

PRODUCTS FOR TIMBER CONSTRUCTIONS

An overview of our most popular products for timber constructions.



LEMAÎTRE
GROUP
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CONTENT

This brochure provides an overview of frequently used products for timber constructions, their most important characteristics and applications.

We begin with the fundamentals, solid wood and progress to sophisticated wood products, often collectively labelled as Engineered Wood Products (EWP). These products are designed to remove the natural defects of wood (intended for structural applications) and to increase the natural strength of the material.

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STEICO
engineered by nature

Lemahieu Group is authorized STEICO reseller.

CONSTRUCTION TIMBER





Softwood from European forests

Softwood has the advantage of offering an excellent quality/price ratio. They have a low weight in relation to their mechanical resistance and are also available in abundance in European sustainably managed forests.

Types



Deal and Norway spruce from Northern Europe (*Picea abies*) ¹

- Characteristics:
- off-white to cream-coloured heart- and sapwood
 - non-durable wood, but stable and elastic
 - light and strong, thus particularly suitable for structures

Origin: Deal is wood obtained from spruce timber. This is the commercial name for the botanical species *Picea abies* or *Picea excelsa*, which belong to the *Pinaceae* family.



Pine and Norway pine from Northern Europe (*Pinus sylvestris*) ¹

- Characteristics:
- light to reddish brown/yellow heartwood, white to yellowish white sapwood
 - one of the most versatile wood types
 - suitable for indoors and outdoors (if preserved)
 - wood of moderate to low durability

Origin: Pine is the commercial name for *Pinus sylvestris*. *Scots pine* is the correct English name, although the term *Baltic pine* is also used.



European Douglas fir or Oregon pine from North America (*Pseudotsuga menziesii*) ¹

Characteristics:

Origin:

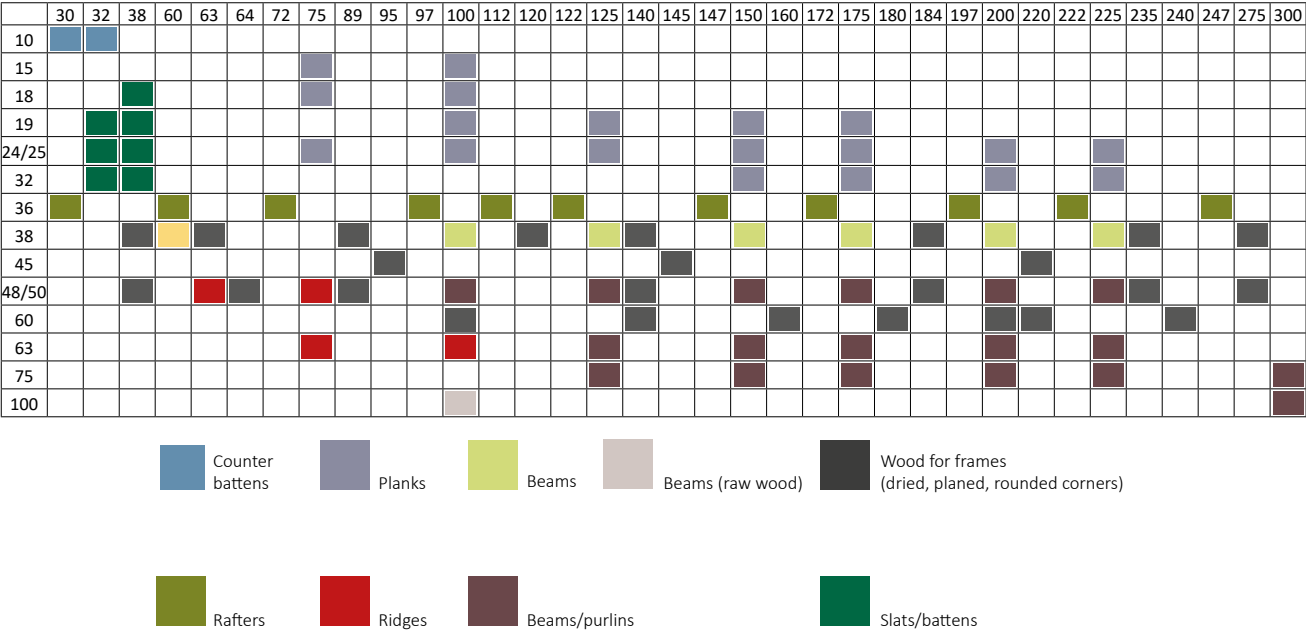
¹ Source: <https://houtinfobois.be>

Applications

Wood destined for structural applications must be calculated in accordance with current regulations. Standard *EN 1995 1-1: Eurocode 5 - Design and calculation of timber constructions* is used for this purpose. The European strength classes to be used for solid softwood and hardwood are indicated according to *EN 338 - Wood for structural applications – strength classes*. In addition, the CE label has been mandatory for structural wood since 01/01/2012.

Processing of softwood by sawmills

The table² below provides an overview of common softwood dimensions produced by sawmills. The dimensions indicated are for unprocessed wood, except in the case of planed and chamfered frame timber.



NB1: the dimensions in this table are for raw wood (except for frame timber)
NB2: other dimensions can always be obtained on request



*With respect
for the product*



SLS





Solid deal from Scandinavia



SLS stands for *Scandinavian Lumber Standard*, a reference to the origin and current standardisation, but generally refers to solid deal, planed on 4 sides and with rounded corners in wood strength C18/C24 (EN 338). SLS naturally has a limited durability class and usage class and is thus only suitable for indoor applications. Optionally, this wood can be preserved by immersion or impregnation to place it in *usage class 2 (EN 335): wood not suitable for ground contact or exterior applications, but which can withstand temporary moisture*.

Dimensions currently in stock*

		width (mm)					
		58	63	89	140	184	235
thickness:	38 and 45 mm	2.10 to 6 m (per 0.3 m)					
lengths:							

* while stocks last

KVH





Solid construction wood - finger-jointed



KVH® or *KonstruktionsVollHolz* refers to solid structural wood with precisely defined product characteristics (EN 14081-1). The wood is dried in the oven, then sorted for strength, usually up to C24, and processed to make finger-jointed solid deal wood products (EN 15497:2014).

Due to the production method used and the low moisture content, these products do not tend to crack and are dimensionally stable.³

Dimensions

KVH® is available in a large number of standard dimensions with industrial surface quality, among other things in the dimensions below, with a length of approximately 13 metres. Wider sections are produced by gluing 2 layers or 3 layers (EN 14080).

