

SWEAHOUSE





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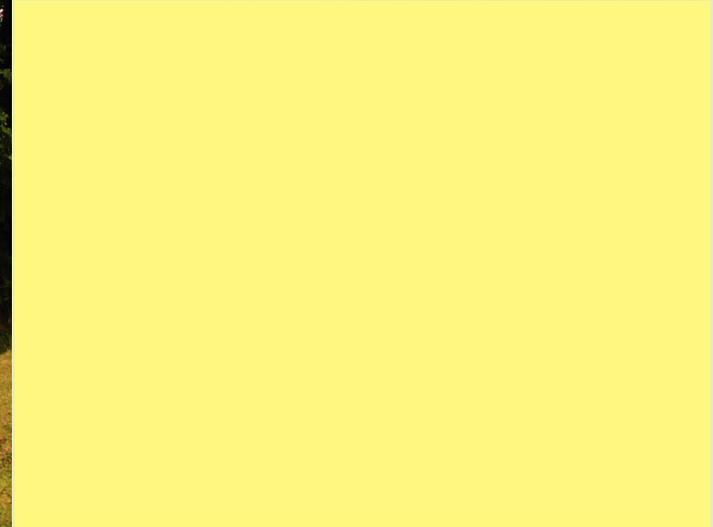
MADE in SWEDEN

*Swea or Svea is a Swedish female name. The name derives from the name of the tribe called "svear or swedes" who came to conquer the land which is today's Sweden. It has since the 17th century, in the form Mother Svea, been used as a symbol for Sweden.

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THE COUNTRY OF SWEDEN

Sweden is one of the largest countries in Europe. The country stretches 1,574 km along the Scandinavian Peninsula in Northern Europe and covers a land area four times as large as South Korea. Sweden is with only 10 million people a sparsely populated country, characterized by its long coastline, breathtaking natural beauty with extensive forests and numerous lakes. The four seasons creates temperatures between -30 degrees in the winter to +30 degrees in the summer.

Sweden is today among the world's richest and most technologically advanced nations. The country has an impact on global business and industry far beyond its size, and companies with Swedish roots, such as IKEA, H&M, Ericsson and Volvo, are household names from Boston to Beijing. The Swedish economy is built on rich reserves of iron ore and timber, and plentiful hydroelectric power. The main industrial sectors are forestry, telecoms, and the automotive and pharmaceutical industries.

Sweden constantly places in the top in international rankings of competitiveness, innovation and standard of living. Taxes are high, but the streets are clean.

The lifestyle in Sweden brings together a love of nature, good housing, environmental thinking and lots of culture — all tied up with awareness of health and a strong sense of equality. Efficiency is combined with a laid-back attitude, and old traditions blended with openness for new technologies. Swedes in general work hard but treasure their free time and enjoy long relaxing holidays.



SWEDISH HOUSES

excellence without comparison

Swedish Houses have been developed over a long time to meet the demands of the famous Swedish lifestyle of leisure, health and nature during both cold winters and warm summers.

Everything from the walls, windows and roof constructions to the floor heating system and ventilation system in a Swea House is designed to the highest specification using the latest machinery and state-of-the-art technology to provide exceptional quality and a superior finish under impeccable quality control. The architecture and interior design reflect the European sense for style. Modern and clean lines with functional layouts that maximize the living space characterize a Swea House.

Although houses usually aren't conceived as technologically advanced products, they can differ as much as an old Daewoo car differs from the latest Mercedes Benz model with a state-of-the-art hybrid engine. Different houses create different living standards affecting the health, comfort and quality of life of the people living in the house as well as the environment as a whole.

Living in a Swedish made Swea House means that you will live in the most technologically advanced and environmentally friendly house on the planet. A house that will last for more than a century. You will enjoy the same indoor climate all year round without having to constantly turn on and off the air conditioner and adjust the indoor temperature. You will enjoy fresh air 24 hours a day free from humidity, mold, bacteria and chemicals without having to open the windows. Since the house is made of wood and natural materials it will also have a natural soothing light and scent and acoustic feel in the house.

Swedish houses are today known worldwide for their incomparable excellence. Every year thousands of Swedish houses are exported to countries like US, Canada, England, Germany and Japan thanks to the demand for superior houses that enable the highest standard of living.



