TIMBER FRAME

Prefabricated wooden frame houses are made of different timber frames. The components of the house undergo a prefabrication process in a production facility and are brought to the site for fast assembly.

Advantages of Prefabricated Wooden Frame Houses

Fast and Easy Construction

The elements produced in the factory are completed fast and in large quantities and this significantly shortens the time of site works. The elements are completed quickly and in a high degree of completion and this significantly shortens the time of site works. According to the customer's wishes and purpose, electricity, pipes, interior lining, windows and doors and exterior boards have already been attached to the elements of the wooden frame house being produced in the factory. It usually takes 3-5 days to assemble the house. Then you can be sure that the house is waterproof. The more time you save on construction, the lower the estimated construction costs will be.

Energy-Efficient

With correctly choosed materials prefab wooden frame houses have great insulation value and you can be sure that house will be perfect for any climate. Wooden frame houses trap heat, making it warmer inside for a longer period, so there is no need to use heaters on colder days. In warm or hot seasons, wooden houses keep the interior cool. Thus there is less need for air-conditioning. These qualities of wooden houses are very significant in reducing energy consumption.

Longer Lifespan and Unchanging Property Value

A house with a good wooden frame can be expected to last up to a century or even more. Since all of the elements are built in a dry, moisture-free, controlled environment and with right maintenance they are sure to last for many generations. This is also a factor in the unchanging property value of a wooden frame house, since it is able to be lived in for a long time.
Our main objective lies in offering high-quality, economical house packages with client-oriented service using only materials produced under known trademarks. Our company considers the speed and quality of the service we provide to be very important.

EstHus Technology vs Environmental Factors

EstHus's main goal in building prefabricated wooden structures is to create passive houses that guarantee security and ease of living for our customers. It is our responsibility to ensure that all of our houses and structures have the ability to endure environmental factors so that every structure we build lasts for as long as possible.

Therefore, with skilful planning and strict implementation, we carefully put together layers of materials that effectively ensure the qualities of a good wooden structure listed hereunder.

CONTACTS

1 Sustainable

Timber structures are renewable and have the ability to coexist with nature without posing any harmful threat to the environment. Since timber frames are easily replenished, nature is preserved and future generations are not compromised.

2 Quality

Timber frame elements are constructed in a quality-controlled factory (compliance with ISO, ETA, PEFC and FSC® standards). Materials used are measured with moisture, strength class. All details are cut out with machine which gives +/- 1mm accuracy.

3 Promoting Healthy Living

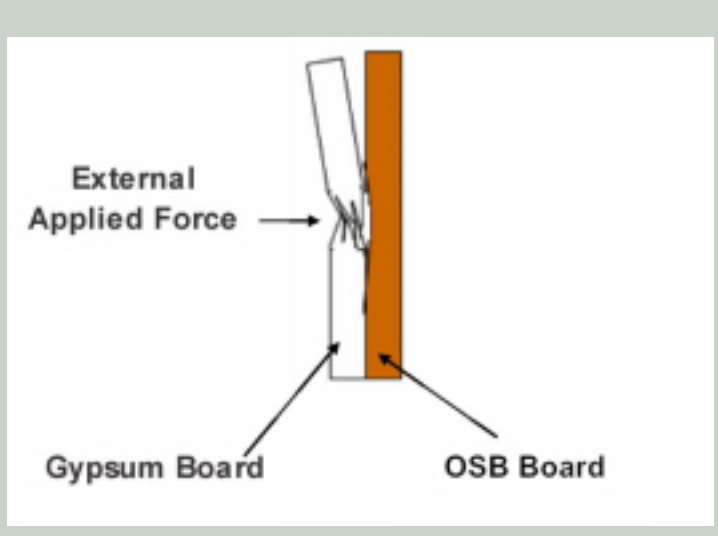
It has been proven that people who live in wooden houses are more healthy than those who live in concrete homes. Timber homes have the ability to regulate air and filter it, allowing fresh breathable air and a controlled temperature inside. We always recommend to use natural wood-based insulation materials.

4 Fire Protection

We strictly follow legislation to achieve fire resistance. We make sure all materials are well selected to achieve the best fire rating.