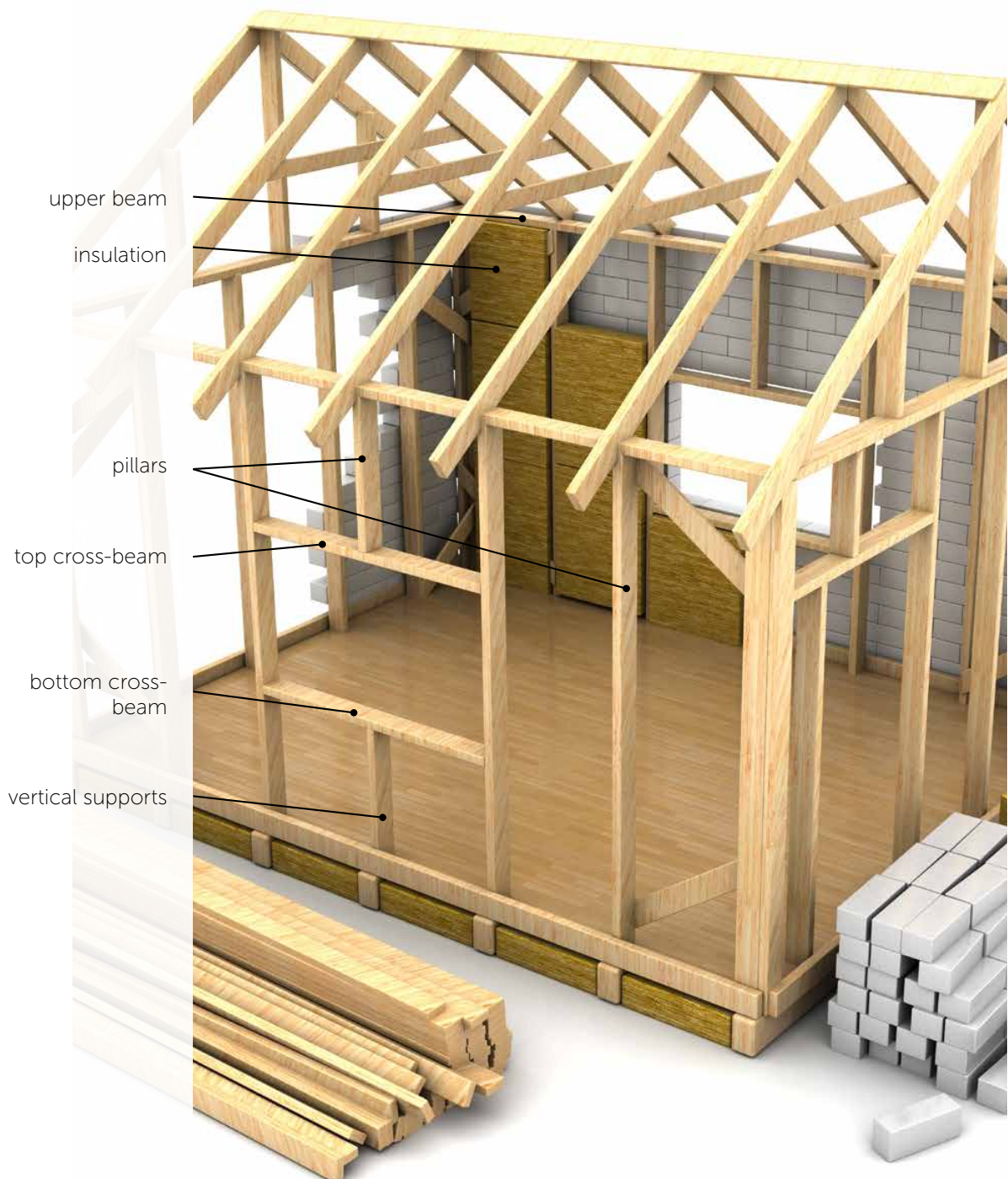
	width (mm)							
	95	145	180	184	200	220	240	280
thickness (mm)	45	●	●	●		●		
60			●		●	●		
80					●		●	
100								●

