Assembly guide
for the DIY Builder

How do I build it?

Assembling a Polhus construction kit is simple and easy. If this is your first time constructing such a structure, you might have doubts or queries. Our manual was designed for new users, and is drawn from our long experience in the field and the feedback from our customers.

Enjoy your project!

Contents

Dear customer,

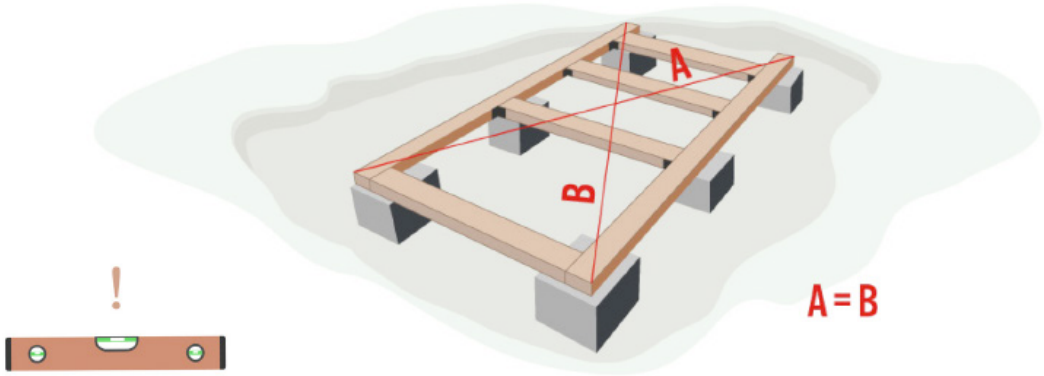
Thank you for choosing Polhus as the supplier of your new construction for your home and garden.

Please read the manual CAREFULLY before starting work. By doing so, you will save time and avoid making mistakes that can be difficult to correct later.

Every part of our kit is designed to make assembly as simple and easy as possible when following the manual. Nevertheless, if this is your first time assembling a structure like this, you might have doubts or questions about the process. Rest assured, our manual was written for the new user in mind, and is drawn from our wealth of experience in the self-assembly field, along with feedback from our customers.

Our experts are also on hand to answer any queries you may have, or provide support throughout the process, but we hope you'll be able to find the answers to the vast majority of your questions here or in our **installation video guides**.

In this guide, our construction experts have gathered their best assembly and maintenance advice. We recommend that you read through the entire manual so that you don't miss out on any useful tips that can help you during assembly.



Preparations

- It might seem obvious, but keeping the manual nearby while you work, and referring to it regularly, will help you avoid making any mistakes, even if you've familiarised yourself with the various steps before starting. All parts are pre-cut and must be assembled according to the plans.
- Lay all the parts in your package out and use the checklist in the manual to make sure everything is present and correct. Sort them into groups around the construction site so they're on hand and in the right place when you need them. Be sure to cover them and protect them from any rain. Do not place parts directly on the ground, as untreated wood can become marked by grass, for example.
- It is important that the foundation is well made and level. Should any part of the foundation be higher or lower than any other, it will result in gaps occuring between various parts and the doors and windows sticking. We stress, it is essential to make sure the foundation and floor construction are completely level, and make sure the diagonals in the cabin are exactly the same length. To position the planks at the right height, you can use plastic shims, rubber support pads or even pieces of masonry. You should always have some kind of mositure protection between stone/concrete and wood, such as a ground sheet or similar.

Tips

- Try and use scaffolding instead of a ladder, and always use well-maintained tools. Make sure you're not at risk of falling and injuring yourself or others.
- We have included an additional long wall panel in the package should you need it (it's always the longest one).
- There is also an extra floor or roof board included in the package as a spare (the longest one).
- The package also contains at least one strike block (a short section of wall panel) you use to protect the planks when you're building the walls of a log cabin.
- Each part of our larger designs is marked with a position number and listed in the material specification. All of the parts also come with exact positioning instructions in the manual.
- Store the construction kit package unwrapped in a cool, dry place until you can start. Avoid hot and humid spaces. If you're storing the package outdoors, protect it from rain and direct sunlight with a tarpaulin. Water can penetrate through the smallest of holes and cause problems with mould if not properly protected from wet and damp. Also make sure the package is not in direct contact with the ground and instead place it flat on a raised, secure support. If you unpack the kit before building, be sure to stack the parts in such a way that they lie flat and remain dry until you start. Otherwise, there's a risk of the wood warping.
- When choosing a building site for your construction, make sure it has plenty of light and air from all sides. Try to avoid places where it might be exposed to especially strong winds.
- Sort the parts and place them around your construction site in the assembly order given in the manual.

Worth considering:

- Rules regarding construction vary from country to country, and even within regions. Check with your municipality in advance if you need planning permission, as different regulations may apply in different municipalities.
- Check the ground conditions of your site in order to plan what type of foundation best suits your project.
- Plan ahead if you need extra windows or doors.
- Depending on the intended use of your Polhus model, calculate how much insulation you will need in the floor, ceiling and walls.
- How will you heat the cabin? Will you use it for short-term overnight stays, as storage, or will it eventually become a more permanent type of accommodation?
- Will you need to add connections to water, electricity and sewage systems?
- Plan for roofing, insulation, electricity, water and drainage as these elements are not included.