How EstHus's Passive Homes Work

Passive houses are considered the houses of the future. They promote energy efficiency and reduce impact on the environment. They have the ability to support themselves naturally so that they only require low energy consumption. This is one of the best ways of saving Mother Nature. A passive house can be equivalent to the numbers of earth hours that the world observes. If one passive house can make a significant change in the improvement of the ecosystem, how much more if most people entertain the option of having passive houses (such as prefabricated wooden frame homes) for themselves?



This illustration shows the main function of chipboard in making every element strong when added as a membrane. It is systematically placed between gypsum board and mineral wool insulation to prevent further damage if an external force is applied to it. OSB Board absorbs force and can endure bumps.

Advanced Technology in Creating Prefabricated Timber Structures

Passive houses, also known as passive solar houses are a type of highly energy-efficient building design and construction that aims to minimize the need for external heating and cooling. The concept originated in Germany in the 1980s and has gained popularity worldwide as a sustainable and energy-efficient building standard. Passive houses work on the principles of maximizing insulation, airtightness, ventilation, and solar gain.

Below is an example of EstHus's technology in creating prefabricated wall elements for all our standard designs. All membranes or layers work together to form a strong and durable wall and the same is true of the roof, ceiling and floor.

With many years of experience in the production and installation of prefabricated wooden frame houses, EstHus's technology in this industry has developed high-quality prefabricated timber structures all over Scandinavia. Our exceptional service represents a high level of professionalism and expertise among our staff and trusted partners.

Wood tends to contract or expand when subjected to humidity and changing weather conditions. All used lumber and timber is kiln-dried and planed prior to assembly. This is important in guaranteeing that all of the wooden materials used in the fabrication of elements have less movement once exposed outside during installation.

Internal walls

Internal walls serve as divisions to form sections inside the house. The basic materials in the fabrication of internal walls depend on the purpose of the room they will create. Internal walls can be produced in different thicknesses. This depends on static calculations, project requirements and the customer's wishes.

Below are the types of internal walls that are common in use.