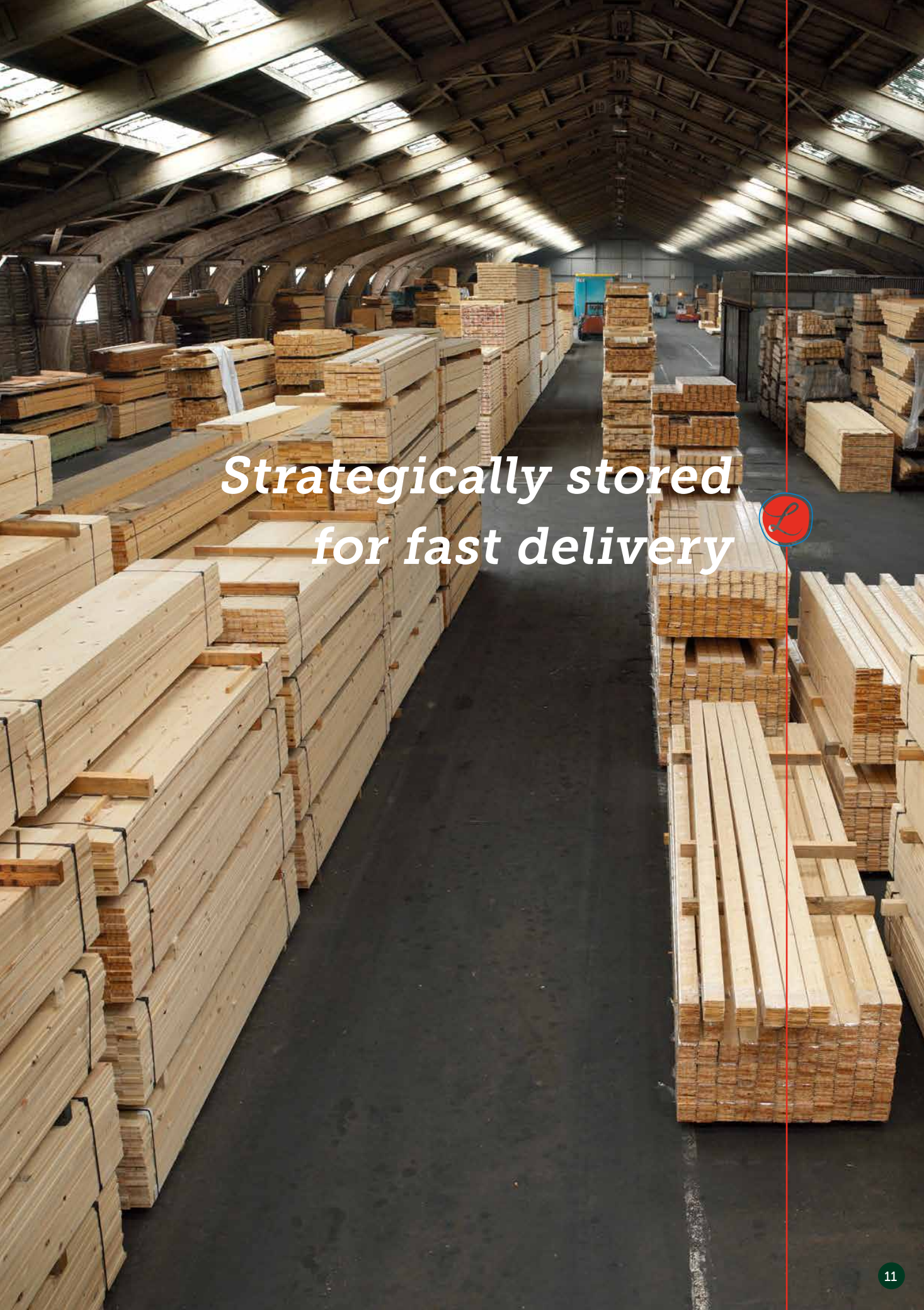
- delivery time on demand

³ Source: www.kvh.eu

Applications

Typical KVH® constructions are pillars, supports and beams for (timber-frame) interior walls, where the dimensional stability requirements or width of sections exceeds those of SLS.



A large, high-ceilinged warehouse with a wooden truss roof and skylights. The floor is dark and polished. On both sides of a central aisle, there are tall, neat stacks of light-colored wooden planks or beams, some secured with black straps. In the background, a blue forklift is visible near more stacks of wood. A red vertical line runs down the right side of the image.

*Strategically stored
for fast delivery*



LAMINATED BEAMS





For large spans



Laminated beams are composed of deal planks sorted by strength, finger-jointed into long slats, which are then planed, glued and compressed. During this process, the grain of the wood is the same for all glued sections, so that in this regard the product is comparable to a natural, solid piece of wood.

Laminated wood thus has a higher strength and stiffness than dimensional wood of comparable size. The strength classes for laminated wood are divided on the basis of *EN 14080: Wood constructions - glued laminated wood and glued solid wood*, with the most common strength classes being GL24, GL28 and GL30.

There is an additional distinction between homogeneously combined laminated wood consisting of the same wood type and the same strength class GL24h or combined laminated wood GL24c.

