

Insulation solutions for a **good life**



Give your home and your family a good life

A good life is warm and safe. Insulation made from natural fibres gives your home and your family conditions that are surrounded by good life.

Ekovilla warmth is made of natural wood fibre. It comes from nature, bringing its ancient and best qualities to become a part of your home and your family's life. The foundations for a good life have always been close to nature. Ekovilla brings them directly to your home.

We are experts in living well. Ekovilla is not just insulation. It is an opportunity to work for the building materials of a good life and sustainable insulation. We think a good life is a warm and green life.

–Ekovilla. Green warmth.



Lämmin

Ekovilla makes your house warm. Warmth goes beyond just grades on the thermometer, however. Your house should be warm in the right way. Ekovilla warmth stands for the entirety of warm living: it means offering a good life for your house and your family. Ekovilla provides warmth in many different ways that together create a home for a good life.



Breathable

Your house has its own life, just like its inhabitants do. We all need to breathe in order to live. Wood fibre allows your house to breathe in a way that balances the changes in the humidity of indoor air using nature's own methods. A breathable house is a sign of safety and well-being. This is why choosing the right insulation is one of the most important decisions made during the construction process.



Ecological

Ekovilla warmth comes directly from nature. When you insulate your house with recycled wood fibre produced by the forest, your house's insulation will bind the carbon contained in it to itself for the duration of its life cycle. Wood fibre can also be reused as insulation, or simply returned to nature after its life cycle.



A good life

Warmth, safety, and ecology are the foundations of a good life that Ekovilla wants to enhance with its own actions. We want to be a part of building good lives while taking environmental needs into consideration. Ekovilla has been working for the building materials of a good life for decades now. We are proud to be able to provide not just good products, but opportunities for good living. We think a good life is a warm and green life.

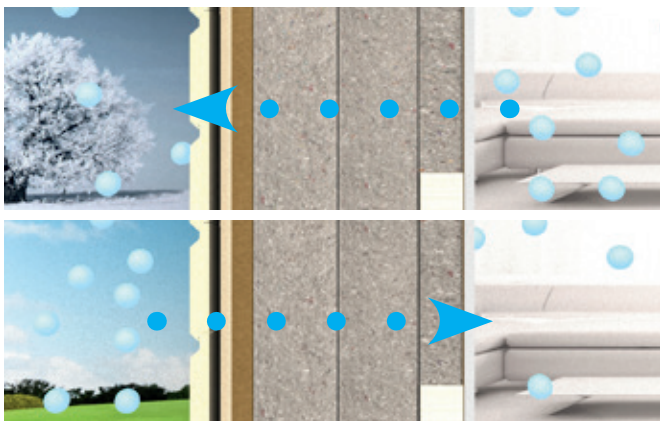
Airtight, but breathable for humidity



Wood and materials made from wood are both naturally breathable materials - meaning they balance the humidity in indoor air naturally. A well-functioning insulation structure is safely breathable in both directions, and creates the conditions for good living in the home.

A breathable structure does not allow air to pass through it, but rather the humidity in the air. The water vapour in the air is transferred through diffusion into a hygroscopic agent, moves safely on through it, and is then easily released back into the environment. Breathability in construction is well-known from log-building, where the entirety of the insulation structure is made of wood. The same breathability of wood is also achieved through utilising wood fibre - with Ekovilla insulation.

Read more at www.ekovilla.com/en/ and download the "Guide to warm, breathable, and ecological insulation" and the WoodFokus publication "Breathable wood fibre structure, its principles and its effect on indoor air".



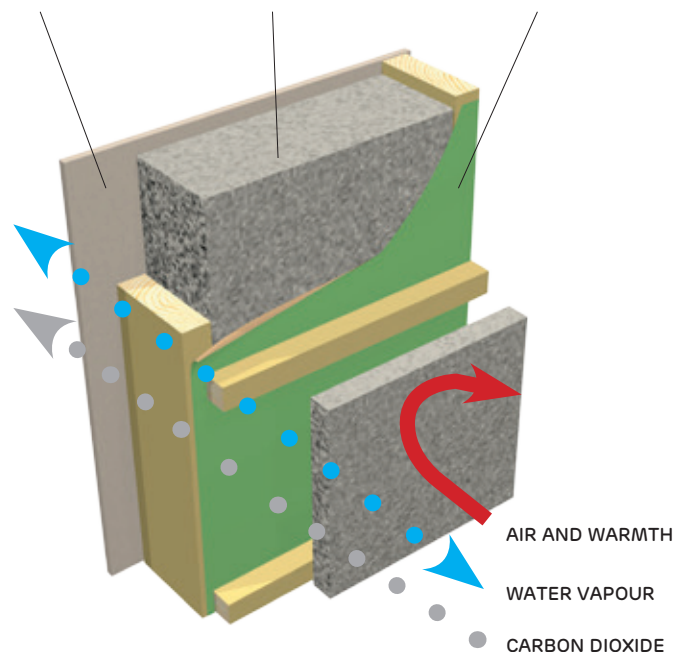
The air humidity between different spaces is in a constant process of equalization, and water vapour will transfer to where there is less of it - in the wintertime, from indoors to outdoors, and vice versa in the summertime. In a breathable structure, humidity does not condense into water or get stored in the fibre; instead, it's constantly moving in the direction of lesser humidity. Therefore, there is no danger of reaching the dew point.