Please note!
Keep the manual, and do not throw it away, as it contains valuable info about your specific model. Although you can access manuals on the website, these might vary slightly over time due to improvements during the production of a design. The manual included with the kit is always accurate. Always make sure to keep hold of the cabin's ID number, as this is required to resolve problems and complaints. It's a good idea to photograph the package before you open it, including the package labels in the picture. That way, you have good evidence of the condition of the package when it was delivered.

My ID number:

Starting your assembly

To assemble your cabin, you'll need the following tools:

MANUAL

DRILL

SCREWDRIVERS

PEN

SAW

LADDER

HAMMER

PLIERS

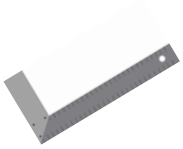
RULER/
MEASURING TAPE

KNIFE

GLOVES

SPIRIT LEVEL

HAND PLANE



L SQUARE

Foundations

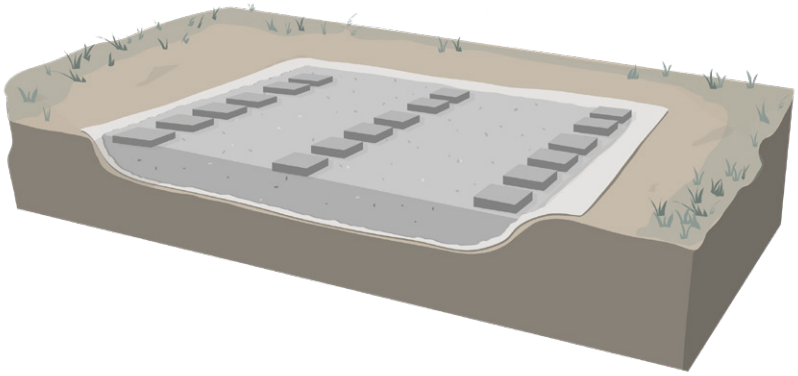
A sound and stable foundation is essential for the longevity of any construction, and a Polhus building is no different. There are a couple of things that are particularly important to keep in mind.

Start by making sure the ground on which you're building is well-drained and stable. Always remove enough soil to reach down to solid ground - rock, gravel, sand or rock. When you've finished digging, level the pit by laying a bed of gravel at least 10 cm thick. After this, you can start with the foundation itself. Always make sure air can circulate under the floor joists so that any moisture can escape.

There are lots of different ways in which you can build a foundation for a cabin. You can lay a concrete raft on a gravel bed under the cabin, or you can employ our partner Stop Digging!, who will install ground screws and supports for you. You can use concrete beams or wooden supports that run perpendicular to the floor joists, or you can cast or buy ready-made concrete plinths with cast-in mounting bases. If you're building directly on rock, you must anchor your foundation with stainless steel pins that are firmly attached to the rock.

Many of our manuals contain suggestions on how to make a traditional individual footing foundation. On the last page, you'll find foundation plans that describe the number of support footings we think you'll need. The plan also shows a proposed layout of the footings.

Just remember that different types of foundations present their own advantages and challenges.



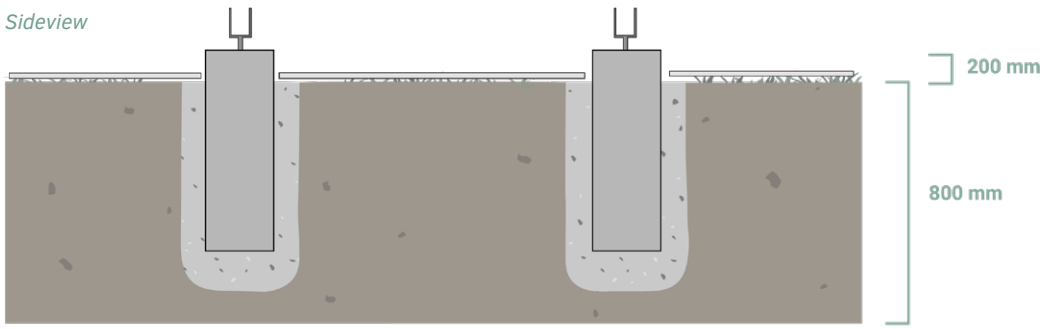
Raft foundations

If you've decided to go for a raft foundation, there are a number of things to consider, such as the amount of time the concrete slab needs to dry before you place the accompanying floor joists and floor boards. The outer edge of the concrete slab must not be made of styrofoam, which is common if you use ready-made edge elements as a mould. Keep in mind that the entire load of the cabin rests on the outer edges of your foundation slab.

Individual footing foundations

It's important in all foundation work that the foundation's stable and level across the entire construction area if you're to avoid structural problems. A perfectly level foundation is also essential to windows and doors opening and closing smoothly.

When the foundation is complete, begin laying out all the parts in your package and checking they are all there according to the checklist. Sort them into piles around your construction site so they're on hand when you need them.