DESIGN

timeless design that withstands the test of time

“Less is more” and timeless accurately describe much of Swedish style which is at the forefront of house architecture. There is a fondness for discreet colors and a pared-down, refined appearance. As with so many aspects of life, Swedes tend to take a practical approach to style, which have created houses that are extremely functional and have layouts that maximize the living space.

As Swedish function meets Korean emotion, the creative range becomes wider than ever and our architects have taken the clean, simple style to the next level. Through a cross-disciplinary approach to their work — art, crafts and design are mixed and matched with materials of the highest quality for highly original results.

The design of our houses is created together with the wishes of the buyer. Expand your creativity and create the house of your dreams. Anything, any form, style or size, is possible.















WOOD VS CONCRETE

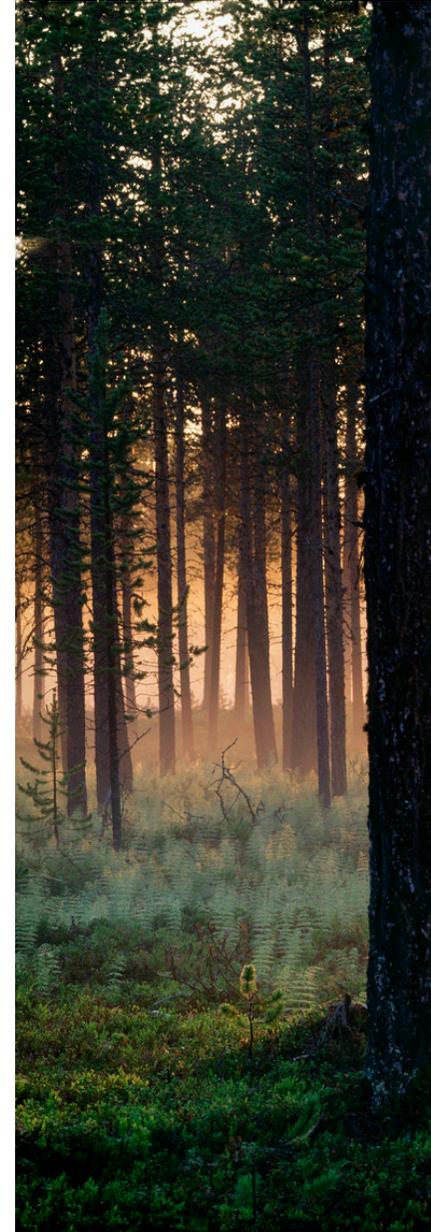
in perfect harmony with nature

Today wood is the most common material to build houses in large parts of Europe as well as in the US and Canada, and it is constantly getting more and more popular. In Europe about one million apartments are built every year in wood. In US and Canada 85% of all buildings up to five stories and almost all luxury mansions are built of wood.

In recent years, considerable public and media attention has focused on topics such as “sick house syndrome”, which is believed related to living in concrete buildings of the type that dominate Korea’s housing sector.

The benefits of building a house with wood are many.

- Wood is a natural and healthy product. It has been scientifically proven that houses of wood have many of the same effects as forests have on human beings. Through the organic compound phytoncide wood houses helps people relax better, stabilizes the heart rate and blood pressure.
- Wood reduces CO2 emissions substantially compared to concrete since wood stores CO2.
- Korea has long, cold, dry winters and hot, humid summers; wood frame construction is ideal for insulation in both these conditions.
- Wood creates a more natural indoor light, acoustic ambiance and scent which human beings feel more comfortable with.
- Another benefit with wood is that you can build on weak grounds.
- Furthermore, thanks to the different surfaces and structures of wood, there are many more possibilities to create unique architecture and great interior designs compared to building a house with concrete.