A HOMOGENOUS, BREATHABLE INSULATION STRUCTURE

A breathable wind protection made of wood fibre that also contributes to the thermal insulation of the structure

A breathable thermal insulation made of wood fibre - high moisture capacity Ekovilla insulation

A breathable air barrier made of wood fibre - five times the vapour resistance of wind protection



In homogeneous insulation structures, the insulation, air barrier, and wind protection are all wood-based. An air barrier made of wood fibre is airtight, but it intelligently transfers moisture in both directions. The airtightness of the breathable structure fulfils regulations, and is equal to a structure equipped with a tight-surfaced vapour barrier.



The wood fibre manufactured for thermal insulation is fluffy and contains plenty of insulating air pockets, both within the fibre itself and between the fibres; Ekovilla's fibre is milled to perfect fluffiness in order to keep air inside the insulation, which adds to its thermal insulation capabilities. Builders who have chosen Ekovilla are very satisfied with the warmth provided by the insulation.

The good indoor air quality of a breathable log house is just as true as it is in a house insulated with Ekovilla

We humans are a part of the great order of nature, where air humidity has a significant role. For us, the optimal humidity of indoor air is between 28-55% R.H. Within that bracket, indoor air feels oxygen-rich and easy to breathe. Bacteria, viruses, mildew and fungi do not thrive in that humidity range, which is fantastic news to families with allergies.

Within that optimal humidity range, comfortable warmth is achieved at lower temperatures, which also saves energy.

A breathable structure keeps humidity at the right level

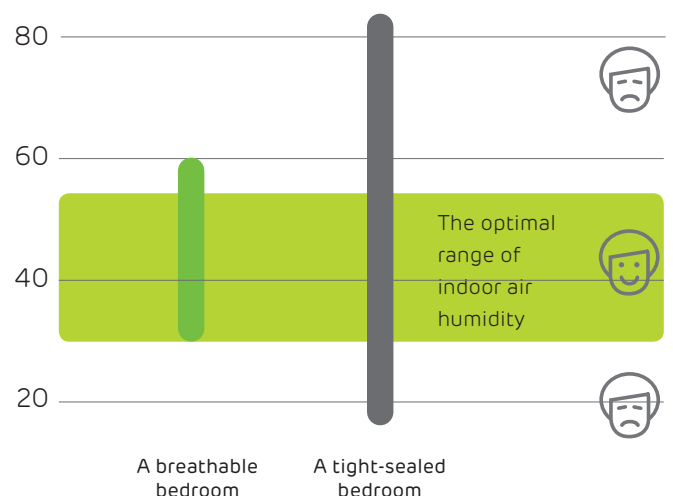
A room built with a breathable structure naturally maintains an optimal level of air humidity. Thanks to an airtight but vapour-permeable air barrier, Ekovilla insulation can bind incoming moisture to itself, transfer it out of the house, and then back in again as the indoor air dries.

All porous surface and cladding materials are suitable for rooms, from wood paneling to ordinary plaster boarding. It is important to coat them with breathable (=vapour-permeable) wallpaper or paint. Any coating's vapour-permeability can be tried with a simple water droplet test: when a water droplet is absorbed by the material, it is breathable.

Indoor air that feels good is a scientifically-proven phenomenon

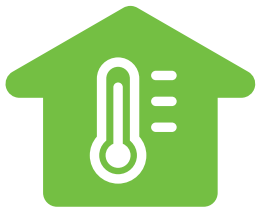
Breathable houses insulated with Ekovilla insulation have been built for 30 years already. Their many thousands of inhabitants and users feel that the breathability of the houses improves indoor air quality. The natural functionality of breathable structures has been proven with research measurements. With Ekovilla insulation solutions, the optimal humidity balance of a log wall can be brought into a modern home.