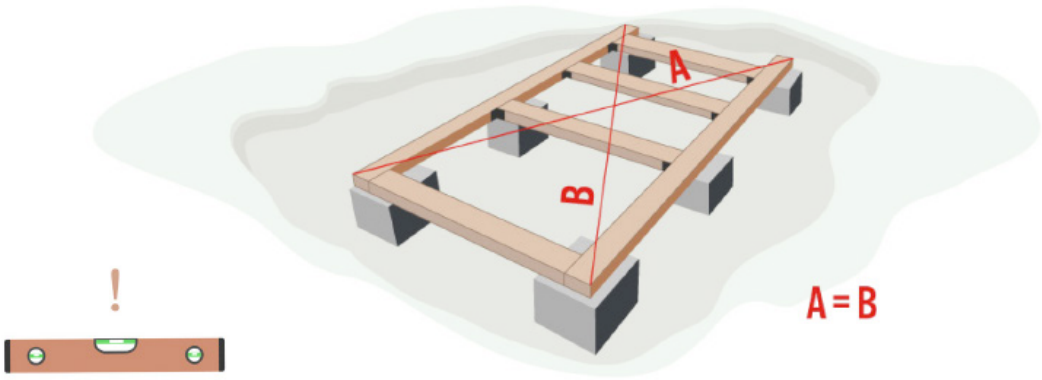


Floor joists

Lay out the floor structure and make sure the diagonals of the cabin are exactly the same length. Fine-tune the base frame with shims or pads so that it's absolutely level.

Making sure the base frame is completely level will make the next steps as easy and trouble-free as possible. Place the joists according to the instructions and fasten them together. Insert a moisture resistant barrier or similar between the wood and the foundation plinth to prevent damp from migrating into the wood from the concrete. It's a good idea to pre-drill holes for the nails at the ends of the wood you're attaching to the frame because otherwise the pressure from the nails can split the ends. Check that the base frame formed by the floor joists is evenly supported across the whole foundation.

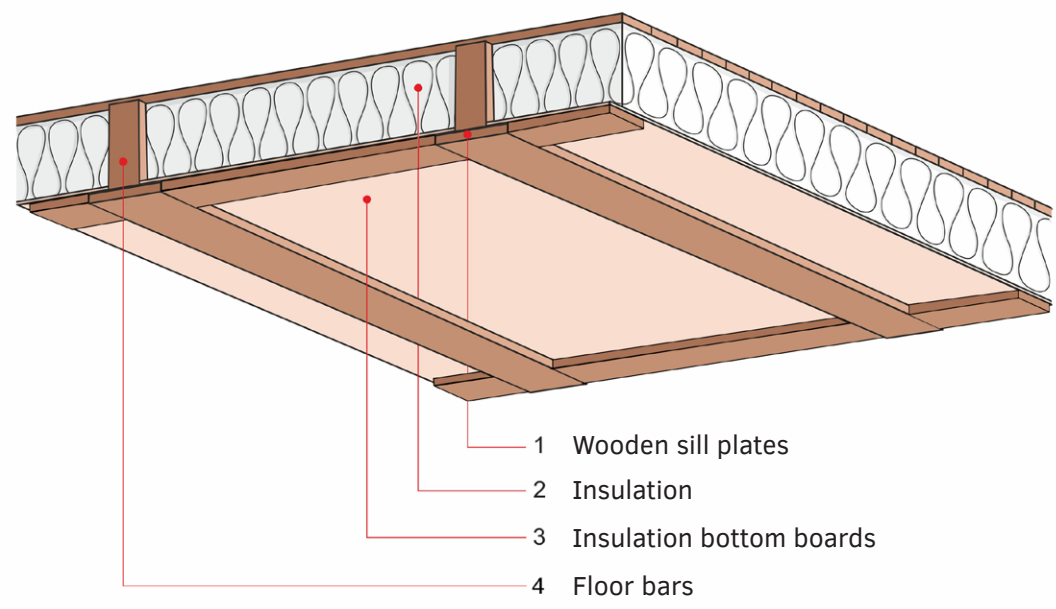
If there is a gap somewhere, place shims or pads to make the frame level and stable. No part of the frame should move when you walk on the joists. It's important to check that the diagonals are exactly the same length and the foundation is completely level. (A=B)

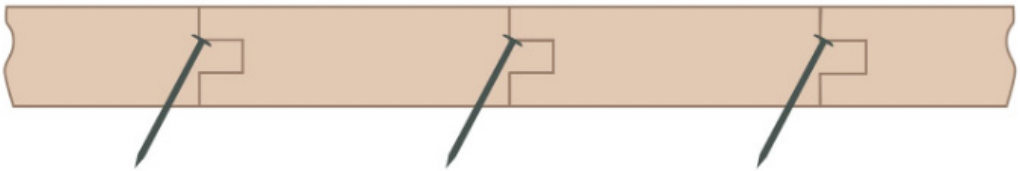


In cases in which the cabin is in an exposed area, we recommend securing it against winds by anchoring the floor frame to the foundation with bolts, brackets or similar. If you use prefabricated concrete plinths, use the included metal fastening to attach the wood floor frame. If your foundation does not have a metal fastening, you can add some angled brackets. (These parts are not included with your Polhus kit).

If you want to insulate the floor, you should attach sill plates or trusses under the floor joists to support the insulating materials. Insulation boards are usually impregnated. We also offer an insulation package that is an excellent and easy option. It is essential that the boards can resist any water ingress or moisture from the ground. Some of our models include insulation as standard, which will be clearly illustrated in the checklist in the manual.

