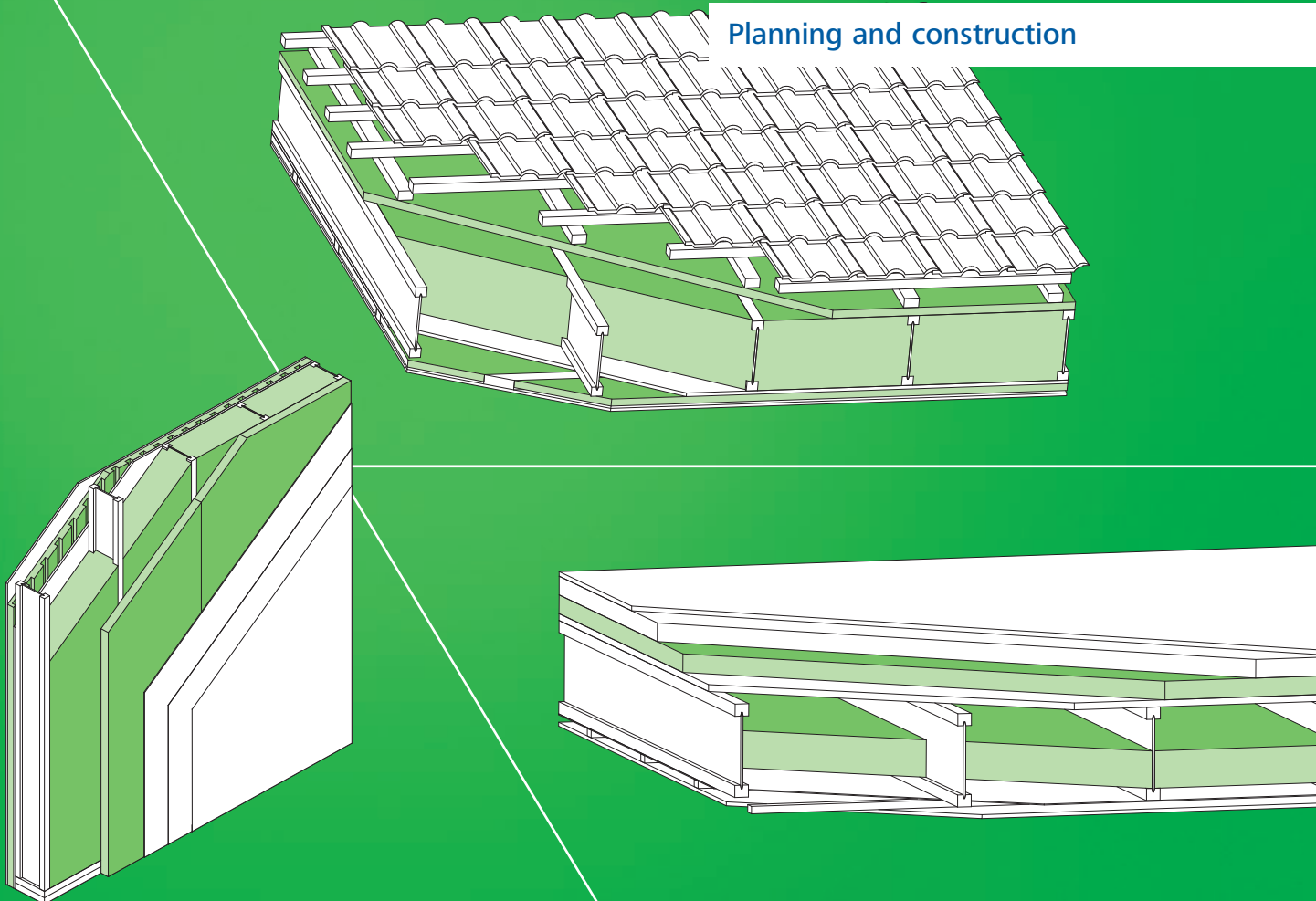


Planning document for new builds

STEICO construction system

Construction elements -
made naturally out of wood

Planning and construction



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STEICO
engineered by nature

To build with wood is to
build with nature.



Benefits for enhanced living comfort and climate protection



Made from natural wood

STEICO products are made from virgin, Polish softwood – featuring all the best natural properties.



Protects against cold weather

Timber houses built with the STEICO construction system are exceptionally energy-efficient and economical to run.



Protects against hot weather

The STEICO construction system locks out the summer heat, helping you to stay cool on hot days. STEICO wood fibre insulating materials have high heat storage capacity and so provide the best protection against summer heat.



Active climate protection

1 kg of wood contains 1.2 kg of CO₂. This CO₂ is permanently removed from the atmosphere.