MEASURED INDOOR AIR HUMIDITY % R.H.



Changes in the relative indoor air humidity between breathable and tight-sealed two-person bedrooms during a year in the climate of Helsinki, Finland. Constant mechanical ventilation 0.5 1/h. This study can be read in the Breathable Wood Fibre Structure book, which can be downloaded at www.ekovilla.com/en or at www.puuinfo.fi/en.

Favourite insulation as installed or as a DIY installation



Ekovilla offers warm insulation and instructions for draught-free construction for both those building new houses and those adding more insulation into pre-existing structures. Ekovilla has in fact grown into the most valued thermal insulation among the builders of family homes. Order it as either a ready-made service, or do it yourself!

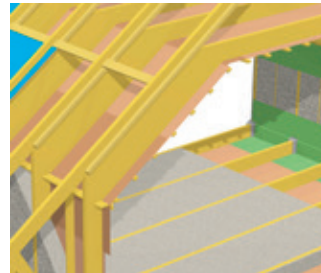
The market leader's recipe for success: good products, good instructions, and good service.

Ekovilla is the market leader in breathable insulation in Finland. Ekovilla is also the most valued insulation among builders of family homes in the entire insulation market sector. And Ekovilla continues to be the most popular roof insulation for small houses. (Construction study RTS, family home builders 2016/17 RV)

Ekovilla Loose Blown Wool is available by the sack and also as direct installation to the construction, as well as Ekovilla slabs that'll be discussed further in the next few pages.



Instructions and products for building draught-free and moisture-safe structures



Good insulation keeps the heat in and the cold out. The key to this is in the airtightness of the insulation structure. An uncontrolled air leak will cause an unnecessary moisture load on the structures, and wastes precious energy. You can download comprehensive structural instructions for making airtight details from Ekovilla's website. Ekovilla's range of products includes the Ekovilla X5 and the Ekovilla X Reno air barrier papers, and the Ekovilla X feed-through seal for sealing the feed-throughs of ventilation pipes and flues.

The right additional insulation to all old constructions

As the airtightness of old structures cannot often be fixed completely, breathable insulation is the correct choice of additional insulation for them. It is the only option that is forgiving of small air leaks, and that has the capacity to transfer the additional moisture away, keeping the structure and the building healthy.

FOR NEW CONSTRUCTION

FOR ADDITIONAL
INSULATION

FOR RENOVATIONS



Ekovilla Loose Blown Wool insulation fills every nook and cranny snugly, and the whole layer of insulation planned for the structure is blown in at once. Structural preparation and air-sealing work done before blowing the insulation in is the key to successful insulation and trouble-free installation. Ekovilla is happy to provide instructions beforehand, and will also offer advice on the site, if necessary.

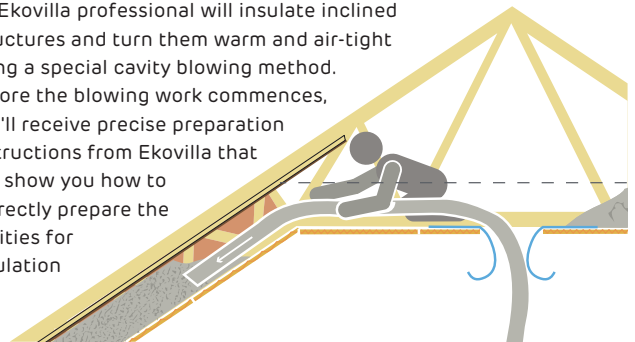
Ekovilla's Installation Service insulates constructions throughout Finland

You can order an Ekovilla installation as a keys-in-hand service from your hardware store, your prefabricated house vendor, or from an Ekovilla Service Entrepreneur. All of these will provide you with instructions for preparation that will guide you in correctly making your house ready for insulation. Ekovilla will install blown wool insulation to new constructions as well as renovation and additional construction locations. You can find the nearest Ekovilla service provider on Ekovilla's website. They will provide you with expert advice for any difficult questions you may have about insulation.

Do it yourself quickly with Ekovilla's rental machinery or by using Ekovilla batting

Ekovilla SI self-installation insulation has been made with easy and pleasant DIY installation in mind. Ekovilla vendors will rent you blowing machinery with which the insulation work on roof and base floor insulation will be handy to complete. It only takes a few moments to blow in 20 centimetres of additional insulation into roofing, and the insulation will quickly pay its price back in the reduction to the heating bill and the increase in comfort. The blowing machinery and even a big load of insulation fit easily into a trailer hitched behind a car, since the ecologically packaged loose blown wool only takes up a fifth of its actual volume.