It can be a good idea to cover the floor with a protective ground-sheet to shield against dirt. The floorboards in most of our smaller cabins are intended as a subfloor for carpets or parquet laminate, but the planed boards, despite possible knots and minor cracks, can serve as finished floor if treated. The 28 mm floors in our larger moderls are designed to be the finished floor, after treatment.



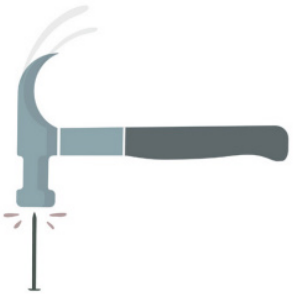


The floorboards are pre-cut to the correct lengths. They will shrink slightly as the cabin heats up and dries. To avoid cracks in the floor, you wait for the boards to cure and reach their “dry length”, which can take a few months. It is common to nail or screw the floor directly. If you’re going to insulate the floor, remember to install the sill platesor trusses and insulation before you start fastening the floorboards.

Use nails with the approximate dimension 5 x 50 mm for the floor. In order to disguises the fastening, nail into the batten. Nail as far into the board as possible to avoid splitting the rafters. Sometimes screws for mounting floorboards are included, but this differs from cabin to cabin.

Tips!

Blunt the tip of the nail closest to the end of the board to reduce the risk of the wood splitting. Do this by hitting the tip of the nail with a hammer while resting the head of the nail on a hard surface.



Log cabin walls

Now for the fun part! Lay the first level of planks, which can be half or full wall planks. Check the diagonals and nail or screw the panels to the base frame in the corners. It’s best if you pre-drill holes and use screws to attach the first level of planking.

The first round always consists of half wall panels on half of the walls. This is so that the panels will slot together.

Which walls should have the half panels is clear in the assembly instructions.

Now it’s simply a matter of building up, layer by layer. Hammer down the corners firmly after each round so that the planks fit together tightly. PLEASE NOTE that you should never hit the wood directly, but use the included hitting block or a board to soften the hammer blow.

The walls should extend approx. 5-10 mm beyond the edge of the floor frame. This creates a drip edge that prevents rainwater from running into the floor frame. You can also add a sill plate that covers the sill and diverts water away. This is not included in the construction kit, but you can seek the help of a local sheet metal worker.

Make sure that each round of planks is firmly driven into layer beneath so there are no gaps. If you need to force the planks together, tap them gently with the mallet. Add planks layer by layer and tap them down each round so that all the corners are tight.

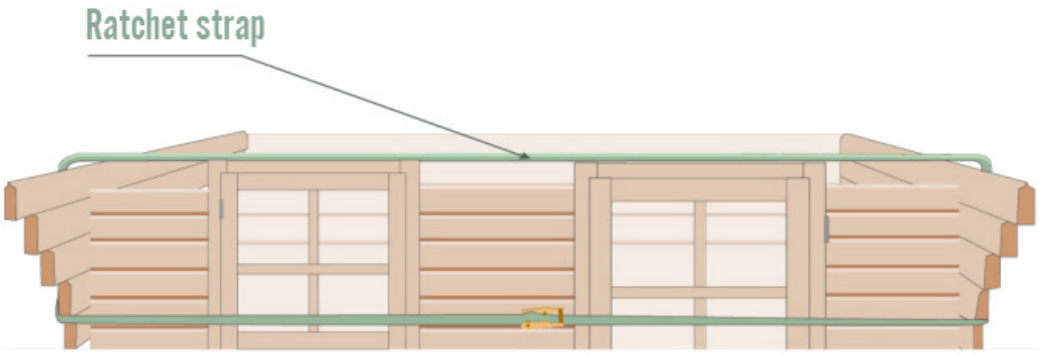
Plan when you're going to add the doors and windows. You can either build the cabin and place the roof before installing the doors and windows, or add the doors and windows after you've built only a few rounds of planks. If you want to do the latter, don't build too high because it'll be difficult to slot the doors and windows into the opening. Read more in the windows and doors section of this manual.

When planks are in place, they'll naturally reshape themselves to the wall because they'll be held in place by everything above and below them. Boards that have warped can be straightened by moistening them and leaving them under tension for a few hours.

Wood was a living material and wooden planks can sometimes bend, especially if the building kit is left unpacked for some time before you start construction. Normally, it's quite easy to bend the log into the rafters by hand but there may be times when you have to use a tool.

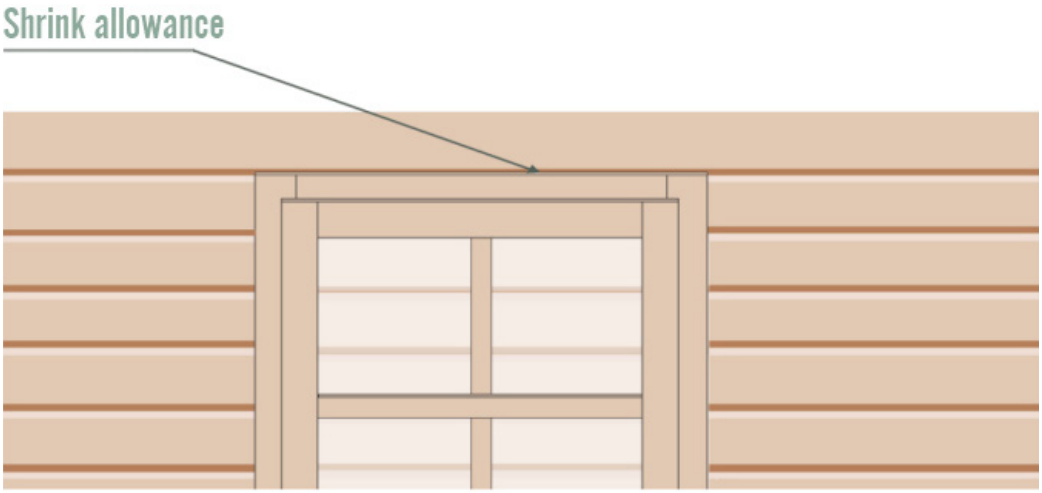
A clamp or fixed vise can give you more power when you're trying to bend planks. Remember not to position the clamp too close to the edge or end of the plank, as there is an increased risk of splitting.

