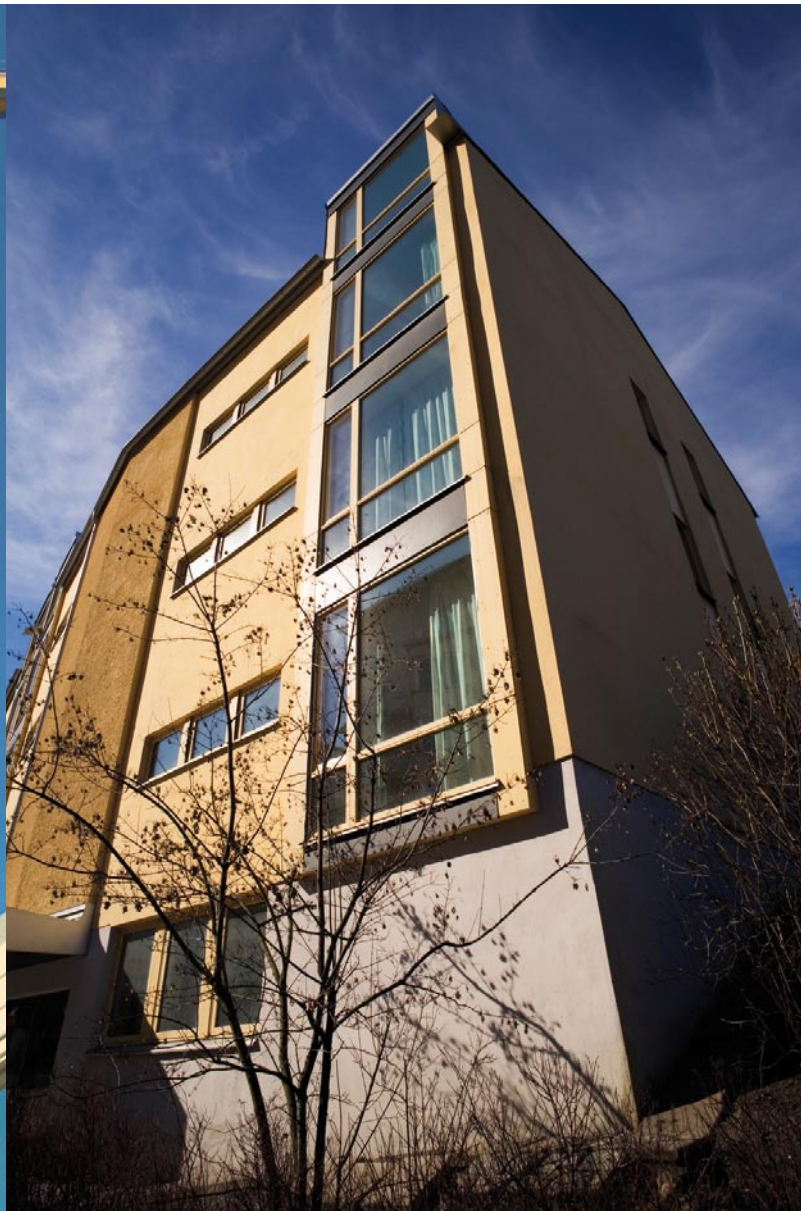


TRÄLYFTET

**A UNIQUE BUILDING SYSTEM
FOR MODERN, MULTI-STOREY WOODEN BUILDINGS**





DID YOU KNOW THAT
With Trälyftet's building system entire volume modules are completed in a factory and assembled on site.



DID YOU KNOW THAT
Facade cladding can be chosen from a range of options such as wood or plaster.



The building material of the future returns. In an even more perfect form.

Wood is a perfect building material in many ways – durable, renewable, beautiful and technically perfected by nature. With its unique properties wood contributes to a comfortable climate from every aspect. With our Trälyftet' building system we have advanced technology, function and eco-awareness a few more steps. Discover the possibilities of wood, the building material of the future. Just like it has always been.

Trälyftet is Setra Group's building system for multi-storey wooden buildings. Entire rooms are built indoors, interiors are completed, and then they are lifted into place on site. Trälyftet also offers well-thought out solutions for sound insulation, ventilation, heat recovery, plumbing and wiring.

Sound insulation

Trälyftet's soundproofing meets sound class B, which exceeds official requirements. Sound insulation is based on steel roller bearings which are mounted in the walls between the storeys. The structure also automatically becomes double skinned when the modules are placed next to or on top of each other, since the

building system consists of prefabricated volume modules. The distance between these modules and the mineral wool between them provides excellent insulation.