ENERGY EFFICIENCY

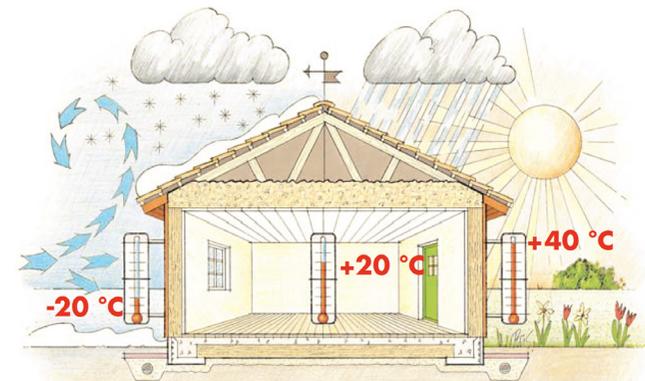
Buildings have an enormous energy-saving potential. The single most important factor in making a building energy-efficient is its insulation, which may account for as much as 75 % of the total energy reduction potential of buildings. For example, a properly insulated home uses only 20 % of the energy that is needed to heat or cool a standard house.

With the climate in Sweden plummeting to 40° below zero, you can imagine that this is the perfect torture test for seeking out any flaws in a building fabric and tiny gaps in the insulation. It is not just the thickness of the insulation that matters; it's the quality of the insulating material and how meticulously it is fitted.

The acceleration of climate change with warmer summers and the rise in energy prices mean that improving energy efficiency in buildings in Korea is more important than ever.

In the houses we build in Sweden, we allow absolutely no gaps whatsoever in the insulating cocoon of the structure – particularly vital around the windows. The insulating material and the windows are of the highest quality and the construction has been perfected over half a century to isolate against everything from freezing winter storms to hot summer waves.

In addition to the superb construction the Swea Houses are equipped with a state of the art ventilation system, called FTX, which recycles 85-90% of the indoor heat in the winter and 85-90% of the cool indoor air in the summer. This reduces energy use and costs to a minimum creating a truly energy efficient green building





HEALTHY AND COMFORTABLE

enjoy the Swedish lifestyle - healthy, natural and modern

Fresh clean air

Good air quality is important for the health and the overall well-being of those living in the house. Ventilation is essential to transport moist, dirty air, bacteria, odors and chemicals away and maintain a comfortable living. "Stale" air is unhealthy and, since humans and pets add to it by breathing, sweating, washing, showering and drying, we need to ventilate the home, increasing the number of times the air 'exchanges' in the home with outside fresh air.

Furthermore, most material e.g. carpets, paint, plywood, etc. emits so called emissions. The emissions increase with high humidity. These substances can cause allergies and adverse health effects. Many also suffer from fatigue, concentration difficulties, feelings of discomfort and even illness if the indoor environment is bad. The sub-standard quality in material, ventilation, air conditioning (HVAC) systems and insulation in many Korean homes can lead to the so called sick building syndrome, which has been a huge problem in Korean housing.

In Swea Houses all moldings, door and other details made of wood. Our wood ranges deliver valuable health, hygiene and welfare benefits. The wood is also easy to clean and no chemicals are needed for everyday care, which mean a longer service life and very low emissions.

**every two hour 24 hours a day all the air
in a Swea House has been changed to fresh air**



regardless of the weather outside you will **always have the optimal temperature, humidity level and fresh clean air in a Swea House**