We recommend you inspect the whole cabin before you start with doors and windows. See our **video manuals**.



When you have reached the lap above the window and door, you must place the beam that binds the wall together. You may find that the walls lean outward. This is completely normal and can be easily remedied, just prop up the walls from the sides to get the beam in place.

Alternatively, hold the side walls together with a ratchet strap. Place a board under the strap if you use the latter method so as to not damage the rafters.



NOTE that there must be a gap above windows and doors. This is not wrong, but serves as shrinking allowance as the cabin will eventually settle slightly due to the wood drying out. If you like, fill the space with some insulation wool and cover the gap with the supplied lining boards. Place the trusses in position as you reach their sockets and nail them in place with long nails.

Please consider the following things when installing the walls:

- The wall panels are always mounted with the spring/male part facing upwards.
- If it becomes necessary to knock down a wall piece in order to lower it, never strike with a hammer directly. Always use the hitting block included in the package.
- It's very difficult to prise planks apart once they've been joined. If you make a mistake, try to loosen the required number of planks one at a time and gently force them apart evenly along the entire length. Strike with a board from below on the inside of the notch (not at the very end, as the short notch piece can crack). Each time you separate a notch, place a thin board between the planks so they don't come together again when you bend them elsewhere.

Now check again with a tape measure that the diagonals on the cabin's base frame match. Also check with a long spirit level that the walls are straight.

In our larger houses with timber thickness of 70 and 90 mm, storm fastenings in the form of metal rods are included. These metal rods should be installed through pre-drilled holes at each outer corner of the house. Make sure that each profile has pre-drilled holes when you assemble the timber logs and that they align one on top of the other so that the metal rods can be inserted from top to bottom once you've placed the topmost timber log. If metal rods are not included for your 44 mm house, there is an internal storm fastening available in wood. For more information, refer to the section "Storm protection in log cabins"

Prefab cabin walls

The manual shows how your wall panels look and where they should be placed. In the vast majority of our designs, the wall pieces must be attached to the floor frame, although in some, they’re placed on top of the floorboards.

Wall panels must be placed so they’re flush with the outside of the floor frame and form a drip edge. Fasten the wall elements into the floor frame and into the sides according to the instructions in the manual. It’s best to start with a corner, as the panels will then support each other and you can avoid having to hold them up in other ways during assembly.

Take a look at our assembly videos for cabins with panel walls. We have a film that shows either your exact cabin or a similar one in which the principles of assembly are the same.

Windows and doors in log cabins

There are two main types of cabin when it comes to the installation of windows and doors.

- When windows and door frames don't have lining boards on the inside when delivered, you can keep building the plank walls until they're finished and insert the windows and doors with their frames into the openings.
- If the window and door frames have lining boards mounted on both sides of the frame and form a U, you need to be a little more careful during construction. The U-shape bars hold the wall planks in place and the frame slides in the window and door recesses.

You can also remove the lining boards and fit the windows and doors after you get the roof on, if you like.

If you choose to add the door during assembly, you must do so at the latest when installing the fifth round of planks to make it easy to slot it into place. At this stage, because the walls aren't yet finished, it's not possible to open and close the door, but don't worry, when you're done with the build, they'll work just fine.

Keep following the building instructions for the cabin so that you put the windows in at the correct phase of construction, too. Alternatively, wait until the roof's on and the cabin's weather-proofed before starting with the doors and windows. Please take a look at our installation videos for window and door installation, as they describe a general method for window installation covering the different thicknesses of the planks.

In most cases, shutters are supplied loose so you can paint and seal underneath them before attaching them.

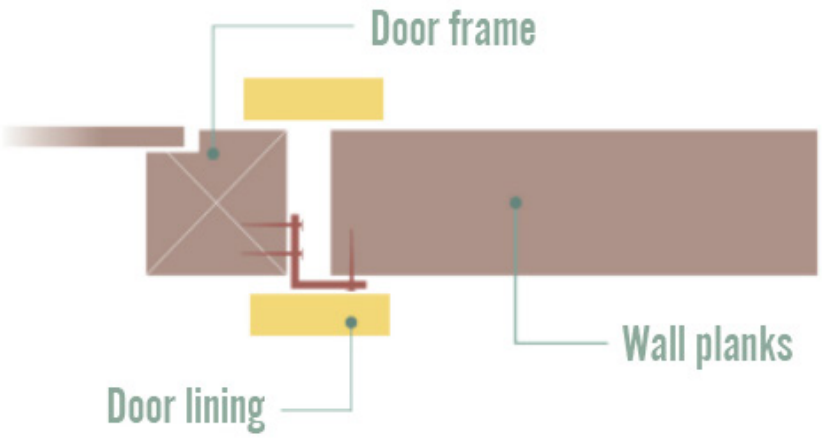
Installing doors using an adjustable bracket
(alternative to the previous mode of installation)

An adjustable bracket is marked in red in the picture below. It's a bracket with 4 pre-drilled holes in one side and a long narrow hole in the other side.