Ventilation and heat recovery

Ventilation is provided through the bathroom drains in a unique system. The ventilation system also includes a heat recovery system where heat from exhaust air is used to warm incoming air. Heat from shower water is also transferred to exhaust air and recovered in incoming air, and heat from waste water is used to warm hot water.



Sound-insulating roller bearings are mounted in the walls between each storey.

Plumbing and wiring

The volume modules for the apartments are made in a factory with plumbing and wiring that run into a common utility shaft in the completed building. The shaft contains ducts for ventilation, heating, water, waste water, electricity, etc. From these common spaces it is easy to inspect, repair and replace. The shaft is protected against water damage with indicators that show any leakage. The cold and hot water pipes are kept apart.

Fire safety

- Sprinklers: The building system includes home sprinklers which are primarily designed to save lives. The sprinklers also allow a flexible building design in terms of construction and materials with no loss of fire safety.
- Load-bearing: The bearing framework system meets the requirements for fire resistance class REI 60 which means it can isolate a fire and still be load-bearing after 60 minutes. This makes Trälyftet suitable for buildings with up to five storeys.

Comfortable indoor climate

Solid wood buildings have a comfortable indoor climate due to the physical properties of the wood.

Low heat conductivity

The low heat conductivity means that a wooden floor can feel warm even at a relatively low temperature. And most people find that wood feels cosier than concrete, for example.

Moisture storage

Wood's ability to store moisture evens out the indoor humidity. Moisture stored in the wood during humid seasons is then released during the dry seasons.

Low energy consumption

In solid-wood buildings energy consumption for heating is considerably lower than in other buildings. Measurements show that buildings constructed with Trälyftet have an energy requirement that is less than half that of a newly built multi-storey building.²

Good insulation

Insulation and airtightness are very good. Factory production allows very narrow measurement tolerances which means gaps round windows and doors as well as leakage round ducts are avoided. Heat from residents and household appliances is often sufficient to keep the apartments warm even when outside temperatures are low. Thermal bridges are avoided by a totally intact insulation layer between the facade and the walls.

High heat storage capacity

The high heat storage capacity of the wood means that the indoor temperature changes very slowly even when the outside temperature fluctuates wildly. There is therefore no need to compensate with extra energy. Wood's low heat conductivity makes it possible to have a lower temperature in the rooms with no loss of comfort.

Advanced ventilation system

The heat recovery from the ventilation system saves a lot of energy since heat in exhaust air and shower water is reused to heat incoming air (as described opposite). A steady flow of air for ventilation is maintained by pressure-controlled, variable-speed fans. The fact that the building is very airtight makes monitoring and control of ventilation easier.

Short construction time

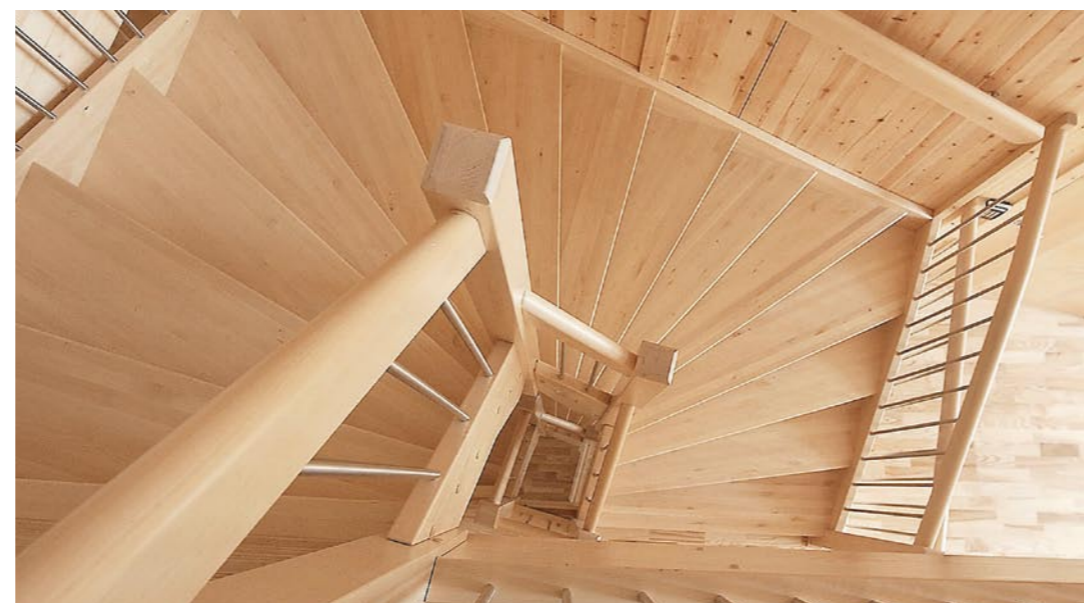
- The system with factory-built volume modules provides many advantages when it comes to construction time.
- Indoor manufacture makes the work more efficient due to good lighting, a dry and flat surface all year round as well as materials and tools close to hand.
 - Materials management is both safer and faster than on a building site. The risk of standstills or waits due to late deliveries is minimal.
 - The risk of built-in damp is eliminated and drying times after decorating are short.