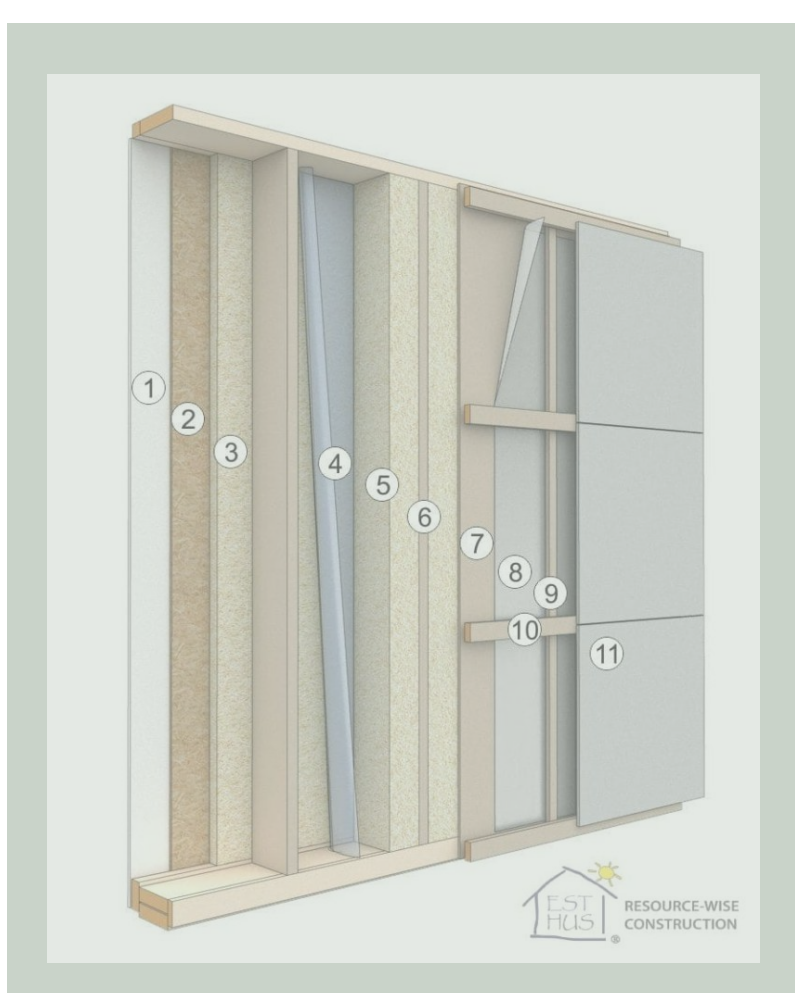
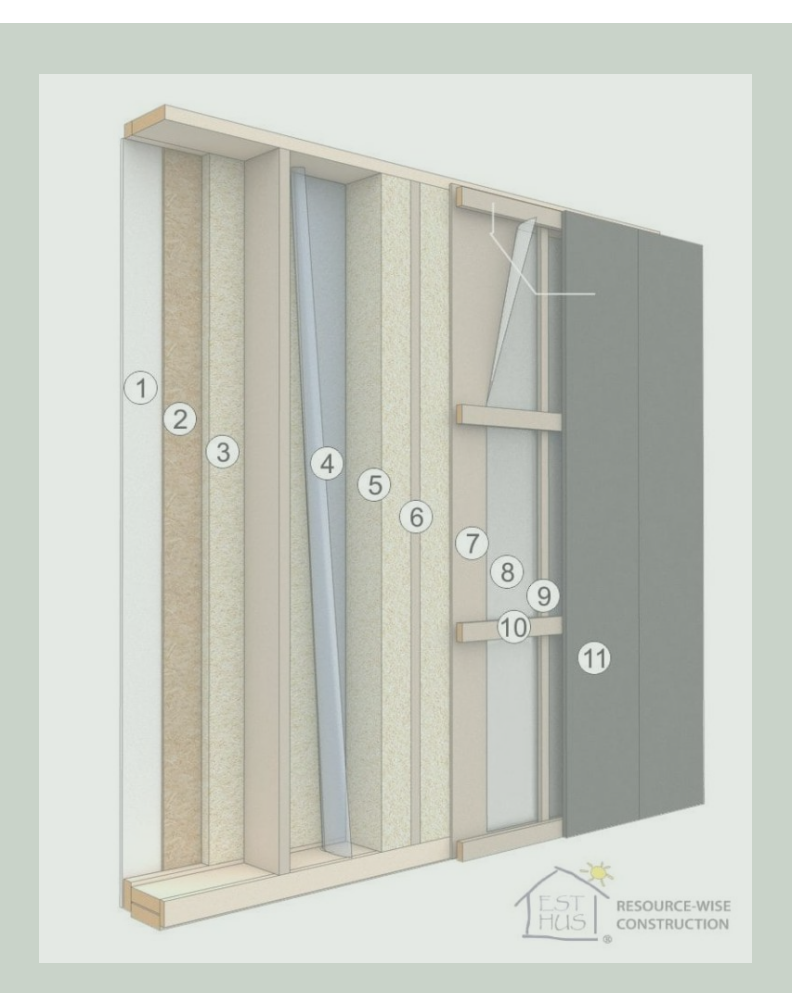



In all types of duplexes, terraced houses and apartment buildings, the walls between the homes and apartments can be anti-fire. We recommend using fermacell instead of cypsum, as it gives strength and rigidity to the building, as well as making the wall more soundproof.

External walls

EstHus delivers high-quality external wall systems and is constantly looking for ways to improve them further to achieve optimal functionality in terms of insulation, water-proofing, sound-proofing, durability and strength. Exterior walls must be tough and stable, since they provide protection to the house as a whole. All of the materials used in the manufacture of our external wall elements come from trusted partners and are guaranteed to be in high-quality condition prior to fabrication and during the production of elements, transport and on-site installation.

We highly recommend using natural wood-based insulation solutions. It is better for environment, for indoor climate and gives better heat protection.

Fermacell
Only natural materials are used exclusively for the production of Fermacelli gypsum fiber boards, which is one of the factors in ensuring a healthy room climate. The plate is resistant to mechanical shocks, fireproof (A2 EN 13501-1 st. from 30 min.), sound-insulating, moisture-proof, bearing circle and stiffness plate. They ensure the stability and safety of a high-quality wooden building.