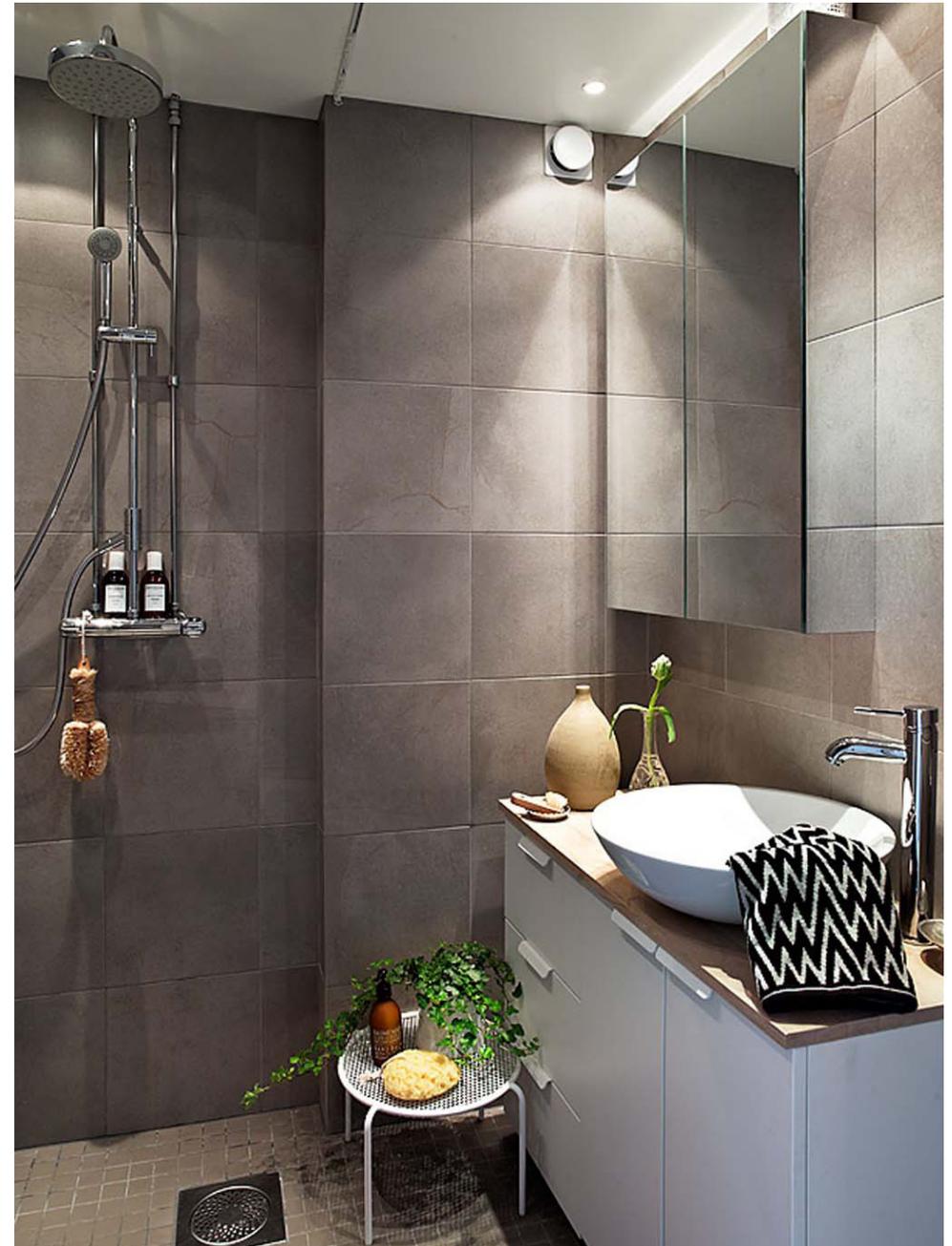
Even temperature and low humidity

In Swea House homes the humidity level is stabilized at an optimal level. There are also more uniform temperatures throughout the space. There is less temperature gradient both vertically (between ankle height and head height) and horizontally from exterior walls, ceilings and windows to the interior walls, thus producing a comfortable occupant environment even when outside temperatures are extremely high or low.

Peaceful and natural

The insulation and construction in Swedish houses also reduce noise and vibration, both coming from the outside and from other rooms inside a building, producing a more soothing environment.

The natural materials used create a more natural indoor light, acoustic ambience and scent which human beings feel more comfortable with.



ECO FRIENDLY

Swedes are known for their progressive and modern lifestyle, treating nature with respect. By constructing super insulated, draught proof, timber framed homes, energy for heating/cooling is conserved and by constructing these homes with mature timber from our forests, masses of carbon is “locked in” for the lifetime of the building and the new trees planted absorb much more efficiently the carbon from our atmosphere.

Nothing is wasted in our house production; even the wood-shavings and sawdust are recycled. Our timber framed homes consume less energy to produce than so called “traditional” homes of brick and concrete and of course consume less energy over their lifetime. All our timber framed homes have such a very low net energy input that the lifetime carbon footprint is tiny.



Virtually everything we use in our house construction is from fully sustainable resources.

Good ventilation with heat/cold recovery in combination with superior insulation also saves energy, since the energy in the warm/cool indoor air is recovered and transferred to the incoming outdoor air. This results in incredibly high energy efficiency and low heating costs and thus environmentally friendly houses.



BUILT TO LAST

In the special mineral-rich soil of the forests of Sweden, the pine and spruce trees grow slowly, very slowly, straight and true. In the process, they produce uniquely dense, strong, close-grained timber. This is the timber that lies at the heart of all Swea House homes. It provides the framework for the house: a substantial structure that is strong, stable and guaranteed to last over a 100 years.