Common dimensions

Laminated beams are available in a large number of standard dimensions with surface qualities for both non-visible applications (NSi) and visible applications (Si), available in the following dimensions among others, with a maximum length varying between 12 and 16 metres.

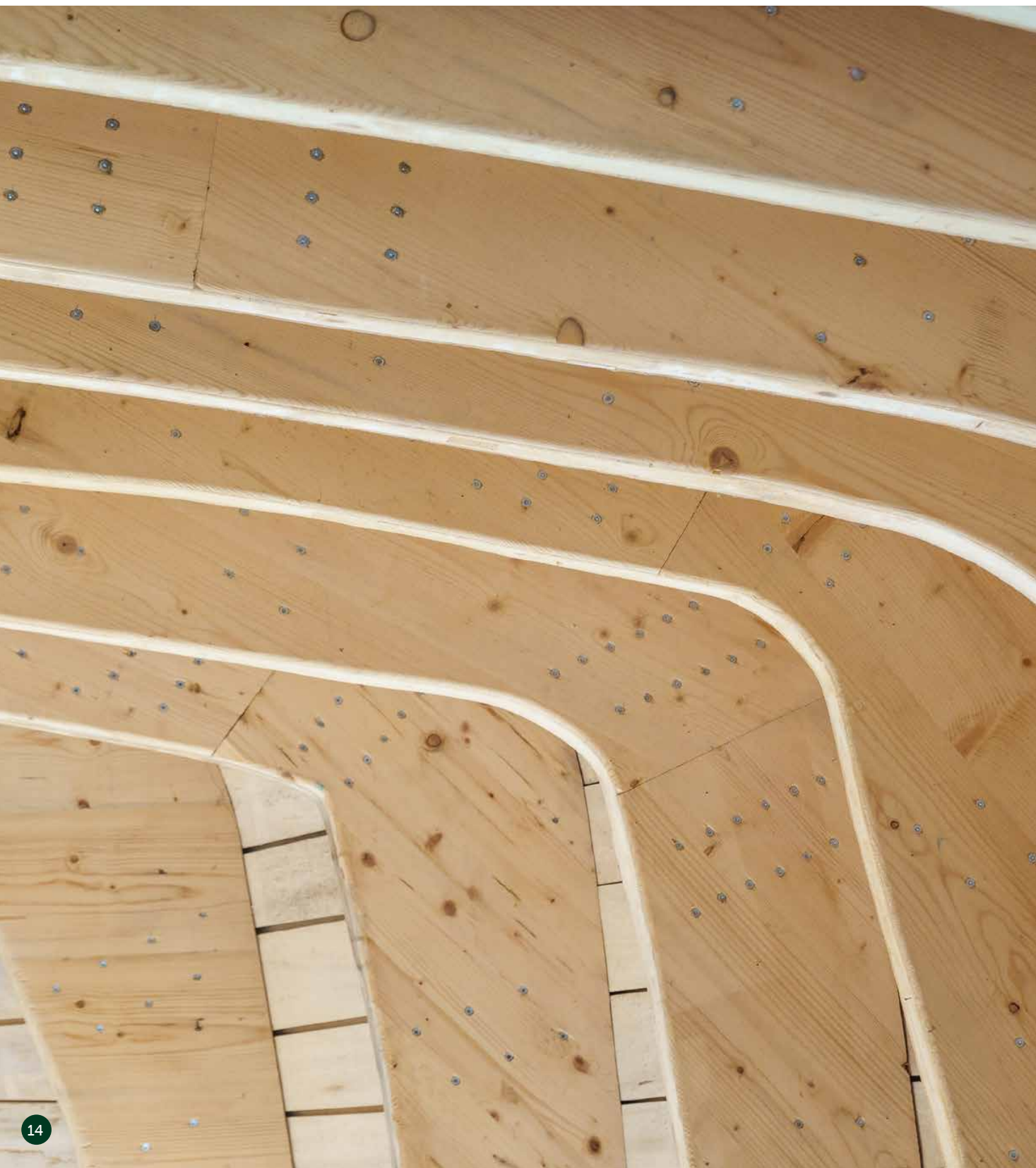
	width (mm)										
	100	120	140	160	180	200	240	280	320	360	400
thickness (mm)											
60		40	32	24							
80	36	30	24	24							
100	30	25	20	15		15	10				
120		20	16	12		12	8	8	4		
140			12			9	6	6	4		
160				9		4	4	4	2	2	2
180					4		4	4	2	2	2
200						4		4	2	2	2