An Ekovilla professional will insulate inclined structures and turn them warm and air-tight using a special cavity blowing method. Before the blowing work commences, you'll receive precise preparation instructions from Ekovilla that will show you how to correctly prepare the cavities for insulation



As self-installation, you can blow in insulation to inclined roof cavities, base floors, and walls in addition to the roofing pictured, by using cavity blowing. You can find the instructions on the ekovilla.com website. Depending on the layer of insulation being blown in, flat roofing requires 2 - 3 sacks/m³.



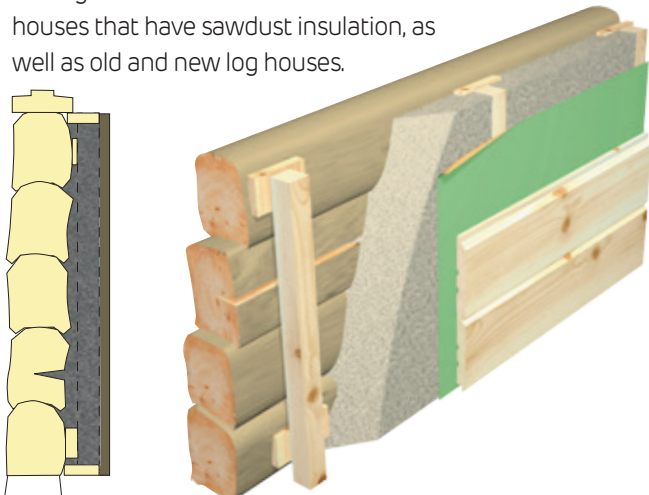
Breathable wall insulation:

- Ekovilla slab
- Sprayable Ekovilla

Thankstoitsbreathabilityandecology,Ekovilla isnow gainingalotoffavouraswallinsulation,too.Ekovilla's insulationsolutionsnowcoverthevariousand demandingneedsofbothprofessionalconstruction professionalsanddo-it-yourselfbuilders.

Wall insulation with a keys-in-hand installation

This professionally sprayed-in insulation developed by Ekovilla is an effortless option. It seamlessly fills in even the smallest cavities, nooks and crannies, and meets any requirements straightening the surface may present for insulation density - all at the same time. No harmful air pockets will be left within the insulation space. The homogeneous Ekovilla is the correct choice for old houses that have sawdust insulation, as well as old and new log houses.



As breathable houses continue to become more popular, more and more prefabricated house elements are pre-insulated with Ekovilla directly on the assembly line. Insulation slabs tailor-made for the measurements used in the processes of each element building factory fill the spaces between framing posts snugly. The flexible and firm insulation slab fills the space to every corner and eliminates any air pockets. The benefit of double insulation is in the stepping of seams, which means that the seams will not let air leak through the insulation layer.



Insulation sprayed in by an Ekovilla professional is a simple option for the customer. After the professional has tidied up, the final result is seamless and airtight insulation that fills all cavities. Uneven surfaces do not require labour-intensive stuffing, as the spray-in insulation fills them snugly instantaneously (see the picture next to this).

The new Ekovilla slab and its new cutting options make panel and slab insulation even easier.

Easy to install.

Ekovilla slabs made of wood fibre are pleasant to handle. The firm Ekovilla slabs are a breeze to install, and they fill the insulation space snugly.

Cuttable and formable.

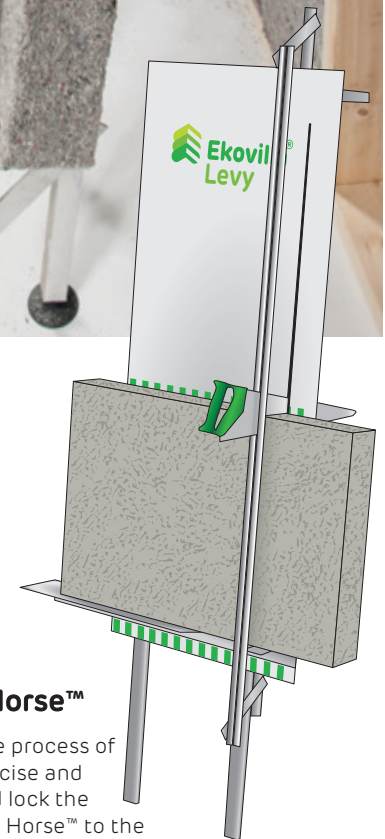
With the right tools, you can cut Ekovilla slabs into precisely the right dimensions. Ekovilla has developed new solutions for the precision and ergonomics of cutting the slabs.

For all construction.

