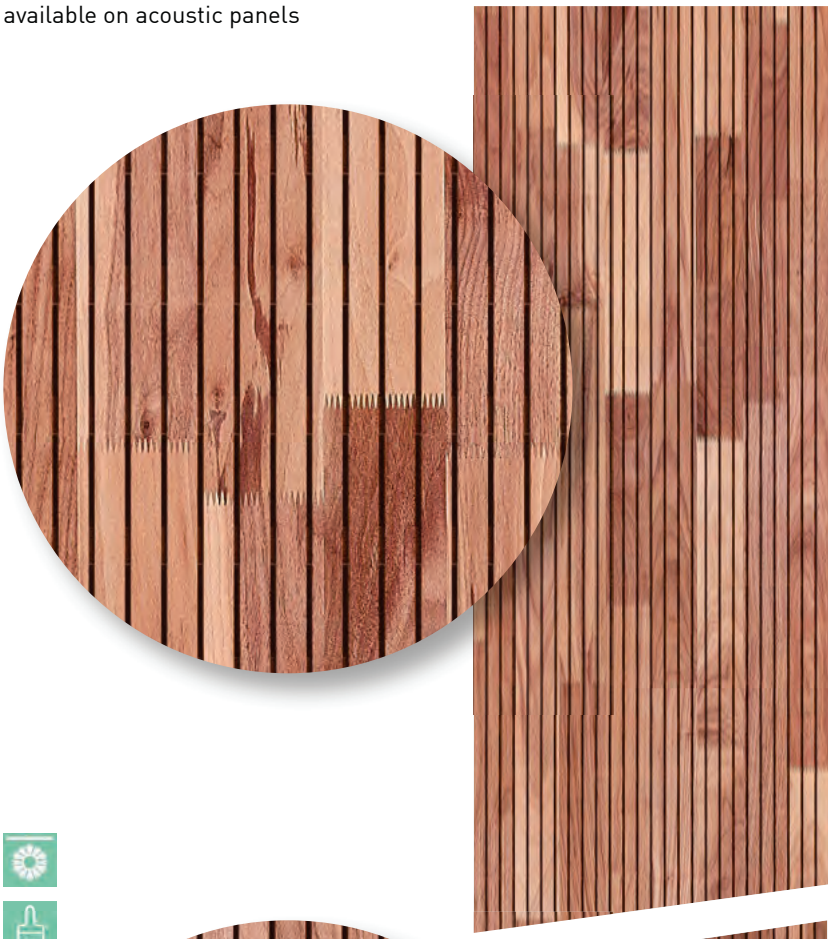
625-nature-4

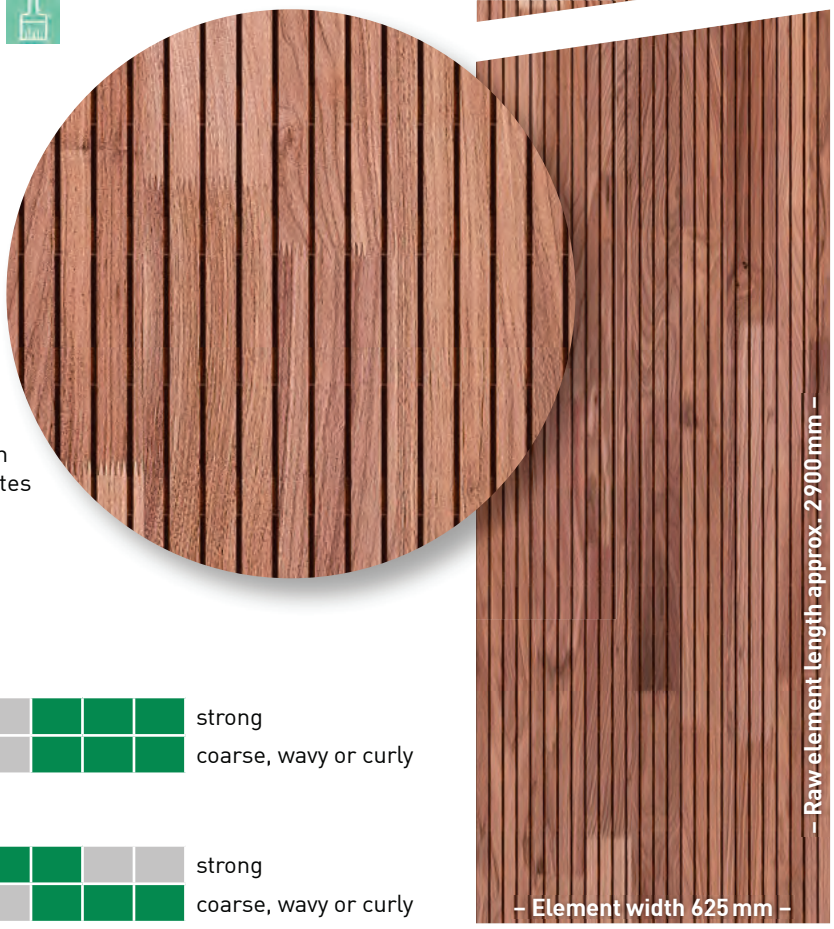


625-18-6

625-nature-6

625-23-8





The visible surface of (American) walnut, patterned, consists of almost knotless sections of timber, which vary highly in terms of lightness. This therefore creates a **very patterned visual appearance**.

Compared to NAL, the European Walnut grade NAE is much more homogeneous in terms of lightness.

NAL

Lightness variation	slight					■	■	■	strong
Grain	fine					■	■	■	coarse, wavy or curly

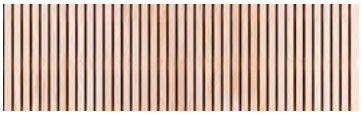
NAE

Lightness variation	slight			■	■	■			strong
Grain	fine					■	■	■	coarse, wavy or curly