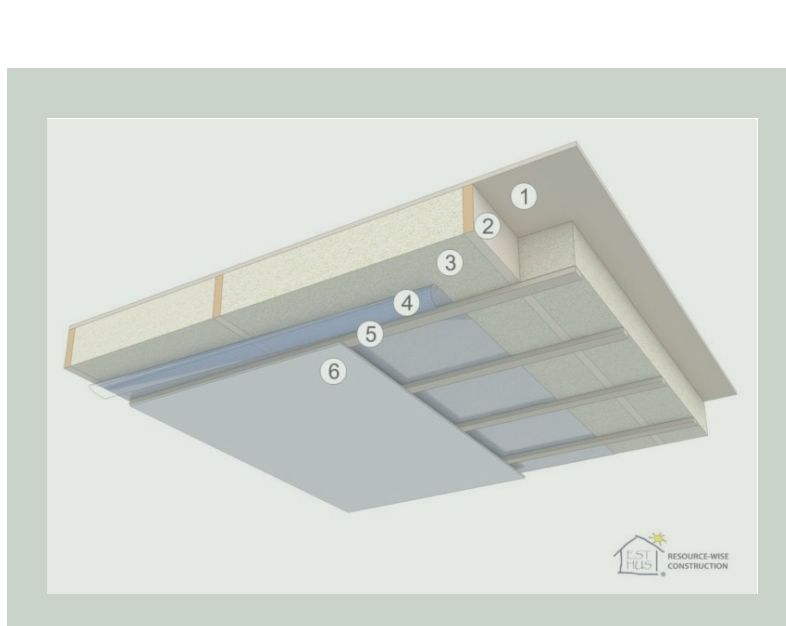
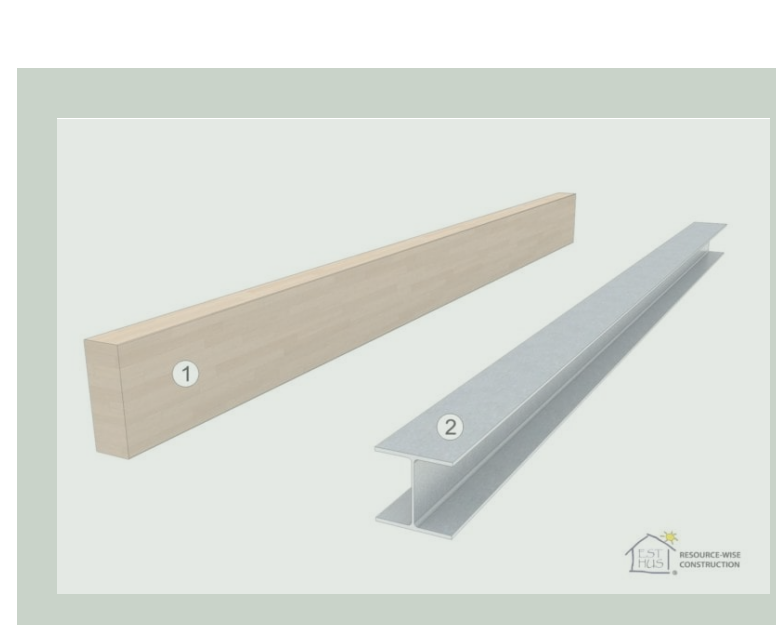
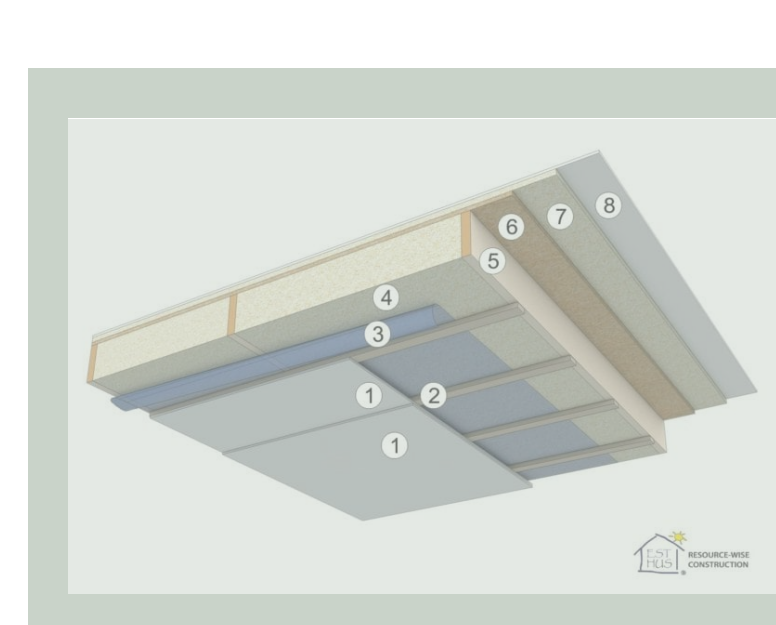
Pro Clima
This is a type of construction film that is used mainly to waterproof outer layers of roof, ceiling, floor and wall elements. It is one of the key components of the walls and ceilings in a prefabricated wooden house since it protects the rest of the materials from vapour, air and soil gases that may penetrate them. It is commonly applied after insulation materials are installed or between them. It will last as long as the other materials.