Adjustable bracket

- Screw the adjustable bracket onto the door frame so the side with the 4 holes is attached to the outside. Fit all brackets before placing the door in the door opening.
- Let the side with the long narrow hole sit against the horizontal planks on the wall when you place the door.
- Adjust the door in the opening and fasten with a screw to the upper edge of the long, narrow hole.

For the best hold, use 8 adjustable brackets, 4 on each side.



Top view

Hide the adjustable brackets using the door liners included in your cabin package. Now the door is in place and the wall planks can dry out and shrink without your door being affected by the shrinking process that all natural wood goes through.

This way of installing windows and doors with adjustable brackets can also be used when you need additional insulation. The upright planks you use for the additional insulation can also be used to screw in windows and doors.

IMPORTANT

- Please note you should **not** screw the window and door frames into the wall, i.e. into the planks themselves. If you insist on doing this, you should only fix the frame to the bottom plank. This is so that the cabin can settle freely as it dries.
- The final adjustment of windows and doors can only be done after a few months when the cabin's started to dry out and settle. As all wood shrinks a little when drying, you must also adjust the window and doors after about 1 year by pulling the screws out of the lining boards, checking with a spirit level that the frames are level and putting the screws back.
- When stacking the planks up, you must periodically check that all walls are the same height. Strike any wall parts that are higher or uneven with an impact board and hammer to compress them.

Door adjustment

Adjusting the hinges

Sometimes the door can catch, meaning that it's hard to close. Depending on where it's pinching receives, you can solve this by adjusting the door's hinges.

Adjustment is done by lifting the door off its hinges by opening it and lifting the door leaf. Then, screw in and out the hinge brackets, both in the door leaf and in the frame. Use a process of testing small changes, lifting the door leaf on and off a few times while adjusting the hinged brackets by different numbers of turns.

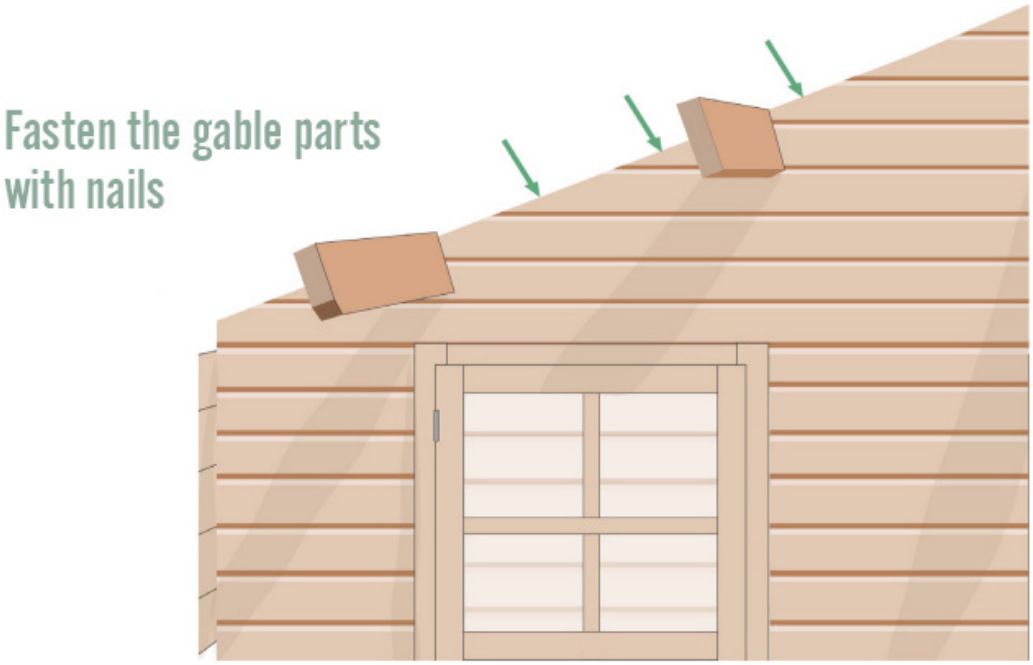
Here are some examples:

If it's catching on the front edge of the door at the top of the door leaf.

- Lift off the door leaf. Screw in the hinge at the top of the door leaf 2 turns. Unscrew the hinge at the bottom of the door leaf 2 turns. Leave the centre hinge intact. Lift the door leaf back onto the door frame and see if that has helped.

If there's a gap in the front edge of the door at the bottom, so that the door's uneven when closed.

- Lift off the door leaf. Unscrew the hinge at the top of the door frame 2 turns. Screw in the hinge at the bottom of the door frame 2 turns. Leave the centre hinge intact. Lift the door leaf back onto the door frame and see if that's helped.