Natural healthy living

STEICO wood fibre insulation helps to regulate room humidity. STEICO insulations contain no potentially harmful additives and hence are ideal for people who suffer from sensitivities or allergies.



Soundproofing

Whether in the roof, wall or ceiling, the soundproofing properties of STEICO insulating materials ensure peace and quiet within your own four walls. The natural STEICO products are also ideal as impact sound insulation in floor structures.



Protection against moisture

STEICO constructions feature integrated moisture protection, preventing rain from getting in even if the roof tiles are damaged.



Vapour-permeable

STEICO constructions are permeable to water vapour, which means that they protect against the build-up of moisture and help to maintain the integrity of the building structure and assist with good internal air quality.



Fire protection

Everyone knows that timber burns but it's understanding how it burns that ensures STEICO constructions offer total safety. Even approved fire protection constructions can be built with the STEICO construction system.

Our experience is your safety.

We understand the importance of safety

The decision to build a house is a decision for life – and with STEICO products, you can be confident you've made the right decision. All STEICO products are independently tested and approved by building inspection authorities. This ensures you'll get decades of joy out of your new home.



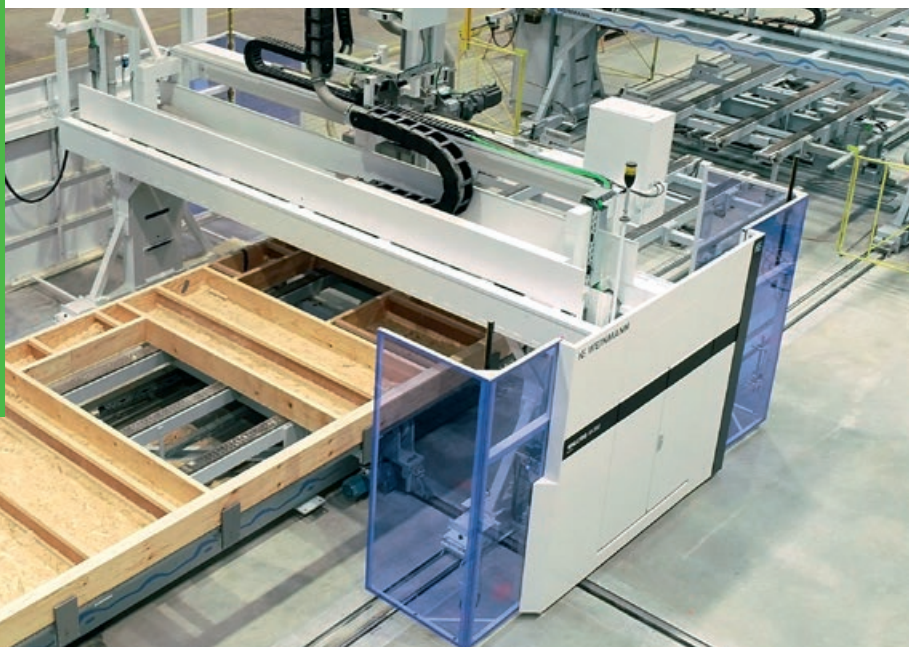
STEICO is the global market leader in the production of wood-fibre insulating materials and one of the leading manufacturers of innovative engineered timber structures. Our products have proven their worth over many decades in hundreds of thousands of buildings all over Europe.

Visit www.steico.com for all the information you need on the innovative STEICO construction system.



**Ecological
market
leader:**

STEICO has invested more than €200 million in its production facilities over the past six years.



Innovative building with STEICO...

...the global market leader in ecological insulating materials

The STEICO company history

STEICO's roots as a manufacturer of ecological building products reach back to the 1960s – and the company has enjoyed unparalleled success ever since.

Today, STEICO operates three state-of-the-art production sites and employs more than 1600 people. With an annual turnover in excess of €280 m, the STEICO Group is the largest manufacturer of ecological insulating materials and one of the leading producers of innovative engineered timber structures.

We use timber to create unique, high-quality building products and systems



The mark of responsible forestry



Wood is a very special material. It's sustainable, stable, energy-efficient and durable. And as a renewable resource, it is also available in

near-endless quantities. The wood used for all STEICO products is sourced from local forestry in accordance with the strict requirements of the FSC® and PEFC®. This ensures the long term sustainability of this huge natural resource for all future generations to enjoy.

STEICO uses wood as a raw material for creating unique, high-quality building and insulating materials. The STEICO construction system comprises almost every product required for constructing the building fabric. This provides building owners and fabricators with maximum safety and

results in buildings that meet the most stringent of demands.