Thanks to the insulation and ventilation system humidity is kept away and not allowed to penetrate into the building structure.

Korea with a very humid climate has huge problems with humidity in buildings and walls often rot or get mold causing the buildings to last no more than 20-25 years. However, with no damage or degradation by humidity or low quality material you will be able to pass your Swea House on to your children and they in turn to their children for several generations to come.

For every tree that is felled, 15 seedlings are planted to preserve the forests and ensure a plentiful supply of timber for future generations. Since it takes up to 150 years for our timber to reach full maturity, you could say that we began the process of building your home in 1863!

And we're ready to complete the process now...





TECHNOLOGY

The secret behind the energy efficient construction in Swea Houses is partly in the walls. The by international standards new and unique composition of the thick wall creates an insulation that is more than five times as good as Korean walls.

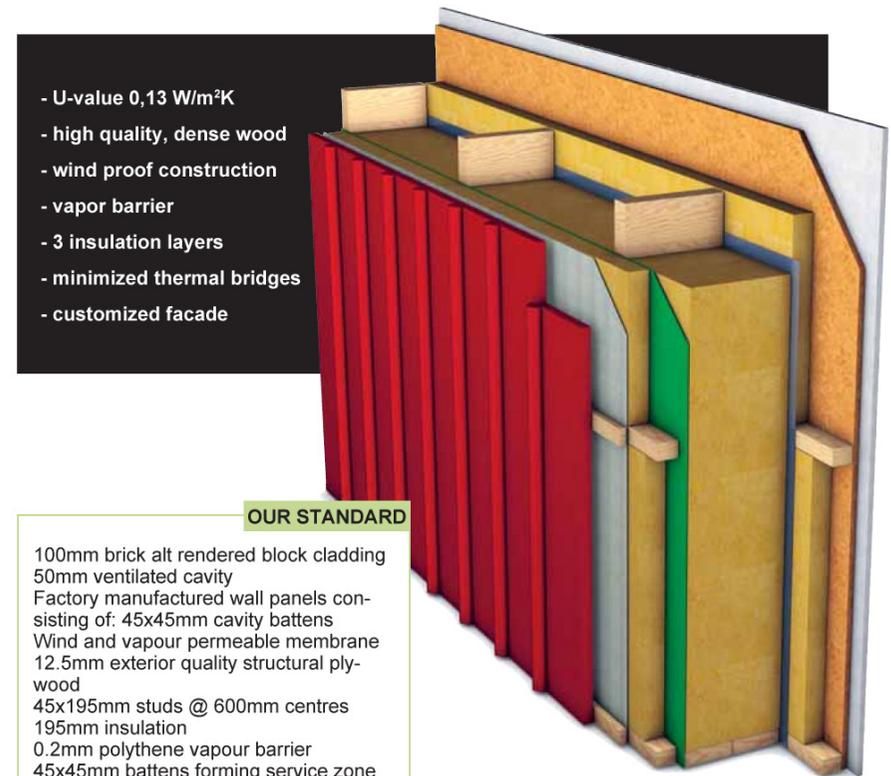
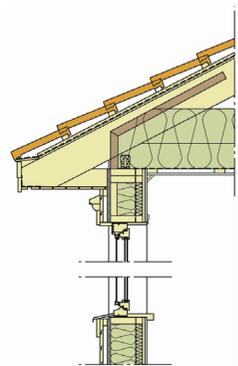
The so called u-value, which is the houses's equivalent to a car's fuel consumption, measures of how energy efficient and consequently environmentally friendly a house is. The lower the u-value the better. Swea Houses have a u-value of 0,13, while Korea houses have at least 0,5. It is the thick unique multi layer wall that makes Swedish houses world leading environmentally friendly houses.