Wood-based insulation
Environmentally friendly wood fiber insulation provides protection against the cold, contributes to the moisture-technical performance of structures and increases the energy efficiency of buildings.
Wood fiber materials have the highest heat capacity of all insulation materials on sale. This makes them the best protection against the summer heat. Wood fiber insulation is rainproof but at the same time has good water vapor permeability. They have good fire test properties and excellent sound insulation.

Ceiling

Ceiling and floor elements play a major role in the construction of prefabricated wooden frame houses. It is important that ceilings are resistant to heat, since they are subject to frequent heat from long periods of sunlight during the day. Ceilings that act as floors at the same time need to be stable and tough and capable of holding heavy loads.

In ceilings, glue-laminated or metal beams can be used. The size and modifications of the beams are selected via static calculation.

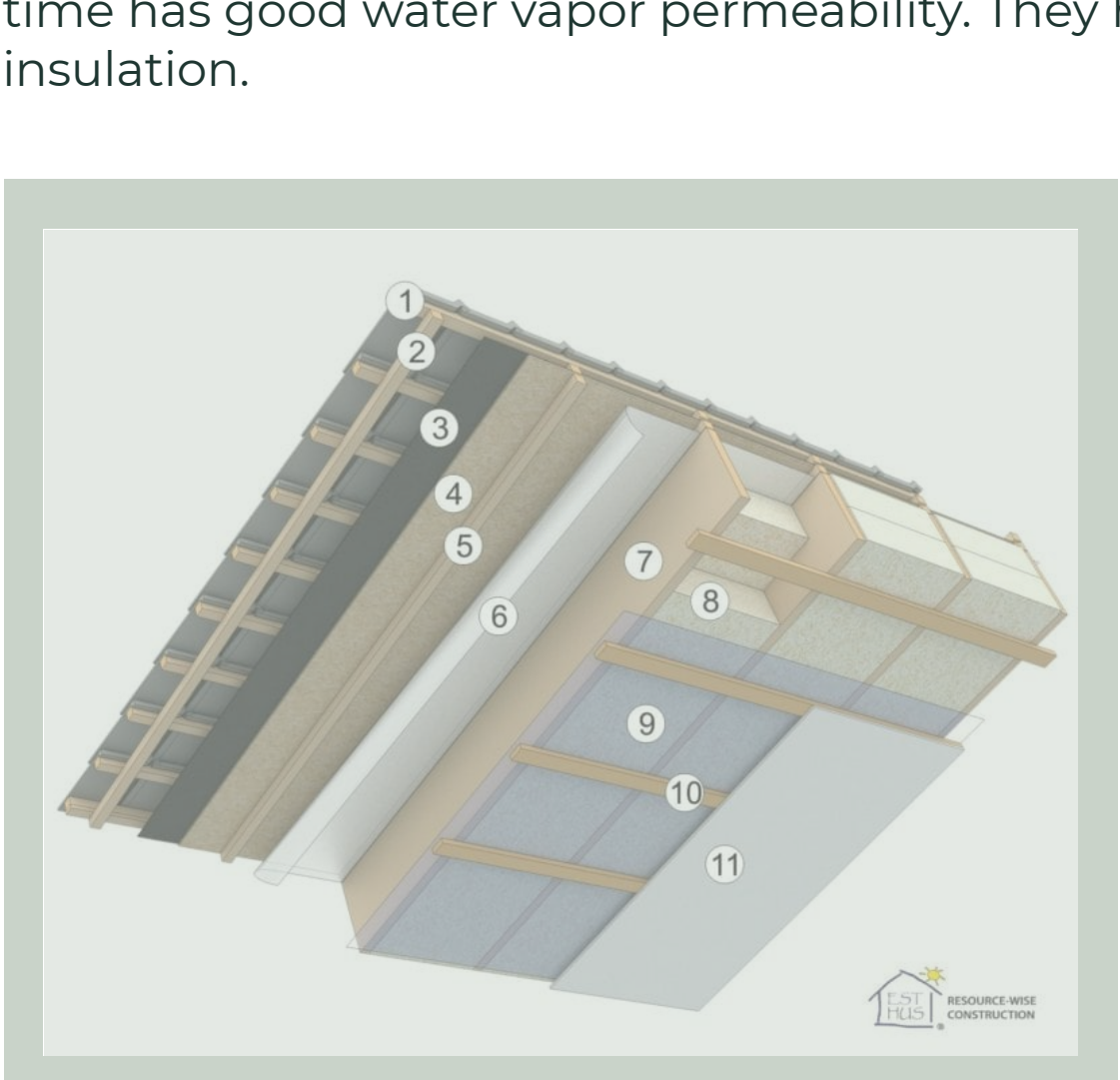




This illustration presents one of the many possible ceiling variants.

Roof construction in elements

EstHus produces roofs in elements. All of the high-quality materials we use in the production of roof systems are guaranteed to be effective and environmental friendly.

For roof insulation it is recommended to use wood-based insulation as it is rainproof but at the same time has good water vapor permeability. They have good fire test properties and excellent sound insulation.