Poplar with fine knots
PA-ä

Acoustic slat profiles

available on acoustic panels



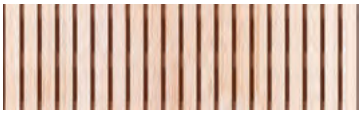
625-12-4

625-20-4
625-20-4-F

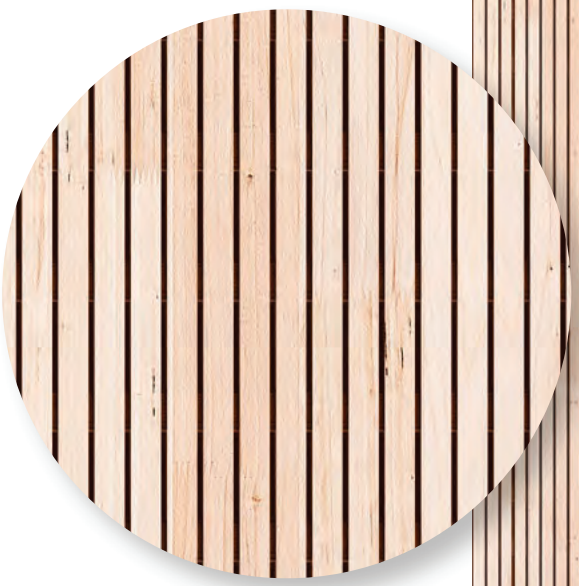
625-nature-4

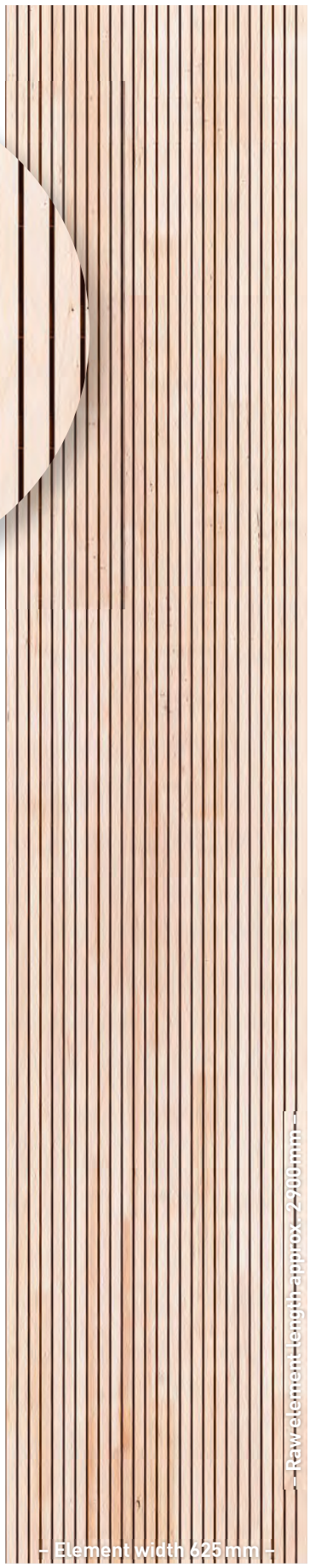
625-18-6

625-nature-6



625-23-8





Light surface made of sections of poplar timber. Some of the lamellae reveal fine, light-coloured small knots. The lamellae are finger joint lengthways.

Lightness variation	slight	■	■	■	□	□	□	□	strong
Grain	fine	□	■	■	■	□	□	□	coarse, wavy or curly

Industrial qualities

Industrial quality NSi, Ind

Surface for the non-visible area, destined for cladding. Degraded panels from other qualities may be mixed in a consignment, e.g. knotty Spruce, Silver Fir or Larch. Larger longitudinal cracks, loose knots and breakouts are also possible. Instead of 1-ply panels, the surface may also consist of tightly laid individual boards.

(No illustration)

Surface treatment

Texture

As standard, LIGNO genuine wood surfaces are slightly brushed. Brushing out soft growth ring parts makes them more resistant to scratches. The character of the texture depends on the type of wood.

A smooth, sanded finish is also available on request.

Acoustic panels are also available with a saw cut appearance.

Key:

Brushing makes an clearly noticeable texturing possible on the types of softwood marked with this symbol

Brushing is possible on these harder types of wood, yet the effect is weaker

Brushing is not possible on these surfaces

Primer for protection against light

Available for load-bearing cross-laminated timber elements and for acoustic panels.

A transparent UV protection primer can be applied at the factory to prevent the wood surface from darkening. The glaze used is suitable for indoor use (non-toxic).

A final treatment – e.g. with a suitable varnish – should then be carried out if washing out cannot be ruled out. On ceiling or roof undersides, there is usually no need for this.

Final treatment

Only available for acoustic panels.

The LIGNO Akustik light acoustic panels can be supplied from the factory oiled or varnished in different ways. Note: The surface of oiled elements is textured as standard, when varnished it is not textured but sanded smooth (CH: slightly textured).

