STEICO Building System
Product Information

Construction elements –
naturally made of **timber**





Areas of Application

I-Joists for floor joists, rafters or wall studs.

Laminated Veneer Lumber for joists, beams, studs, purlins, header and sole plates, lintels and structural panels.

- **High load bearing capacity, long spans**
- **High dimensional stability**
- **Excellent manufacturing tolerances**
- **Compatible with existing timber sizes and connection methods**
- **High strength to weight ratio**
- **Reduced settlement**
- **Integrated construction and insulation system**
- **Efficient use of timber resources**



Following *natures* lead

STEICO construction products combine high load bearing capacity with the highest efficiency.

Nature shows us the way by producing slender constructions with maximum stability. The functional principles are simple: Reduction. Where no material is required then no material is wasted. The Result: Improved material properties with low weight and low primary energy consumption whilst providing the highest energy efficiency. The STEICO building system follows these principles.

CERTIFIED COMPONENT
Passive House Institute

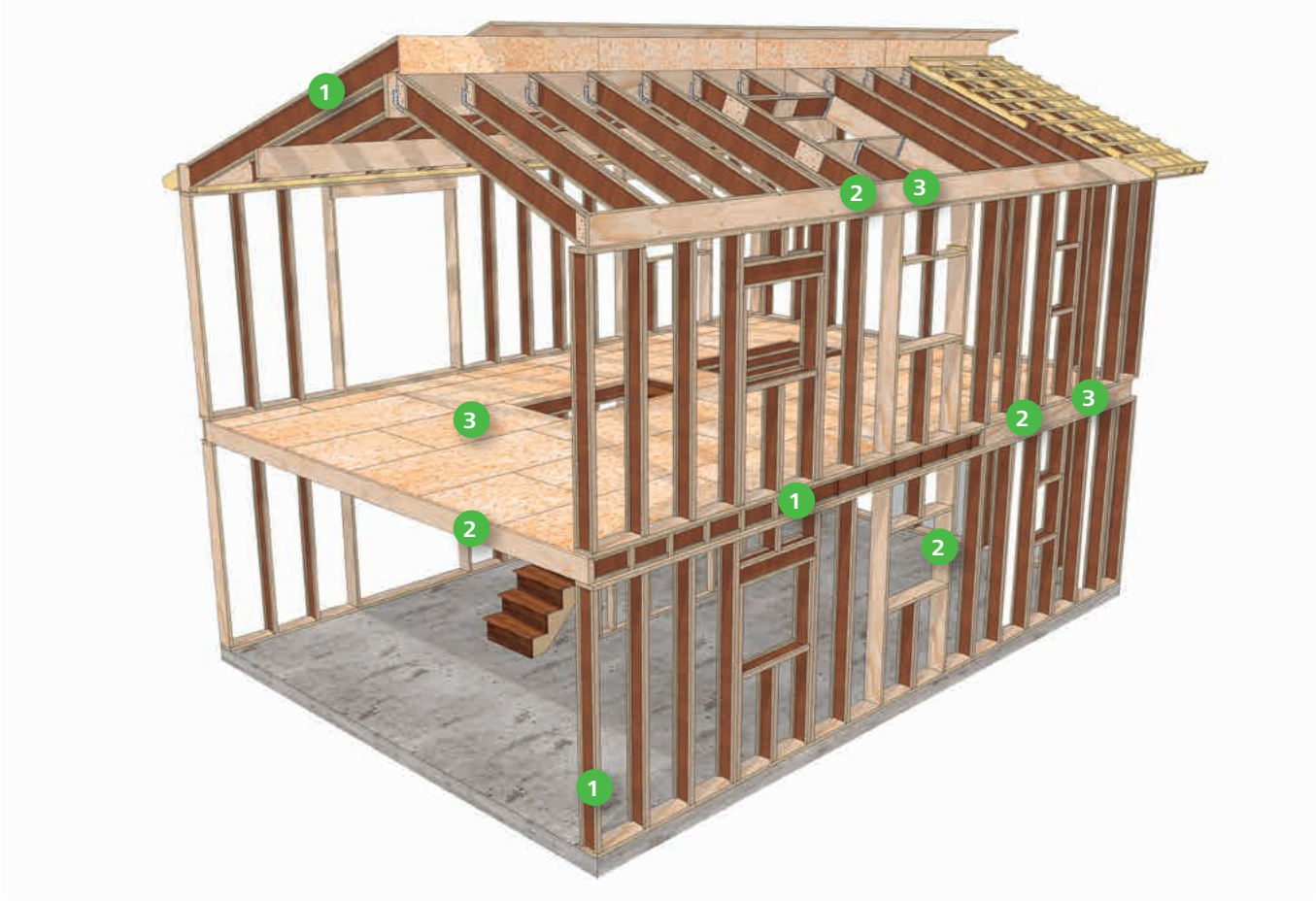
The STEICO Building System is certified by the Passive House Institute.