Lower costs

- Costs on the building site are reduced because of a small and efficient workforce – normally 2-3 fitters and a crane driver assisted by the truck driver, as well as electricians and plumbers.
- Costs due to disruptions from bad weather are eliminated.
- Costs for shrinkage and waste of material on the building site are minimised.

Optional facades

The material on the facades can be chosen and adapted to blend in with surrounding buildings. They can be plastered without any adverse effects on the excellent properties of the wood. If a wooden facade is chosen, heartwood pine is used which gives the facade a long life (at least 50 years) and requires minimum maintenance.



Trälyftet is Setra's building system for wooden multi-storey buildings. In autumn 2008 Setra will start to build a unique multi-storey residential building and car park, both made of wood, in the centre of Skellefteå in northern Sweden.



Energy consumption in buildings constructed with Trälyftet is low. Most of the year the energy from lighting, electrical appliances and the people living in the apartment is sufficient to achieve a comfortable inside temperature.

¹ The name "Trälyftet" is a combination of the Swedish words for wood (trä) and lift (lyft).

² Measurements were performed in central Sweden and apply to buildings where no special energy saving measures had been taken.

Wood – a natural and eco-friendly building material

Few people associate wood with multi-storey buildings and apartments. But innovation and modern technology mean that multi-storey buildings can be easily built in solid wood – and combine the advantages of wood as a building material with the comfortable wood feeling in the entire building.

Wood reduces carbon dioxide emissions

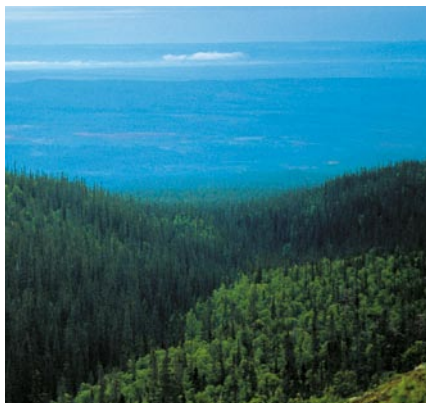
Wood is part of a natural cycle. Sawing, planing and processing wood is energy efficient and requires less resources than making similar products from steel, aluminium and cement.

A house built of wood therefore reduces carbon dioxide emissions many times over compared with making the building from concrete and allowing the trees to remain in the forest. This is shown by research carried out by the Swedish University of Agricultural Sciences (SLU) and Mid Sweden University.

Trälyftet and the environment

Trälyftet also has a lower energy requirement at construction than buildings built on site and a lower energy requirement for heating and ventilation than conventional buildings.

All this makes Trälyftet very much an eco-friendly building system, something which is strengthened by the fact that our timber raw material meets requirements for FSC and PEFC certification.



High quality

Trälyftet's industrially built, solid-wood volume modules are made in Setra Plusshus's factories in Kristinehamn and Arvidsjaur. Good working conditions with well-functioning logistics make it possible for the highest quality to be maintained throughout the entire manufacturing process.

Setra is Sweden's largest wood products company, offering wood-based products and solutions to the building materials trade and industrial customers. The group has 1,500 employees and annual sales in excess of SEK 6 billion, of which exports – primarily to the UK, Denmark, Norway, Germany, Spain and Japan – account for around 55%. Setra's operations are conducted in four divisions: Wood Products, Bioproducts, Board & Joinery and Building Systems.

Setra has some 2,400 shareholders, the largest of which are Sveaskog Förvaltnings AB (50%), Skogsägarna Mellanskog ekonomisk förening (25%) and LRF, Lantbrukarnas Ekonomi AB (22%). Other shareholders combined own about 2% of the shares.

Setra Plusshus is a subsidiary of Setra. Setra Plusshus conducts industrial-scale manufacture of homes in its own factories in Kristinehamn and Arvidsjaur and has some 90 employees.

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 **Setra**