Houses built with the STEICO construction system are exceptionally energy-efficient, healthy to live in and durable. Thanks to state-of-the-art industrial production, buildings constructed using the STEICO elements construction system are highly economical and offer a fast on site build solution.



**Building for
generations.
That's STEICO's
motto.**

Innovative building with STEICO

The STEICO timber construction system

The STEICO construction system combines innovative engineered timber structures with ecological insulating materials. Even in the early prefabrication phase, you'll be amazed by its load-bearing capacity, energy-efficiency and cost-effectiveness. As a result, the constructions of tomorrow are already available today.



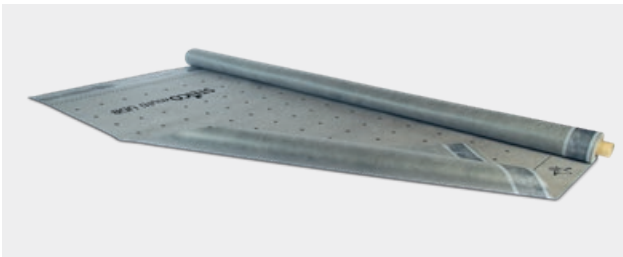
I-joists

I-joists are exceptionally lightweight and energy-efficient components – ideal for low-energy and passive housing.



Render carrying boards

The stable and vapour-permeable render carrying boards are available from either wet or dry production processes and can be used for ETICS and rear-ventilated façades.



Sealing systems

Whether it is vapour barriers or airtight membranes, sealants, adhesives or accessories, STEICO offers everything you need for a totally water tight building shell.



Service cavity

STEICO*install* is an innovative solution for service cavities. An additional batten is not needed, as pre-cut installation channels allow cables to be laid with ease.



Laminated veneer lumber (LVL)

Laminated veneer lumber (LVL) – available as strips, beams or sheets – is an extremely high strength and robust timber product designed to meet the most exacting demands in timber construction.



Flexible and rigid wood-fibre insulating materials

Ecological, economical and efficient: in addition to sarking boards, wallboards and flexible wood-fibre batts, STEICO also offers highly ecological wood based, infill insulation for timber frame elements.

The benefits of the individual STEICO components



I-joists

- U-values of the basic construction improved by up to 15% – no thermal bridges
- Up to two thirds lighter than solid wood
- Dimensional changes in response to varying moisture content reduced by up to 90 % compared with solid wood
- Resource-conserving use of wood as a raw material
- Harmonised system components – exceptionally economical panel insulation with STEICOzell



Laminated veneer lumber

- Smaller cross-sections thanks to improved strength properties
- Up to 67% less material compared with solid softwood
- Extremely robust with high dimensional stability
- STEICO *LVL X* for areas with increased moisture demands
- Also available as bonded components (STEICO *GLVL*)
- STEICO *LVL* available to match the I-joist dimensions



Render carrying boards

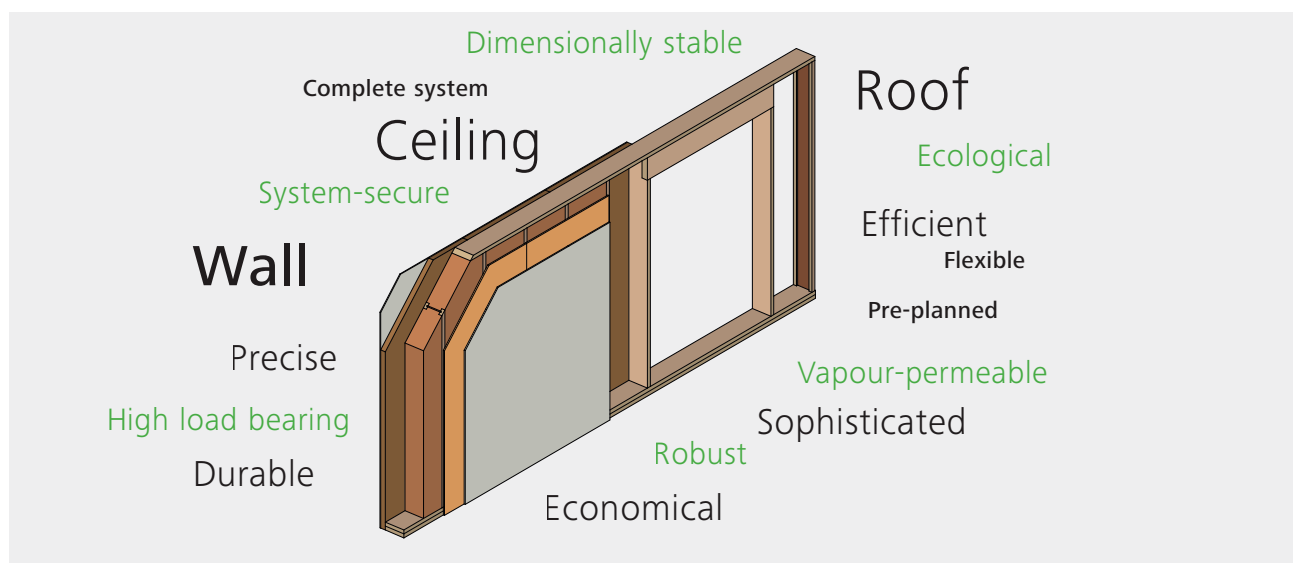
- Stable and robust, excellent protection against damage
- Exceptionally vapour-permeable for maximum construction safety
- Available from either wet or dry production processes
- Large format boards available to suit pre-fabrication requirements. Standard boards have a robust T&G profile
- Effective minimisation of thermal bridges
- Wide range of approved render systems