Ekovilla slabs suit the insulation needs of stone, wood and log houses, both for new constructions and renovating old houses. Ekovilla slabs are available in various thicknesses according to purpose.

Ecological and safe.

The structurally safe, breathable thermal insulation is compatible with all insulation solutions.



Ekovilla slab Wool Horse™

The Wool Horse™ makes the process of cutting insulation slabs precise and ergonomic. You can tilt and lock the insulation shelf of the Wool Horse™ to the desired angle, which lets you cut multiple pieces using precisely the same angle. The measurement lines in the background of the Wool Horse™ make it easier to cut the right size pieces.

Ekovilla slabs are available through well-stocked hardware stores in various thicknesses:

Slab size (mm)			kpl/pkt	m ² /pkt	m ³ /pkt
thickness	width	height			
45	x 565	x 870	13	6,39	0,29
50	x 565	x 870	12	5,90	0,29
75	x 565	x 870	8	3,93	0,29
100	x 565	x 870	6	2,95	0,29
125	x 565	x 870	5	2,46	0,31
150	x 565	x 870	4	1,97	0,29

Safe insulation for sustainable values



The newspapers you take to recycling that are then turned into insulation help to reduce the carbon dioxide emissions in the atmosphere through sustainable means. According to studies, Ekovilla is safe to use and has a long-life cycle. It can also protect your house and family in surprising situations. Ekovilla's good life is a warm and green one.

Everyday ecological choices through recycling and using wood

The manufacturing process of Ekovilla takes up little energy because it is mostly made from recycled wood fibre that has first served as newspapers. The wood fibre of the insulation binds large amounts of atmospheric carbon dioxide to itself, which is now removed from the atmosphere for the duration of the building's life cycle. Your choices affect your carbon footprints, because the average family home that has been insulated using wood fibre binds about 35 tonnes of carbon dioxide to its wooden structures.

Ekovilla is a widely-researched thermal insulation

Ekovilla may be one of Finland's most researched insulation materials. Its qualities and function have been researched by, to mention just a few, the VTT Technical Research Centre of Finland, the Academy of Finland, and Aalto University.

Breathable Ekovilla is a safe solution for future zero-energy houses. Measurements conducted in the Lantti house in Tampere as well as various sites of the housing industry have shown that even thick layers of insulation provide excellent breathability.

The fault-tolerant Ekovilla also protects the home and its inhabitants during surprising accident situations

Wood fibre's ability to bind ten times the water compared to its dry weight is a useful feature in the case of a leaking roof or a pipe, or a structural fault. Thanks to Ekovilla, the damages will be limited to a small area and will be easy to fix.

Ekovilla also protects wooden structures that are connected to it by balancing their humidity content. The breathable Ekovilla is an ideal insulation for wooden structures, and that makes it the insulation of choice for historical and protected valuable buildings.

Ekovilla provides time to get to safety

Ekovilla also protects the house and its inhabitants in case of a fire. Ekovilla insulation will prevent the fire from spreading for a long time, and thus provides vitally important time for getting to safety. The wood-bodied, panel-clad wall of a single-family or terraced house that has been sprayed with Ekovilla insulation has structural integrity that can withstand a fire for an hour (REI 60). Typically, REI 60 walls are only needed in apartment buildings.



The breathable insulation solution is also a safe choice for summer cottages that only get little to no heating during wintertime. Breathable structures do not moulder when they can dry out in both directions.



The ecological and breathable Ekovilla is the answer to builders whose goal is a good life. Ekovilla insulation is available as standard or by request for all prefabricated houses made by leading manufacturers, and as a completely breathable structure for more and more models each day.



When additional insulation is installed with expertise into structures that are significant to the cultural history of our building heritage, such as churches, schools and other valuable buildings, breathable insulation solutions are the correct choice for their structural functionality and longevity.





Let's meet on good terms.



Building is a positive indicator for a good life, regardless of whether you're building something new, or fixing something old. You'll have greater success by making good choices, and their positive impact will last for a long time.

Ekovilla wishes to be a good partner to you when building good. You'll get us on your plot with the house brand you buy. Make sure with **your house vendor** that your home will have a "Good Life".

You can order Ekovilla insulation as an installment service in your local hardware store. That's where you'll also find sacks full of insulation and blowing machinery to rent for do-it-yourself installation. As well as Ekovilla slabs, with the handy cutting assistant Wool Horse™ to borrow. Find your nearest **hardware store** at ekovilla.com.

You can also order an installation directly from an **Ekovilla service provider**. They sell and install Ekovilla throughout the whole country. Find contact details at ekovilla.com.

ekovilla.com