Amount per package / Delivery time on request

Applications

Increased design values, improved product performance and competitive costs make laminated beams the best choice for projects; from simple beams and columns for residential constructions to large spans and roof structures with complex bends.

STEICO **LVL**





Strong, stronger, strongest



Laminated veneer lumber (LVL) is a structural, technically developed wood product, made up of glued veneer layers. Depending on the type of LVL, the veneers all run longitudinally or some veneers are glued cross-wise. The most important characteristics of LVL are the high strength, stiffness, straightness and dimensional stability.

Common dimensions of LVL R

LVL R is available in a large number of standard dimensions, including those listed below, with a maximum length of approximately 12 metres. Unsawn, wide plates can also frequently be obtained on request.

thickness (mm)	width (mm)				
	240	300	360	400	600
	39	30	24		
	45	30	24	18	18
	75	20	16		8

Amounts per package / Delivery time on request

Applications

LVL is used for all new-build and renovation work as well as for industrial purposes.

Examples of applications include:

- supporting columns and beams
- rafters
- ring beams
- components for the door and frame industry.

STEICO I-JOISTS





Light and strong



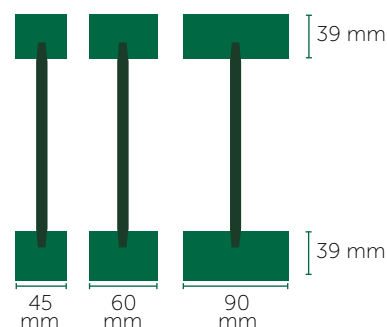
An I-joist is a structural, technically developed wood product, made up of an upper and lower flange of LVL.

The flanges are glued to the hardboard core plate in a fully automated production process with strict quality control to ensure that they are moisture-resistant. Drilling of the core plate to provide passages for ventilation channels and other conduits is possible, provided that certain project-related rules of thumb are followed.

Current dimensions

I-joists are available in a large number of standard dimensions, including in the sections below, with a standard length of 13 metres. On request, the I-joist can also be processed on the CNC machine.

	flange (mm)		
	SJ45	SJ60	SJ90
height (mm)			
220	43		
240	43	33	23
300	43	33	23
360	43	33	23
400	43	33	23



Available from stock (while stocks last)

Applications

I-joists are used for roof, floor and wall constructions in both residential and industrial construction projects. They provide stronger, longer, wider, lighter and more stable solutions than natural wood. In addition, the design guarantees an optimal balance between function and material use.

STEICO **WOOD FIBRE INSULATION**



Experience the utmost sense of comfort with wood fibre insulation



In a well-insulated house, one clearly lives better. And STEICO insulation materials provide even more comfort.

In winter, STEICO wood fiber insulation materials create a pleasant feeling. The natural insulation materials envelop the house like a protective winter coat, keeping the valuable warmth inside. In a well-insulated house, the indoor temperature of walls and ceilings also rises automatically

Steico Flex 036



- Flexible wood fiber board for use between rafters, beams, and studs in roof, wall, and floor.
- Very low thermal conductivity ($\lambda_b = 0.036$)
- PEFC-certified

thickness (mm)	length (mm)	width (mm)	edge profile	amount/pal.	m² per pallet brut
50	1220	575	square	10x9	63.14
60	1220	575	square	10x8	56.12
80	1220	575	square	10x6	42.09
100	1220	575	square	12x4	33.67
120	1220	575	square	10x4	28.06
140	1220	575	square	8x4	22.45
180	1220	575	square	8x3	16.84
220	1220	575	recht square	10x2	14.03