Ecological insulating materials

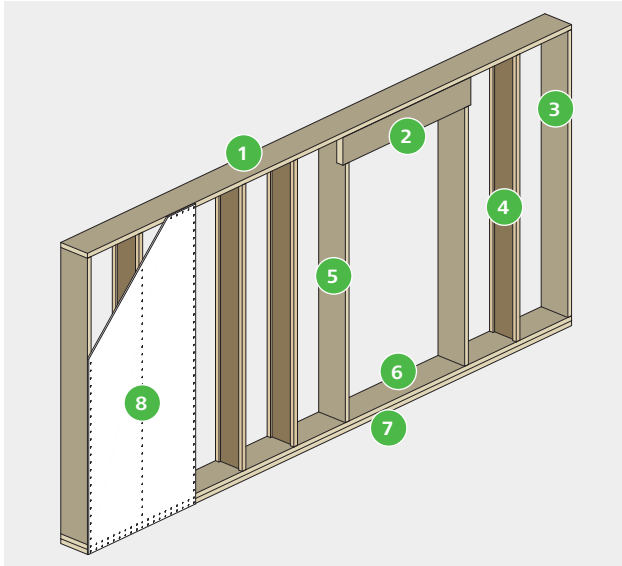
- Ecological insulating materials with maximum energy-efficiency
- Sarking boards, wall-boards, flexible wood fibre insulation batts or infill insulation for timber frame
- Optimum heat protection in summer, excellent protection against the cold in winter
- Easy to handle and classes as non irritant to skin
- Exceptionally vapour-permeable for maximum construction safety
- Improved soundproofing

The STEICO construction system is more than the sum of its individual components. It is the perfect solution for timber frame construction of the future.



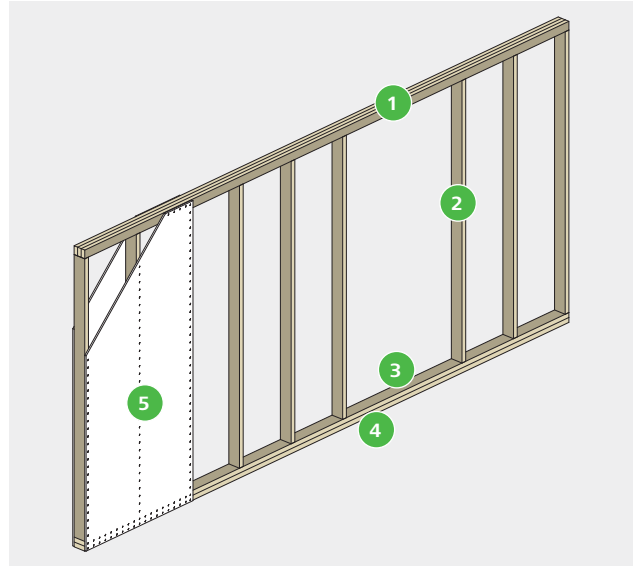
The load-bearing components of the elements at a glance