Building cross-section

Exterior Insulation: 240 (265) mm
0.13 W/m²K
45 dB

Ceiling insulation: 405 mm
0.132 W/m²K

Floor insulation: 220/170 mm
0.211 W/m²K



- U-value 0,13 W/m²K
- high quality, dense wood
- wind proof construction
- vapor barrier
- 3 insulation layers
- minimized thermal bridges
- customized facade

OUR STANDARD

100mm brick alt rendered block cladding
50mm ventilated cavity
Factory manufactured wall panels consisting of: 45x45mm cavity battens
Wind and vapour permeable membrane
12.5mm exterior quality structural plywood
45x195mm studs @ 600mm centres
195mm insulation
0.2mm polythene vapour barrier
45x45mm battens forming service zone
45mm insulation 15mm 'Duraline' high impact resistant plasterboard (fitted by builder)

Q-value: **0,6-0,7**

Stud (column) is 45x195 (or 220) mm,
2.59 times the thickness of two-by-four.

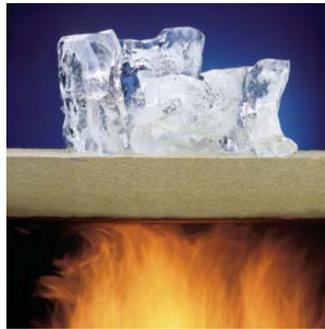
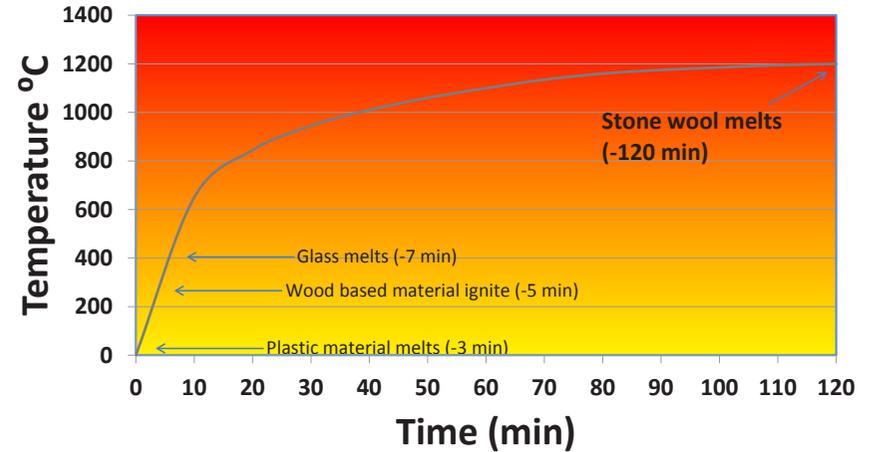


seal the energy leaks

The insulation material, Paroc stone wool, is made from volcanic stones. Although the main purpose of the stone wool is to insulate the house it also serves as a fire protection and an ideal material for sound absorption and noise reduction, creating an improved acoustic environment in the house. Paroc stone wool also reduces external air sound as well as the sound of footsteps.

The extremely high melting point of Rockwool makes it ideal to prevent fire from spreading in the house. Since Rockwool surrounds the building structure it also prevents the house to collapse in case of fire.

One cubic meter of stone wool consists of 95 – 98 % of air, and it is well known that static air has very low ther-



Due to a “breathing”, air-permeable structure, moisture evaporates quickly in correctly realized constructions so condensation doesn't occur.

keep moisture out

Moisture and mold damage is very common in Korean houses. The damage never depends on the inner sealing layer in a construction being too airtight, Instead, it is through leakages where problems can arise with moisture that forces its way in and causes damage. The causes of leakage can be many, from incorrect constructions to bad workmanship and defective sealing material. As leakages often arise in joints and through-fittings, it is very important to take great care with workmanship and the choice of material. In a Swea House you can rest assure that the moisture is kept away for the entire life of the building.



controlled ventilation gives better air

The ventilation system incorporated in Swea House homes is an exhaust and supply air ventilation with heat recovery, known as an FTX system. These are highly advanced systems that only are made in Sweden. The system supplies large quantities of ventilation air, and the system performs well regardless of the weather. The system is also energy efficient.

One supply air fan and one exhaust air fan ventilate the house through two duct systems. The filtered supply air flows to bedrooms and living rooms, while the exhaust air is drawn from the kitchen, bathroom and utility room. Heat is transferred from the warm exhaust air to the cold outdoor air in the heat exchanger. The energy saving could be 50–60 % compared to a system in which heat is not recovered.