STEICO*joists* are especially lightweight, energy efficient elements that uses a slender web material from natural fibreboard to connect the two flanges. The flanges are made of laminated veneer lumber STEICO *LVL R*. This guarantees consistently high quality and defined strengths.

STEICO *LVL* consists of several layers of bonded softwood veneers. This structure gives STEICO *LVL* its high strength. Laminated veneer lumber is one of the most resilient timber construction materials available.

STEICO Product overview

INDIVIDUAL COMPONENTS



STEICO I-joist

STEICO Laminated Veneer Lumber





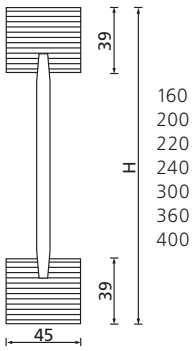
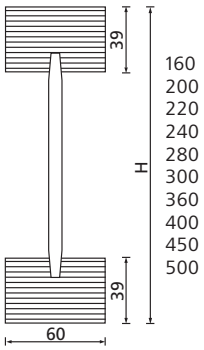
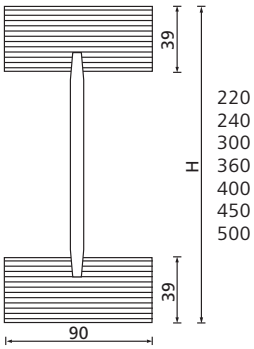


STEICO*joist*	**STEICO** *LVL R*	**STEICO** *LVL X*
I-joist to European Technical Approval ETA-20/0995	CE certified and manufactured to EN 14374	CE certified and manufactured to EN 14374
For use as floor joists, rafters or wall studs	Laminated Veneer Lumber for joists, beams, studs, purlins, rimboard	Laminated Veneer Lumber for structural panels, rimboard, headers and sole plates
CE	CE	CE

Product overview individual components: STEICO I-joists

STEICO *joist*

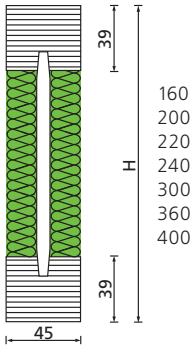
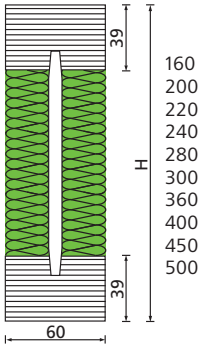
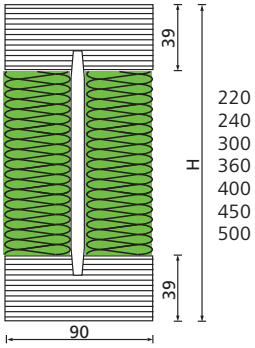
I-Joist Building System for roofs, floors and walls

STEICO*joist* $SJ_{LVL,HB}$ 45	STEICO*joist* $SJ_{LVL,HB}$ 60	STEICO*joist* $SJ_{LVL,HB}$ 90
		
Package = 43 pieces/package	Package = 33 pieces/package	Package = 23 pieces/package

STEICO*joist* is available for multiple applications in heights ranging from 160 mm to 500 mm



Pre-Insulated joist – All I-Joists are available with a pre insulated web

		
Package = 26 pieces/package	Package = 19 pieces/package	Package = 13 pieces/package

The factory applied web insulation ensures a uniform rectangular cross section. This allows efficient insulation with the flexible insulation batt STEICO*flex*.