External wall elements



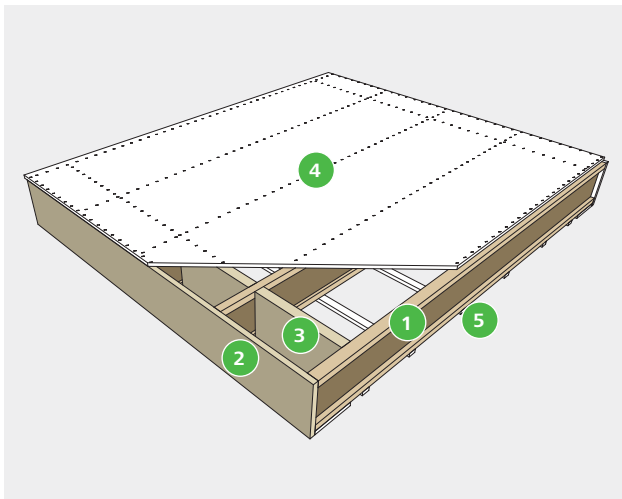
- 1 STEICO wall plate *LVL R* t = 45 mm
- 2 STEICO top lintel *LVL R*
- 3 STEICO structural stud, wall end *LVL R*
- 4 STEICO *wall* upright wall support $e \leq 625$ mm
- 5 STEICO structural support, openings *LVL R*
- 6 STEICO element joist *LVL R* t = 45 mm
- 7 STEICO sole plate *LVL R* t = 45 mm
- 8 Panelling OSB/3 t = 15 mm; alternatively gypsum fibre t = 12.5 mm

Internal wall elements



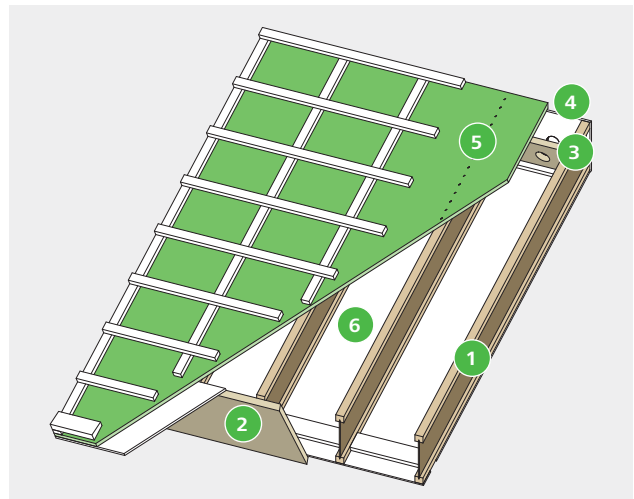
- 1 STEICO wall plate *GLVL R* h = 80 mm
- 2 STEICO wall support *LVL R* t = 45 mm, $e \leq 625$ mm
- 3 STEICO element joist *LVL R* t = 45 mm
- 4 STEICO sole plate *LVL R* t = 45 mm
- 5 Panelling OSB/3 t = 15 mm; alternatively gypsum fibre t = 12.5 mm

Floor elements



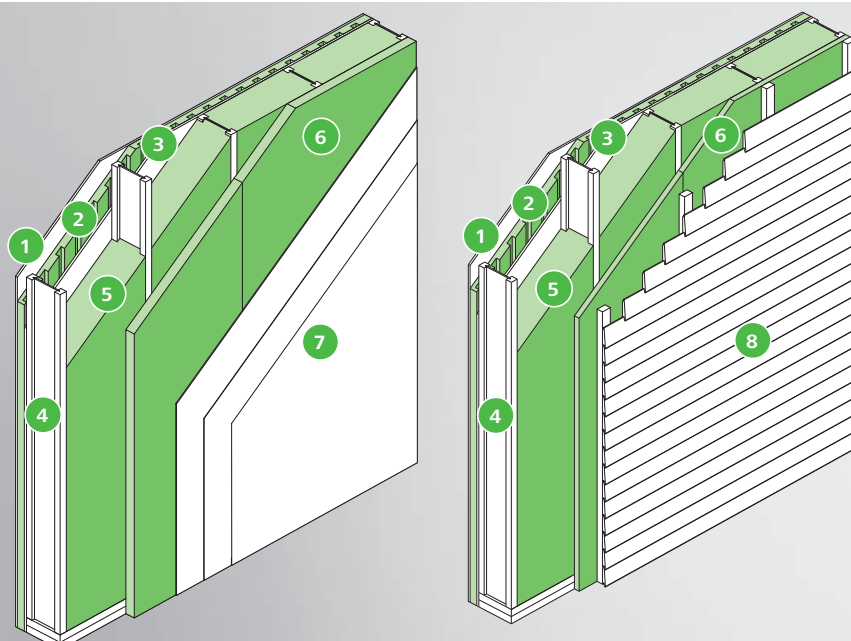
- 1 STEICO *joist* floor joist $e \leq 625$ mm
- 2 STEICO rim board *LVL X* t = 30 mm
- 3 STEICO blocking *LVL R* t = 57 mm
- 4 Top panelling OSB/3 t = 22 mm
- 5 Battens t = 24 mm

Pitched roof elements



- 1 STEICO *joist* rafter $e \leq 850$ mm
- 2 STEICO fascia board *LVL R* t = 45 mm
- 3 STEICO blocking *LVL R* t = 45 mm
- 4 Element closure OSB/3 t = 15 mm
- 5 STEICO *universal* sarking board t = 35 mm
- 6 Bottom panelling OSB/3 t = 15 mm

Note: only the structurally relevant panellings and system products are shown.