Steico *Universal*



- Roof and wall construction board with tongue-and-groove profile.
- Insulating wood fiberboard for roofing and walls with high compressive strength.
- Ecological, environmentally friendly, recyclable.
- Excellent protection against heat in the summer and winter cold.
- Reduces thermal bridges.
- PEFC certified.

thickness (mm)	length (mm)	width (mm)	edge profile	amount/pal.	m ² /pal. brut	m ² /pal. net
22	2230	600	TG	104	139.15	134.76
35	2230	600	TG	64	85.63	81.14

Steico *Universal Dry*



- Vapor-permeable wood fiberboard for roofing and walls.
- Triple function: airtight, water-draining, and insulating.
- Produced using a dry process.
- PEFC certified.

thickness (mm)	length (mm)	width (mm)	edge profile	amount/pal.	m ² /pal. brut	m ² /pal. net
60	1880	600	TG	38	42.86	40.53

Steico *Special Dry*



- Wood fiberboard for roofing/walls and for additional insulation on the rafters.
- Triple function: airtight, water-draining, insulation.
- Can be directly placed on the rafters without supporting formwork.
- Particularly vapor-permeable for added certainty in construction, especially in renovations.
- Produced using a dry process.
- PEFC certified.

thickness (mm)	length (mm)	width (mm)	edge profile	amount/pal.	m ² /pal. brut	m ² /pal. net
100	2230	600	TG	22	29.44	27.59
140	1880	600	TG	16	18.05	17.07

Steico *Eco Silent*



- Underlay for laminate and parquet flooring.
- Insulates both impact noise and airborne sound when used under parquet and laminate floorings.
- PEFC certified.

thickness (mm)	length (mm)	width (mm)	amount/pack	packs/pal.	amount/pal.
3	790	590	20	32	640
4	790	590	15	32	480
5	790	590	15	26	390
7	790	590	15	20	300



PRESERVATION TECHNIQUES

We provide various preservation techniques (including immersion and impregnation under pressure), which are required to protect the construction wood and to extend its lifespan.

Our machinery includes the following:

- 4 impregnation units
- 1 immersion unit

IMMERSION

= preservation by means of submergence

Immersion involves placing the timber in the wood-protection product for a certain time. As the product only penetrates the timber to a limited extent, we apply this technique mainly to timber that will not be exposed to wind and weather.



We have an **immersion unit approved by BUtgb**. This gives the timber preventive protection against:

- blue mould
- wood-destroying fungi
- larvae of wood-destroying insects.

The immersion has a low environmental impact. When it is **green**, the timber is treated with Sarpeco 9+, a micro-emulsion **or colorless** with WOLSIT EC40. Our products are **certified by ATG**.

If you need timber for an application in usage classes 2, 3, 4, we recommend impregnating the timber under vacuum pressure.

The timber sections that are to be sawn or milled after impregnation or immersion must be post-treated with a product that also meets the requirements.



IMPREGNATION

= Preservation by means vacuum pressure

During impregnation in an autoclave, the timber protection product is introduced into the timber under high pressure. Depending on the type of timber, the product will penetrate the timber to the core or down to a few millimetres.



Our impregnation stations have both BUTgb and CTB-B+-approval for green and brown impregnation.

Impregnation gives the timber preventative protection against:

- wood-destroying fungi
- soft rot
- larvae of wood-destroying insects.



The timber can be treated with Wolmanit CX-10 if it is green or brown or with Wolsit-EC 100 if it is black.

After treatment, the timber can be used in the following usage classes:

- Class 2: Timber not in contact with the ground or outside; may become temporarily damp.
- Class 3: Timber exposed to the weather and not in contact with the ground.
- Class 4: Timber in constant contact with the ground or water (fresh water).