Detailed information about final treatment options:
▶ **Technical data sheet for LIGNO Acoustic light**

Examples:

- Oil or varnish transparent (matt)
- Oil or varnish pigmented white, e.g. W10-H, W20-H or W10-L
- Oil or varnish white, e.g. almost opaque W20-L and coloured (choice of colours according to RAL system)
- Chalked (especially on oak)

Key:

Treatment is almost unlimited with these types of wood, details in the element data sheet or from the Lignotrend specialist adviser.

Treatment is possible or useful with restrictions with these types of wood. For example, possible breakouts rule out an opaque coat of paint.

For types of wood not marked with a symbol, the final treatment is usually not useful or possible due to other configuration options.

Flame retardancy

Available only for selected versions of the acoustic panels.

By using a suitably impregnated surface layer, LIGNO Acoustic light and Acoustic Sport panels can be produced with a flame retardant visible surface. Classification concerning reaction to fire according to DIN EN 13 501-1.

Fire class	Classified panel version according to profile, element type and wood type (surface untreated or with final treatment of oil / varnish)						
	625-12-4	625-20-4	625-20-4-F (Impact wall)	625-nature-4	625-18-6	625-nature-6	625-23-8
C-s2-d0	■ **Acoustic light 3S-33 / WTL-i 3S-33 / EI-F-i**	■ **Acoustic light 3S-33 / WTL-i**	☐	■ **Acoustic light 3S-33 / WTL-i**	■ **Acoustic light 3S-33 / WTL-i**	■ **Acoustic light 3S-33 / WTL-i**	not possible
	■ **Acoustic light 3G-33 / WTL-i / final treatment**	■ **Acoustic light 3G-33 / WTL-i / final treatment**	■ **Acoustic Sport 3G-33 / FIS-i / final treatment**	■ **Acoustic light 3G-33 / WTL-i / final treatment**	■ **Acoustic light 3G-33 / WTL-i / final treatment**	■ **Acoustic light 3G-33 / WTL-i / final treatment**	not possible
B-s2-d0	■ **Acoustic light 3G-33 / WTL-i**	■ **Acoustic light 3G-33 / WTL-i 3G-33 / FIS-i**	■ **Acoustic Sport 3G-33 / FIS-i**	■ **Acoustic light 3G-33 / WTL-i**	■ **Acoustic light 3G-33 / WTL-i**	■ **Acoustic light 3G-33 / WTL-i**	not possible
B-s1-d0	■ Special element 3S-40 / WTL-i	☐	☐	■ Special element 3S-40 / WTL-i 3S-40 / WTL-i	■ Special element 3S-40 / WTL-i	☐	not possible