Example $SJ_{LVL,HB}$ 45: S = STEICO, J = joist, LVL = Laminated Veneer Lumber flange, HB = Hardboard web, 45 = width of the flange in mm

Product overview STEICO LVL

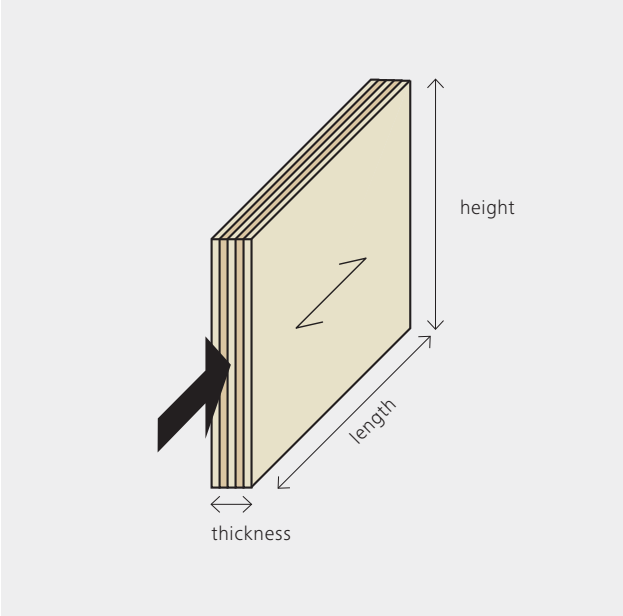
STEICO *LVL* Laminated Veneer Lumber

STEICO *LVL* is made of multiple 3 mm layers of graded laminated veneers. This disperses knots and irregular growth, producing a practically homogenous cross-section. This construction means that STEICO *LVL* is highly rigid and dimensionally stable.

STEICO *LVL R*

Laminated veneer lumber

Powerful engineered timber product for rectangular cross-sections. With STEICO *LVL R* elements all veneer layers are glued together longitudinally.



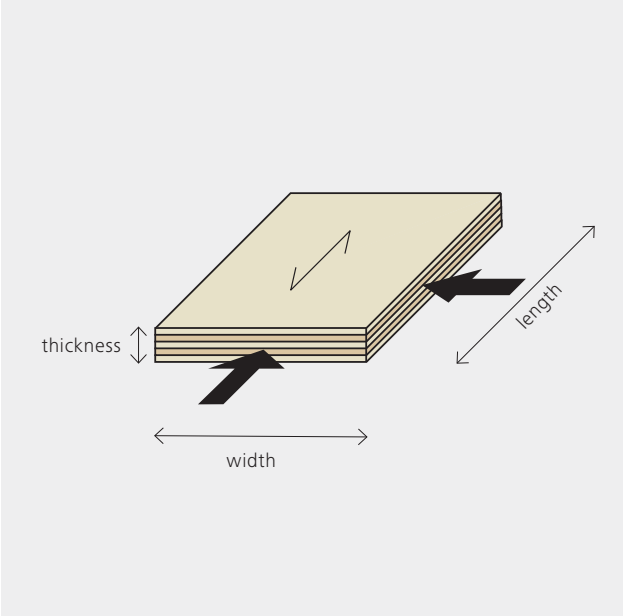


STEICO *LVL R* used for the construction of high load bearing floor structures

STEICO *LVL X*

Laminated veneer lumber with cross-layers

Cross laminated STEICO *LVL X* means that ca. one-fifth of the veneers are glued crosswise – improving the lateral bending strength and stiffness of the joist.





STEICO *LVL X* as a stiffening decking element for pre-assembled floor cassettes

Note: The available standard cross-sections of STEICO *LVL* laminated veneer lumber can be found in the current product list.

Advantages of the STEICO Building System

Reduced thermal bridging	Improved base U-values and reduced low surface temperatures
High load bearing capacity with low self-weight	Significant weight reduction compared to conventional solutions
Pre-Insulated option	Factory insulated joists ensure uniform rectangular cross-section
Easy installation of services	Services can be run through holes in I-joist web
Defined moisture content close to the material norm (8 - 12 %)	Reduces swelling and shrinkage dimensions
Usage of dimensionally stable materials	Dry products and minimal dimensional changes under moisture variations compared to solid timber
Cuts	Cuts available on request
Resource saving by using timber as a raw material	Timber is only used where it is required.
Usage of homogenous materials	Defeined material stability and hence material reduction
Compatible components	Compatible material thickness with STEICO*flex* or STEICO*zell* STEICO *LVL* sizes in line with STEICO*joist*
Usage of renewable materials	STEICO products with PEFC certification ensure responsible forest stewardship.
Fire protection	Certified construction solutions available
Certified quality	Both the STEICO*joist* and STEICO *LVL* are CE certified. Production is supervised by independent 3rd parties.
Design software	STEICO offers single member and full design software packages for STEICO*joist* and STEICO *LVL*. Please contact us.
Passive House certification	The STEICO Building System with STEICO*joist* and STEICO *LVL* are certified as Passive House components by the Passive House Institute.