PLANING & CNC PROCESSING

Thanks to our extensive range of machinery, we can plane and chamfer large sections of timber up to 300 x 400 mm (with a length of up to 15 metres) for large roof trusses, timber constructions, prefabricated and timber-framed constructions. We use the 6-axe ROBOT-Drive to process beams with dimensions of up to 300 x 650 mm (up to 15 metres in length).

Our machinery includes the following:

- 6-axe CNC ROBOT-Drive 650
- various planing machines for very large sections
- various sawing machines
- various packaging lines

CNC ROBOT-Drive 650

We carry out the most complex machining operations on our 6-axis CNC machine with extreme precision in accordance with the construction drawings. We are happy to assist our customers with the design of outbuildings, structural joints, or other timber constructions. Our design department can help you optimise your 3D designs or design the construction drawings in consultation with you.



Facts & figures ROBOT-Drive 650:

- 6 axes
- automatic change between 16 tools
- accurate processing in 1 run
- for dimensions of 20 x 60 mm to 300 x 650 mm
- up to 15 metres



PLANING

= 8 planing benches and 3 sawing units for optimal flexibility

In addition to customised work, we stock a standard range of slats, rafters, panels, and construction timber.



Our planing unit can provide solutions for:

- sawing, shortening, package shortening, angled sawing, splitting timber into two, into three, etc.
- customised shortening after planing
- cross-cut milling, tongue-and-groove milling, planing and cross-cut machining, or only cross-cut machining
- splitting, sawing beams into several sections
- shrink-wrapping, personalised cardboard retainers, etc.
- capability of handling smaller packs by using tie-down straps (3, 4, 5, etc. items per pack).

We can plane a wide range of profiles, depending on the application and our customers' requirements. We can also quickly develop customised solutions based on our many years of experience and our own grinding shop.



Our Hundegger HM4-400 is used for planing large-dimension construction timber;

Facts & figures HM4-400:

- planing and chamfering of construction timber
- fully automated 4-sided
- dimensions of 15 x 45 mm to 300 x 400 mm
- up to 15 metres



LEMAHIEU GROUP

Lemahieu Group has been an established name in the import of timber and panel products for decades. Since our foundation in 1932, we have been focussing on expanding our stock of timber and panel products and creating added value from timber.



LEMPAN
PANELS



THERMOWOOD®



We believe in the future of timber and panels as sustainable (building) materials and want to expand their applications through environmentally sustainable solutions.

We believe that our strengths lie in the cooperation between the various divisions and our employees' specialised knowledge.

Our divisions share a passion for timber.

Through preservation of timber, fire retardant treatments, responsible procurement management, and customized solutions, we collectively expand the applications of wood and panels.

We want to be a loyal partner for the timber trade and the specialised timber-processing industry at home and abroad. Therefore, we aim to provide excellent levels of customer service and satisfaction by supplying quality timber and panel products and to maintain and develop strong relationships with our stakeholders.

SUSTAINABLE FUTURE



Sustainability is at the heart of every process, division, and product of Lemahieu Group. With investments in cutting-edge, environmentally friendly technologies and product innovations, we maximise the sustainability of our favourite raw material: wood. Sustainability permeates everything we do, from procurement to production, from investment to human resources.

OUR ACTION POINTS



Storage of up to 1.5 million litres of rainwater used in our production processes.



A wind turbine on our site in Ghent provides green electricity to the Ghent branch.



An inclusive work organisation where all employees are respected and treated equally.



Our solar panels allow us to run our machinery on locally produced green electricity.



We aim to import 100% of our wood from sustainably managed forests by 2025.



Our transition to an electric and hybrid fleet.

Quality and tailored advice

Our wide-ranging knowledge, innovative techniques, and sustainable materials cohere to guarantee ecologically sound applications for indoors and outdoors.

We can guarantee the highest quality and tailored advice based on our know-how and product knowledge. We create tailored solutions for the specialised timber trade with precision and passion.



Do you want more information about our products or already know exactly what you want to put in our capable hands? You are welcome to contact us.



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