■ according to classification report. According to European law, the classification report together with the CE marking and the external monitoring of production replaces the previous test certificate.

☐ Currently unclassified version.

Notes:

- **Flame retardant surfaces cannot be coated with UV protective glaze.**
- **Varnishing of surfaces possible, however no classification report is available at the moment.**
- **Elements with flame retardant surface may only be used in spaces where temperatures ›15°C and relative humidity ‹ 75 % are found during typical use**

Key:

There is a configuration with a flame retardant surface for this type of wood.
Note: Not all combinations of element type and profile are classified in each case.

For types of wood not marked with a symbol, no classified flame retardant configuration is available at the time of printing.

Instructions for use
Details

Important instructions for use

The closed visible surfaces are designed for room humidities › 35 % – an indoor climate that is also healthy and comfortable for the users. At these levels, the likelihood of stress cracks in closed wood surfaces is very small. On elements with acoustic profiles, no stress cracks ar expected to occur. To prevent cracks, the humidity level should not fall below 35 % therefore.

The recent air humidity can be directly concluded from the wood humidity (Keylwerth / Loughborough diagram). If, according to this, the air humidity has fallen below 35 % and a too low wood humidity has thus been reached, no guarantee for the freedom from cracks can be assumed.

Notes:

- Setting the exchange of air on ventilation systems too high can also lead to the air in the room drying out disadvantageously, particularly if the system is not equipped with moisture recovery.
- LED lights are optimal as recessed luminaires as their heat build-up is not so high and for elements with a closed surface, any drying out leading to cracks surrounding the opening is reduced. Fitting instructions provided by the luminaire manufacturers must be observed as a matter of principle!

Surface qualities in detail

☒ not present or not occurring
☐ allowed at a very limited level
◘ permitted occasionally or to a small extent
■ present