Construction components

- 1 Gypsum plasterboard
- 2 STEICO*install*
- 3 OSB board
- 4 STEICO*wall*
- 5 STEICO*zell*
- 6 STEICO*protect H dry*
- 7 STEICO*secure* render system
- 8 Rear-ventilated façade

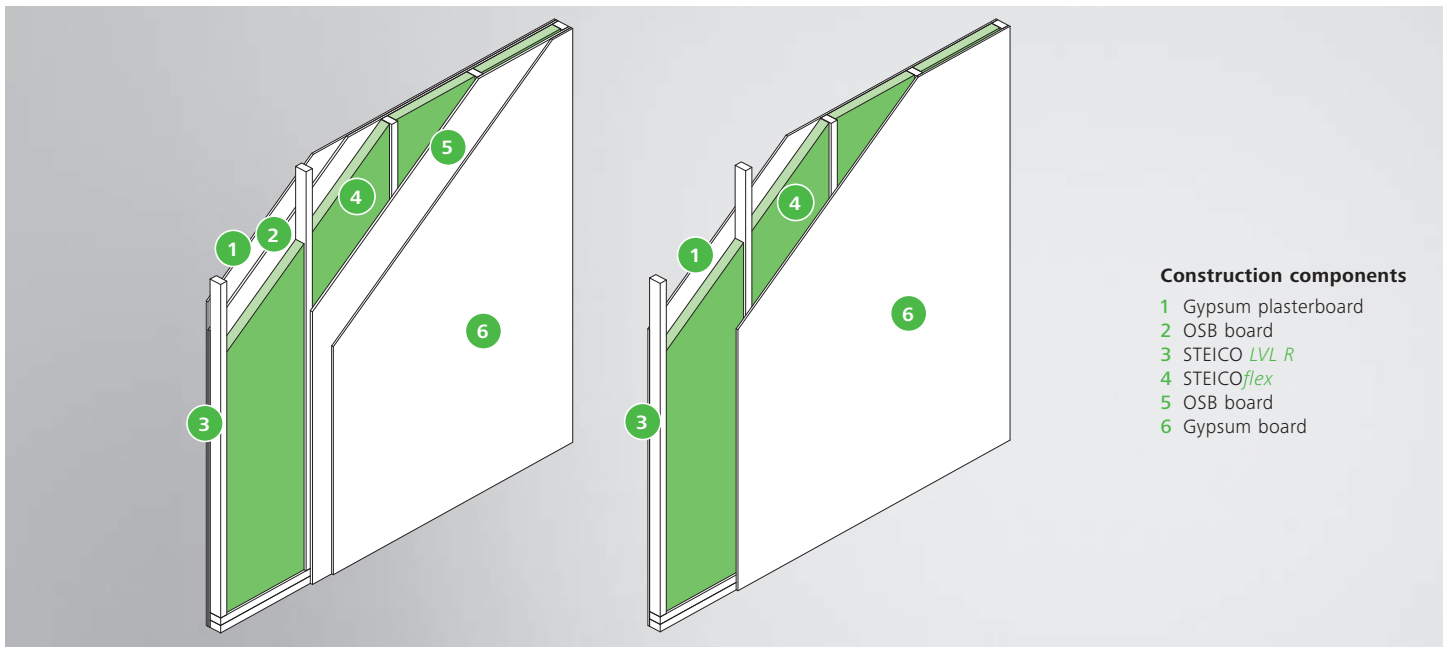
External wall

STEICO external wall

The STEICO external wall elements combine flexibility, safety and energy-efficiency. From planning through to building construction, they have been specially optimised for shorter construction times.