Roofing

The oblique gable ends are mounted and nailed into the underlying log. Mount the roof rails as you reach higher on the gables. The roof trusses stabilise the gables, and the cabin will become fully stable when the tongue and groove boards are nailed to the roof. It's a good idea to have two people lifting the roof trusses into place.

On Polhus's larger cabins, the trusses are in the other direction and are screwed together via the groove with metal bands or angle brackets.

When you've mounted and screwed the roof brackets into place, it's time to nail down the roof boards.

It's important to install the roof on as quickly as possible to protect the cabin against rain.

Consider installing sheet metal panels over the wind shields to protect against rain and eaves sheets to lead the water down the gutter. Also consider installing gutters and downpipes to avoid rainwater running down the walls. Gutters also prevent the water falling off the roof splashing up soil and sand and discolouring the lower part of the cabin. Keep the roof clear of large snowfalls.

If you allow your roof covering to run over the wind boards, you create a drip edge so that water doesn't soak into the wood or run down the walls.

The thickness of roof boards can vary between cabins. The most common thickness is 19 mm, but in smaller cabins such as playhouses or small garden sheds, we sometimes use 15 mm thick roof boards.

Roof coverings

When you've nailed the roof boards in place, you should immediately cover them with a waterproof layer. If the finished nailed roof becomes wet, there's a risk the roof boards will warp and pull the nail out as they swell from the moisture.

Start at one end of the cabin by temporarily nailing the boards called weatherboards to the roof trusses. This makes it easy to position the first board completely straight at a 90° angle to the roof trusses. After that, it's time to nail the finished roof boards on the left and right sides alternately. Check that the bottom edge, at the eaves, is even. Use string or a straight board to check that the boards form a straight line at the bottom.

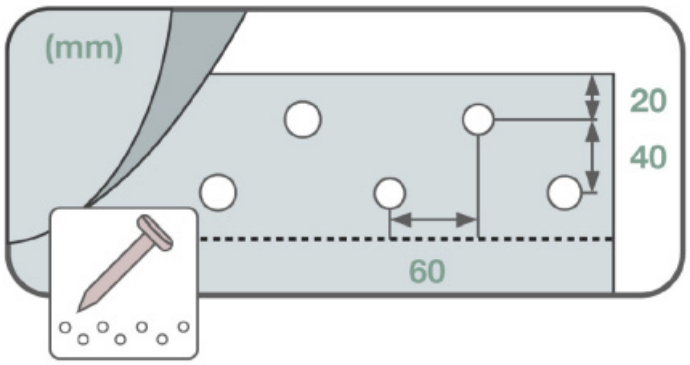
As the roof boards cover the entire roof, any supporting strips are nailed down. Install the first layer of roofing felt before the wind boards so you can fold the roofing felt down and cover the edges of the roof boards. Then install the wind panels and the second layer of roof covering or roof shingles with a fold up against the wind panels. Please follow the instructions in our **assembly videos**.

When you're nailing the roofing felt on your cabin, we want you to use the correct nail lengths, so have adapted our optional roofing felt packages in terms of the number of layers of roofing felt and the thickness of the boards. If you choose not to buy roofing felt through us, please consider these factors carefully when making your purchases.

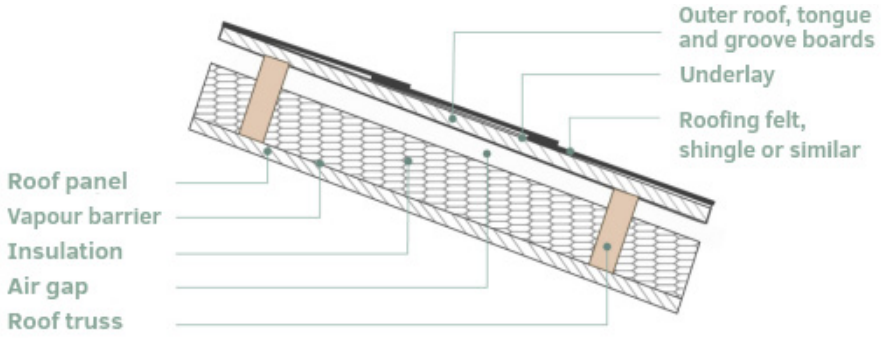
The underlay roof covering (the first layer) must always be nailed with approx. 15 mm nails to avoid the nails going through the roof boards and becoming visible on the inside. The exterior board, which is stronger than the underlay board, must be nailed with approx. 20-25 mm nails, as they must go through two layers of roofing felt and go deep enough into the roof boards so that the roofing felt is properly held in place. Likewise, roof shingles must always be nailed with at least 20 mm nails.

Roofing boards must always be nailed at a maximum distance of 60 mm between nails, and they must be nailed in a zigzag pattern as shown in the picture below.

Nailing



Remember to think about the ventilation of the roof if you choose to add additional insulation. Water coming from inside the building can cause moisture damage to the wooden roof panels if the damp cannot be vented away. You can ensure proper ventilation by including an air gap between the thermal insulation and the wooden panel. Such an air gap should be provided with ventilation openings at both the trusses and the eaves. You can see how to insulate the roof from the inside in the picture below. You can also add insulation from the outside and the principle of the two different layers with a gap is the same.



Our roof insulation packages are available in different thicknesses and are tailored to fit our designs. This also means that the contents of each package varies slightly. Look up the current insulation package for your cabin for more precise information about the contents. There's also an illustration that shows how the different materials are placed in relation to each other.