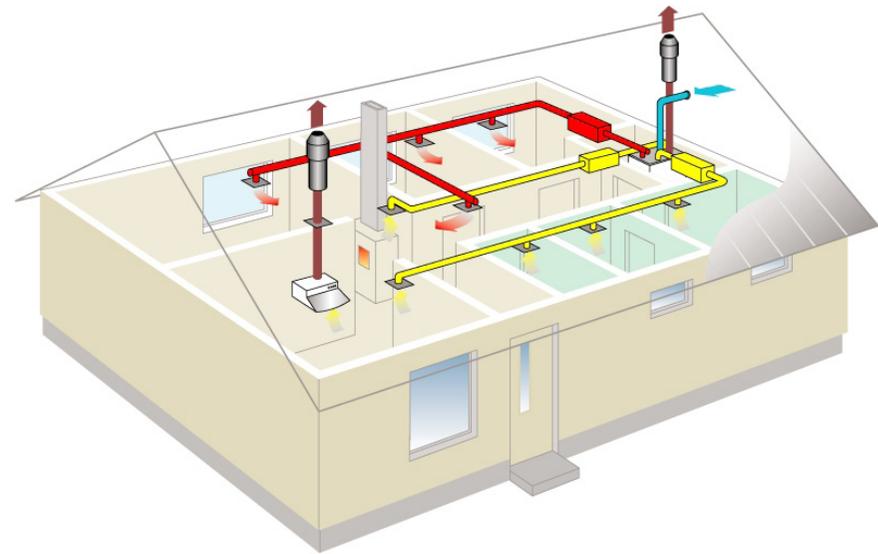
Good ventilation with heat recovery also saves energy, since the energy in the warm/cool indoor air is recovered and transferred to the incoming outdoor air.

In the supply air duct there is a filter with the filter class of F7. The filter blocks 90% of exhaust particles and almost 100% of bacteria and pollen.

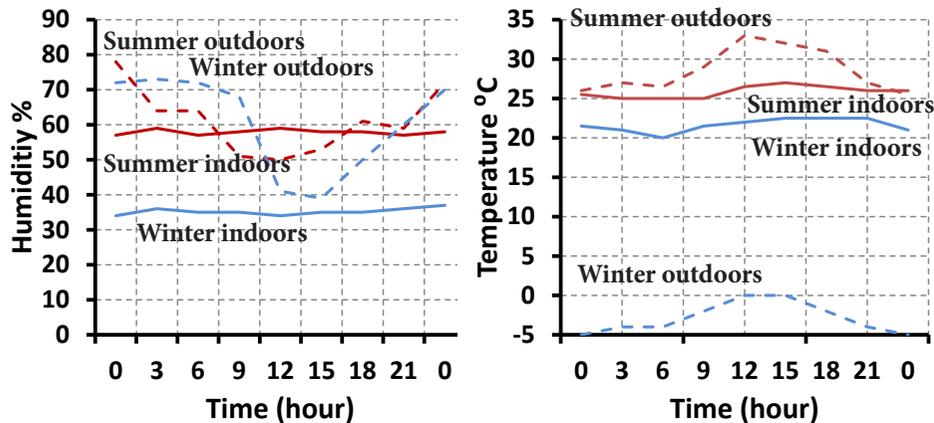


- Clean and fresh air
- Fewer dirty particles
- Healthier indoor climate
- Better comfort
- Ventilates without noise or draught
- Prevents damages caused by humidity
- Lowers the energy cost
- The value of the house increases

Ventilation ducts made of steel
Low air resistance
30-60 mm insulation



75 000 liter air/day is used by a family of four. With our ventilation system all the indoor air changes every two hours (approx. 50 liter/second). The continuous air change ensures clean and fresh air 24 hours per day.

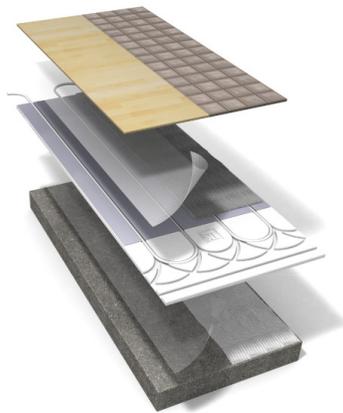




- Door is made of solid Swedish wood
- Multilayer structure with plywood and aluminum.
- Excellent insulation (sound, air, heat)
- Durable
- A unique molding made by silicone is installed in the door frame to achieve best possible insulation

U-value: 1,0
Sound insulation: 40 db

It is sufficient for the water in the floor heating system to have a temperature of only 28-35 degrees. This is possible thanks to the fast circulation of water, which is considerably faster than in Korean heating systems, as well as the floor construction.