Benefits

- Maximum safety: perfectly matched products and pre-planned details from a single source
- Flexibility: the basic construction offers maximum design freedom without the need for special solutions
- Robust: the reinforcement layer (OSB panelling) also acts as an airtight layer and vapour barrier
- STEICO*protect H dry*: ETICS façade or rear-ventilated variants available
- High heat-storage capacity – so surfaces stay warm for longer and the risk of algae growth is low with ETICS
- Vapour-permeable – for safety in the construction
- Construction depths of 200 to 400 mm = variable U-value can be achieved by altering the joist depth, with no change to the layer properties
- I-joists as wall supports: reduced thermal bridges and improved energy-efficiency combined with excellent dimensional stability and reduced shrinkage and swelling
- STEICO *LVL R* supports at the edges of the wall and at openings: maximum load-bearing capacity, no change of materials, the familiar rectangular cross-section – for securely attaching windows and screwing down elements
- STEICO *LVL R* joists with an exceptionally high crushing strength with reduced risk of settlement



Construction components

- 1 Gypsum plasterboard
- 2 OSB board
- 3 STEICO *LVL R*
- 4 STEICO*flex*
- 5 OSB board
- 6 Gypsum board

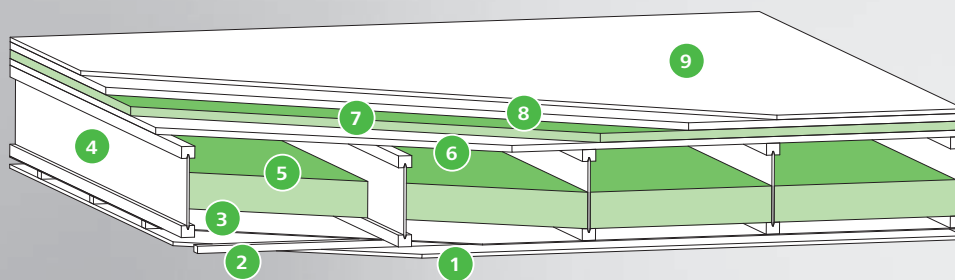
Internal wall

STEICO internal wall

The STEICO internal wall elements combine maximum load-bearing capacity with thin cross-sections, helping to increase the amount of living space and enhancing the value of the property. Together with the STEICO external wall elements, these form the harmonised STEICO wall system.

Benefits

- Maximum load-bearing capacity thanks to the use of STEICO *LVL R* laminated veneer lumber for joists, plates and wall studs
- One solution for both load-bearing and non-load-bearing internal walls
- Can also be used as an internal buttressing wall
- Elements are suitable for easy on-site connection
- Reduced wall depths, increasing the amount of living space and enhancing the value of the property
- Exceptionally strong material for anchoring attachments (shelves, etc.) – no additional reinforcement is usually required in the substructure
- Slimline soundproofing constructions possible
- Elements that stay straight over the long term
- Available as an open variant (easy routing of the installations on the construction site) or a variant closed on both sides (involves more prefabrication work)



Construction components

- 1 Gypsum plasterboard
- 2 Open form
- 3 Trickle protection film
- 4 STEICOjoist
- 5 STEICOflex
- 6 OSB board
- 7 STEICOtherm SD
- 8 Dry screed
- 9 Lining

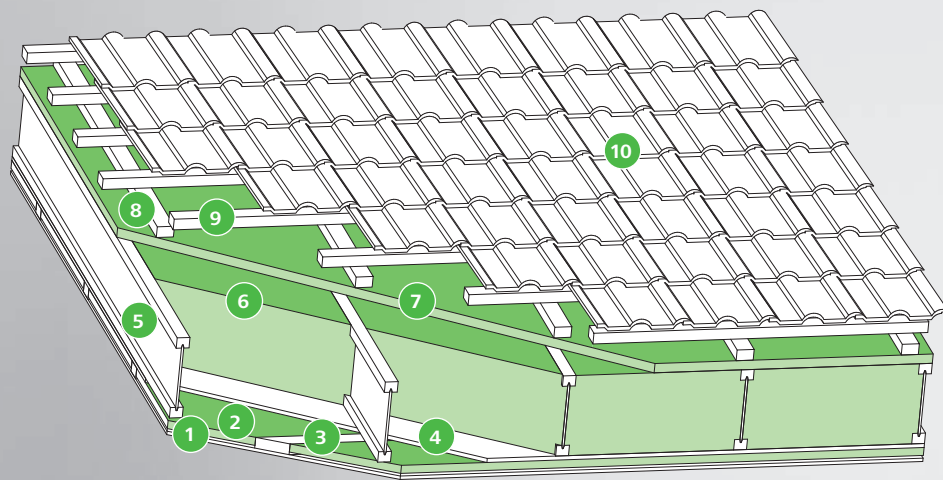
Floor

STEICO floor

The STEICO floor elements combine flexibility with safety and allow for open floor plans thanks to large span capacities. The STEICO floor element allows fast assembly and customised constructions on the top and bottom.