Reduce thermal bridges


Light and easy to handle, perfect for use in conversion projects and sites with limited access


Usual rectangular section with web insulation


Easier Installation of building technology


Precise manufacturing tolerances


Can be processed using standard wood processing machines


Environmentally friendly and recyclable


Great bearing strength, large spans and stiffness enabling long spans


Available in standard joist dimensions and custom depths

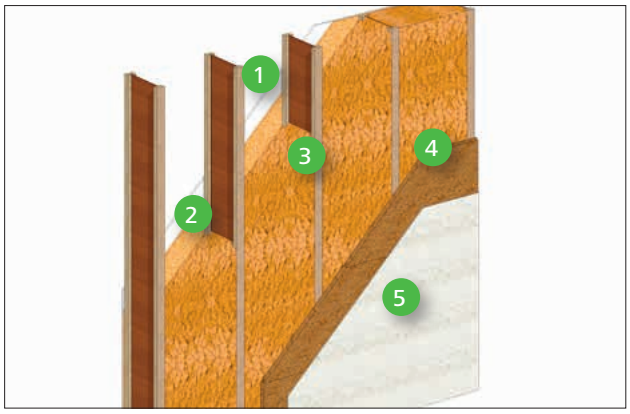
Production is monitored internally and externall in order to ensure consistent product quality.
The STEICO I-joists are approved under ETA-20/0995.

PEFC
PEFC/04-31-2550
Förderung nachhaltiger Waldbewirtschaftung
www.pefc.org

ZERTIFIZIERTE KOMPONENTE
Passivhaus Institut

Optimised building fabric

External wall construction



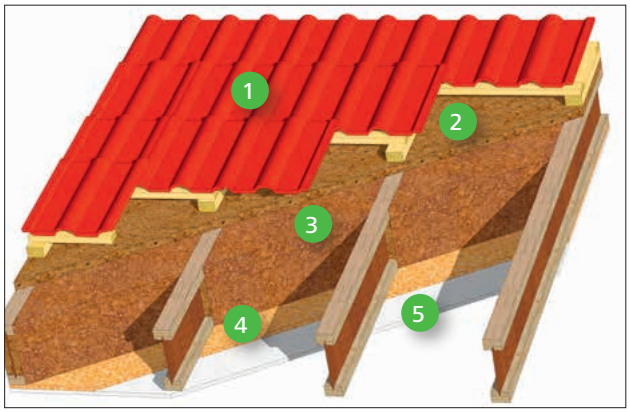
Build-up from inside to outside

1 Plasterboard
2 Structural timber board
3 STEICO*joist* with STEICO*zell* air-injected wood fibre insulation
4 STEICO*protect H* external render board
5 Render system

Advantages of the system

- Only 5 elements to make an ecological vapour open system
- Robust external wood fibre insulation system
- Vapour open – no additional vcl required
- High specific heat capacity of the external wood fibre board – warm wall surface hence less risk of algae or mold
- Produced from renewable material
- Dimensional stability
- U values can be adjusted by varying the joist depth with minimal effect on cost.
- Defined material moisture content
- Fire certification available

Roof construction



Build up from outside to inside

1 Counter batten, tile batten, roof covering
2 STEICO*universal* sarking board
3 STEICO*joist* with STEICO*zell* air-injected wood fibre insulation
4 Structural timber board
5 Plasterboard

Advantages of the system

- Secure STEICO*universal* sarking board
- Vapour open – no additional vcl required
- Excellent summer heat protection due to high specific heat capacity
- Often no purlins require and therefore increased internal room
- Produced from renewable materials
- Fire certification available
- U values can be adjusted by varying the joist depth with minimal effect on cost
- Dimensional stability
- Defined material moisture content

STEICO
SOCIETAS EUROPAEA

Responsible for content

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The contents of this document have been prepared in consideration of European product standards and provide a general overview of component structures, construction methods, and installation. National applicable regulations have not been considered. Before using our products, please verify that the applicable national regulations for the specific area of use are followed.

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The currently valid version can be found at:
steico.com/ps_building-system_eur_en