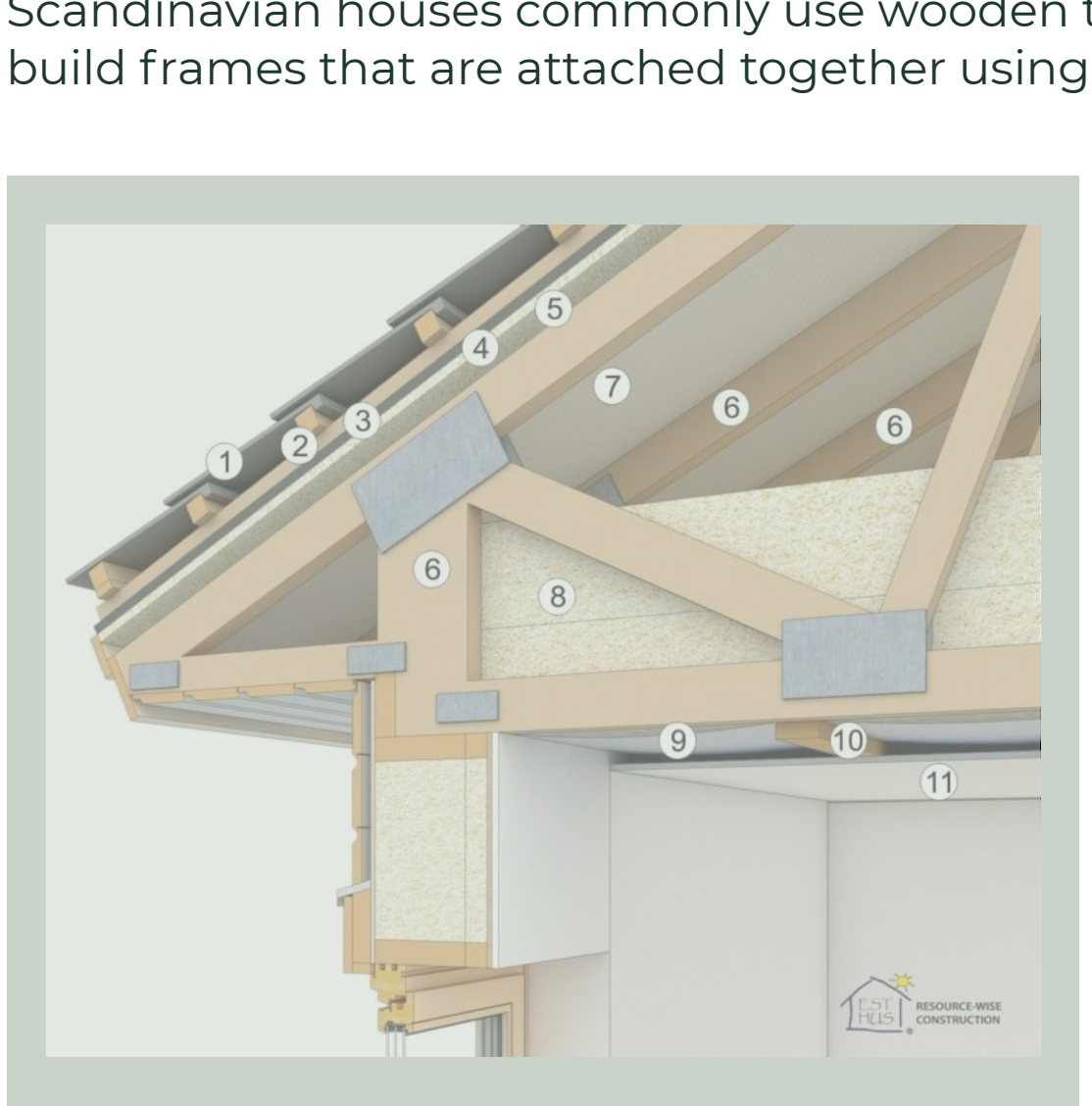
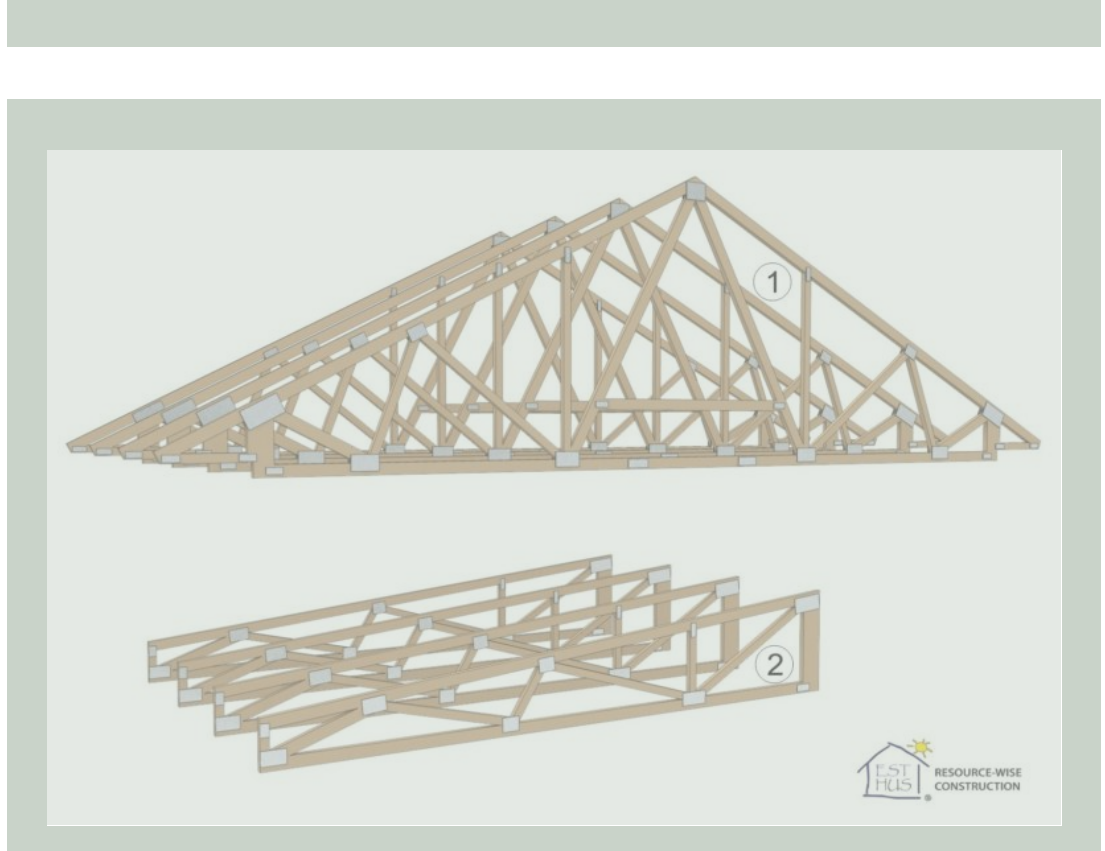


The materials are easy to handle and install. The solutions are simple and long-lasting.

Roof construction with roof trusses

EstHus can also deliver wooden roof trusses. We have long-term cooperation partners who produce trusses for our houses.

Scandinavian houses commonly use wooden trusses, which are a composite of lumbers engineered to build frames that are attached together using truss plates made of galvanized steel.

We use many sizes for wood trusses, which undergo a series of stress tests in our factory to ensure strength (especially when handling the weight of snow during the winter season).

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