		Page	Lamellae finger joint	Rift / Semi-rift cut	Curly / wavy spots	Shimmery wood rays	Growth flaws	Knots	Loose knots / knotholes	Ingrown bark or bark pockets	Resin pockets	Beetle holes (diam. ‹ approx. 1.5 mm)	Blue stain / red stripe	Sapwood	Pith	Discolouration	Small cracks	Finger joint breakout	Comments
Silver Fir knotless, patterned	**WTL**	4	■	■	☐	☒	☐	☐ ‹ 4 mm	☒	‹ 100 x 4 mm	☒	☐	☐	☐	☒	☐	☐	☐	
Silver Fir knotless, impregnated	**WTL-i**	4	■	■	☐	☒	☐	☐ ‹ 4 mm	☒	‹ 100 x 4 mm	☒	☐	☐	☐	☒	☐	☐	☐	
Silver Fir knotless, economy	**WTE**	6	■	◘	■	☒	■	◘ ‹ 30 mm	☒	‹ 100 x 5 mm	☒	☐	☐	☐	☒	☐	☐	◘	more defects tolerated
Silver Fir knotless without joint	WTD	8	☒	■	☒	☒	☐	☐ ‹ 4 mm	☒	‹ 100 x 4 mm	☒	☐	☐	☐	☒	☐	☐	☒	
Silver Fir knotless, plain	WTS	10	■	■	☒	☒	☒	☐ ‹ 4 mm	☒	‹ 50 x 1 mm	☒	☒	☒	☐	☒	☒	☒	☒	limited availability
Douglas Fir knotless	DO	12	■	■	☒	☒	☐	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☐	☒	☒	◘	☐	☐	
Spruce knotless, plain	**FIS**	13	■	■	☒	☒	☒	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☒	☒	☐	☒	☒	☒	☐	
Spruce knotless, plain, impregnated	**FIS-i**	13	■	■	☒	☒	☒	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☒	☒	☐	☒	☒	☒	☐	
Spruce knotty (A qual.)	**FI-ä**	14	☒	◘	■	☒	☐	■ ‹ 25 mm	◘	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☐	☐	◘	☐	☐	☒	
Spruce knotty, steamed	FI-äd	14	■	◘	■	☒	☐	■ ‹ 25 mm	■ ‹ 10 mm	‹ 50 x 1 mm	◘ ‹ 30 x 3 mm	☐	☐	☐	☐	☐	☐	☐	
Hemlock spruce, knotless	HE	15	■	■	☒	☒	☐	☐ ‹ 3 mm	☒	‹ 150 x 1 mm	☒	☐	☐	☐	☒	☐	☐	☐	
Pine knotless	KF	16	■	■	☐	☒	☐	☐ ‹ 6 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☐	■	☒	☐	☐	☐	
Larch knotless, Siberian	**LÄS**	17	■	■	☒	☒	☐	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☒	☐	☒	☐	☐	☐	for façades
Larch knotless, European	LÄE	17	■	■	☒	☒	☐	☐ ‹ 6 mm	☒	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☐	☐	☒	☐	☐	☐	
Larch knotty, steamed	LÄ-äd	18	■	◘	■	☒	☐	■ ‹ 25 mm	■ ‹ 10 mm	‹ 50 x 1 mm	☐ ‹ 30 x 3 mm	☐	☐	☐	◘	☐	☐	☐	
Arolla pine (Swiss pine) knotty	ZI-ä	19	■	◘	■	☒	☐	■ ‹ 25 mm	■	‹ 50 x 1 mm	☐ ‹ 30 x 10 mm	☐	☐	■	◘	☐	☐	☐	
Maple knotless, European	AHE	20	■	☐	■	■	◘	☐ ‹ 6 mm	☒	‹ 50 x 1 mm	☒	☒	☒	■	☐	☐	☒	☐	
Maple knotless, Canadian	AHK	20	■	☐	■	■	◘	☐ ‹ 6 mm	☒	‹ 50 x 1 mm	☒	☒	☒	■	☐	☐	☒	☐	
Beech knotless	BU	21	■	■	☐	■	☐	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☒	☐	☒	☐	☐	☐	☐	☐	
Oak knotless	**EI**	22	■	■	☐	■	☐	☐ ‹ 6 mm	☒	‹ 50 x 1 mm	☒	☐	☒	☐	☐	☐	☐	☒	horizontal lamella joint
Oak knotless, veneer	EIF-i	23	☒	■	☐	■	☐	☐ ‹ 3mm	☒	☒	☒	☐	☒	☐	☐	☐	☐	☒	impregnated carrier
Oak knotty, steamed	EI-äd	24	■	☐	■	■	☐	■ ‹ 25 mm	■ ‹ 10 mm	‹ 50 x 3 mm	☒	☐	☒	☐	☐	■	◘	☐	
Ash knotless, patterned	ESL	25	■	■	☐	☒	☐	☐ ‹ 3 mm	☒	‹ 50 x 1 mm	☒	☐	☒	■	☐	◘	☐	☐	brown heart
Cherry knotless	KI	26	■	☐	■	☒	◘	☐ ‹ 6 mm	☒	‹ 50 x 3 mm	☒	☒	☒	☐	☐	◘	☒	☐	
Walnut knotless, patterned	NAL	27	■	☐	■	☒	☐	☐ ‹ 6 mm	☒	‹ 50 x 3 mm	☒	☐	☒	◘	☐	☐	☐	☐	
Walnut knotless, elegant	NAE	27	■	☐	■	☒	☐	☐ ‹ 6 mm	☒	‹ 50 x 3 mm	☒	☒	☒	☐	☐	☐	☒	☐	
Poplar with fine knots	PA-ä	28	■	☐	■	☒	◘	◘ ‹ 6 mm	☒	‹ 50 x 2 mm	☒	☐	☐	☐	☐	◘	☐	☐	also for opaque col. treatment
Industrial quality NSi	Ind	29	■	☐	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

The surfaces can feature repairs of timber defects performed at the factory, e.g. with patches for knots or resin pocket or with a wood filler.