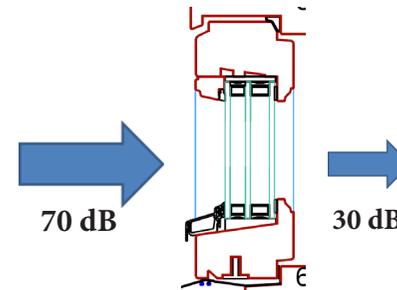


highly advanced 2+1=3 layer glass windows construction

Just like the house walls the windows are at the forefront environmentally and include the latest innovations.

The windows have an u-value of 0,9 (2-3 times lower than Korean windows) and comes with sun protection and self cleaning glas.

- Trippel isolation, windows are filled with argon gas , LE coating on the inside of the window.
- Airtight insulation, sound insulation, and excellent thermal barrier.
- 36-44 dB sound insulation effect (standard)
- Protects against UV-light.
- Construction tested to withstand burglaries and attacks with tools.



walk comfortably on natural floors

Our wood ranges are made of 99%* natural, renewable material from controlled sources that meet high standards of sustainable forestry or are certified by PEFC and/or FSC.

Our wood ranges deliver valuable health, hygiene and welfare benefits:

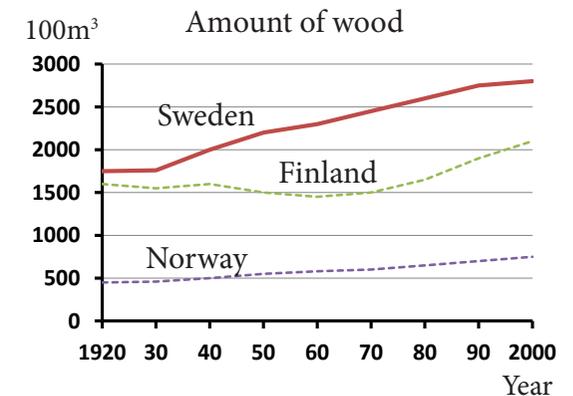
- Proteco surface treatment is the strongest on the market, delivering benefits like easy cleaning, no chemicals needed for everyday care and a longer service life.
- Very low VOC emissions of 20 µg/m³ at 28 days – more than 50 times below demands in European Standard (1000 µg/m³), contributing to good indoor air quality.
- Formaldehyde emissions ten times lower than the E1 standard
- Quick and easy product installation with no need for glue (convenient click system).
- Feels warm and comfortable to walk on thanks to good thermal resistance (0.10-0.13 m²K/W on 12-14 mm multilayer wood floor).
- Tarkett's wood floors can be re-sanded up to 4-5 times**, which extends the flooring's life time and gives it a favourable Life Cycle Cost.
- Impact sound reduction with 2 mm Tarkofoam/Flex II (EN ISO 717-2) - Lw - dB 17



swedish wood - dense and strong

The wood in the houses are up to 150 years old. It contains only 16% water making the risk for termite infection and mold very low.

The wood comes from Scandinavian Red Pine (PINUS SILVESTRIS) and Spruce (PICEA ABIES) is. The wood is beautiful, naturally impregnated by nature and highly resistant against weather and mold.



The material comes directly from our suppliers to the factory. Wall elements, roof, doors and windows are built and assembled indoors, in dry and optimal conditions, in the factory. They are then shipped in containers by truck and boat.



only the best quality

Swea House collaborates only with Sweden's most well known and high quality brands and suppliers.
In a Swea House only the best is good enough.



ABOUT SWEA HOUSE



The team of Swea House has been exporting houses from Sweden for over 15 years. We have mainly exported to Japan and Great Britain. As highly experienced architects, engineers and business managers we have been able to deliver top notch quality houses to satisfied customers around the world. Our passion is “Swedish quality” and modern houses.

Thanks to our close relationships with our suppliers, our technical expertise and knowledge of the cultures and local markets we export to, we are able to meet the high standards required to succeed.

SWEAHOUSE