Benefits

- One base element for intermediate floors and attic floors
- Open floor plans thanks to large span capacities
- Integrated STEICO LVL X rim board prevents settling in the floor joints and transfers the vertical and horizontal forces into the walls below
- Can be used as a buttressing floor element
- Harmonised with the STEICO external and internal wall elements
- Quick and easy assembly of the elements on site, which helps to save time
- Openings for e.g. stairs and chimneys can be taken into account when the elements are configured
- Flexible base elements enable a wide range of structural designs, whether simple or with increased soundproofing – everything can be customised
- Predefined connection details save time and ensure safety thanks to tried-and-tested system solutions



- Construction components**
- 1 Gypsum plasterboard
 - 2 STEICO^{flex} (installation level)
 - 3 Timber battens
 - 4 OSB board
 - 5 STEICO^{joist}
 - 6 STEICO^{zell}
 - 7 STEICO^{universal}
 - 8 Counter-batten
 - 9 Tile batten
 - 10 Roof cladding

Pitched roof

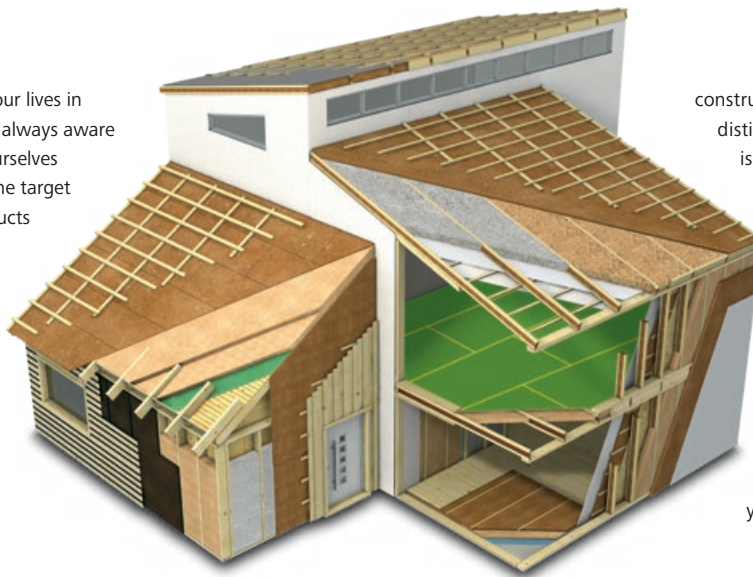
STEICO pitched roof

The vapour-permeable STEICO pitched roof elements are designed for efficient and uncomplicated assembly and so help to provide quick protection for the building shell against adverse weather conditions. The I-joists, which serve as rafters in the element, enable large span widths to be achieved and reduce thermal bridges; this ensures robust constructions with U-values designed to meet future requirements.

Benefits

- Quick and easy assembly of the elements on site, which helps to save time
- Maximum safety: perfectly matched products and pre-planned details from a single source
- Robust: the reinforcement layer (OSB panelling) also acts as an airtight layer and vapour barrier
- Vapour-permeable – for safety in the construction
- Construction heights of 240 to 400 mm = variable U-value can be achieved by altering the joist height, with no change to the basic construction
- I-joists as rafters: reduced thermal bridges and improved energy-efficiency combined with excellent dimensional stability and reduced shrinkage and swelling
- Harmonised with the STEICO external and internal wall elements
- Predefined connection details save time and ensure safety thanks to tried-and-tested system solutions
- Openings for e.g. skylights and chimneys can be taken into account when the elements are configured

We spend approx. 80 % of our lives in enclosed rooms. But are we always aware what we are surrounding ourselves with? STEICO has set itself the target of developing building products which consider the needs of both man and nature. Our products are therefore produced using sustainable natural materials. They help reduce energy use and add considerably to a natural healthy internal climate. Steico insulation and



construction materials, carry a number of distinguished 'seals of approval' which is a sign of high quality, healthy and functional building products.

The raw materials used in Steico products are certified by FSC® (Forest Stewardship Council®) and PEFC (Programme for the Endorsement of Forest Certification), ensuring a traceable and fully sustainable usage of the raw materials.

STEICO, the number 1 choice for your sustainable building solutions.

Natural insulation and construction systems for new builds and renovations – roof, ceiling, wall and floor



Renewable raw materials without harmful additives



Excellent cold protection in winter



Excellent summer heat protection



Energy saving and increased property worth



Weather tight and breathable



Excellent fire protection



Excellent sound protection



Environmentally friendly and recyclable



Light and easy to handle



High dimensional stability through controlled moisture content



High strength and stiffness provide long spans



Compatible insulation and structural building systems



ENGINEERED BY NATURE

Your STEICO Partner

www.steico.com