Storm protection in log cabins

If your cabin's in a place that's very exposed to strong winds, e.g. on an unprotected island in the archipelago or on a mountain, you should secure the top wall panels with upright planks to prevent the roof from blowing off. Screw a rule in each corner behind the notch from the top wall panel to the bottom. Consider using screws so that at regular intervals (about once a year) you can open the lower attachment and adjust for shrinkage. Bolts and screws are not always included in our kits as this precaution should only be taken if it's known that the cabin may be exposed to strong winds.

In our cabins with plank thickness of 70 mm or thicker, storm protection solutions are included. They consist of a threaded metal rod that must be mounted through pre-drilled holes in the corners of the cabin. Each metal rod is screwed together with a joint sleeve and assembled from above after you place all the planks in place and before you put the roof on. The adjustable nut must be mounted on the lower edge of the metal bracket after assembly so that you can re-tighten it as the wood dries.

In some cabin types, mainly those with a plank thickness of 44 mm, an internal storm protection is included in the form of a board that's mounted in the inner corners by being screwed into the lower edge and in long narrow pre-drilled holes in the upper edge of the board. If you additionally insulate the walls, the internal planks act as storm protection and replace the supplied storm protection boards.

If your cabin does not include storm protection, we recommend storm proofing it by screwing the corners into a upright board from the foundation all the way up to the top wall plank. Only two attachment points are needed - at the bottom and at the top. Please note that you should only screw the wind protection permanently into the floor frame. In order for the cabin to be able to settle when the wood dries, the screw at the top must be able to be loosened and readjusted.

If you additionally insulate the walls, the internal planks replace the storm protection.

Recommendation!
After a while, check that the cabin can shrink freely as it dries. Adjust once a month during the first six months, then at increasingly longer intervals.

Shrinking allowance

Log cabins shrink by a few centimetres when they've been standing for a while. This is partly due to the drying of the wood, and partly due to the fact that the planks may not have been fully joined together during installation. If it is difficult to position the planks closely together, because it was raining during installation, the wall boards will still lock into place over time.

When you place the plank over the windows and doors, you'll notice there's a gap above the frame. This is the shrinkage allowance that must be present on a log cabin. When the cabin stands for a while, it dries and settles. In order to prevent the upper part of the cabin from hanging on the door and window frames, there's a built-in space that allows the planks to come to rest.

The gap can be covered with the mouldings that are delivered with the cabin and included in the material list. Fill the space with some mineral wool or other insulating material (**not** polyurethane foam). Also ensure that any T-panels/ recessed mouldings in the sides are approx. 50 mm clear of the bottom edge of the log over the windows and doors (this applies to cabins with log thicknesses of over 70 mm).

Painting and treatment

Paint your cabin, including the windows and doors, as soon as you can. If the season or weather doesn't permit painting, prime the cabin and paint it when the weather conditions improve.

It's important to putty on untreated windows or use paintable sealing compound designed for outdoor use on the connections between any glass and any window frames to reduce the risk of water ingress through the most exposed windows and window doors. Also check that there are no gaps between the lining and the window frame. Seal with exterior paintable sealing compound and paint the sealing compound with the same colour paint as you used outside on the windows or walls. If the windows you have are missing window sills, we recommend you buy your own.

Be especially careful when treating the end wood. Many of the problems that affect wooden cabins are due to moisture. Since moisture penetrates much more easily along than across the grain, it's important to seal the end wood with base treatment (base oil and base paint).

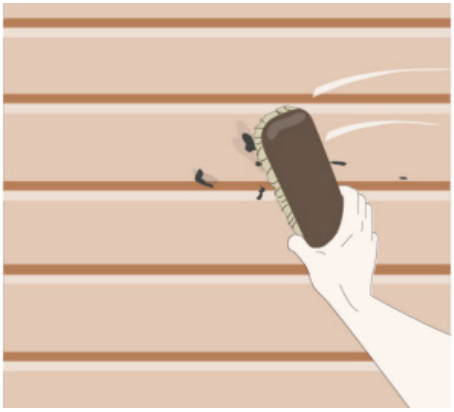
We recommend that you also consult a specialist paint shop for best results, and choose tried and tested products from a reputable manufacturer. Prefab cabins require one type of paint, and log cabins another, and there are different colours to suit different purposes. However, we recommend painting over any treatment as it provides better protection. As far as possible, choose eco-friendly products to reduce the environmental impact of your build.

Wood should be as dry as possible at the time of painting. At Polhus, we deliver our cabins with a humidity ratio of approx. 17 % from the factory.

Which colour you choose will have an effect on the wood. If you choose a black colour, the surface will be hotter in the summer, the wood will dry quickly and cracks may form in the surface of the wood. A light or white paint makes for a lower temperature in the wood. Also, cracks in the wood or between parts of the wall are not as clearly visible when you use a light colour as if you use a dark colour. You'll be able to improve your cabin with a second lick of paint after the first year when the cabin's dried out and the wood's shrunk to its proper size.

Indoors, you can paint the walls with water-soluble panel varnish. The varnish prevents the walls from attracting dirt and spores. Wood's a good breeding ground for mould and cold and damp cabins are mould's favourite habitat.

Don't forget to check for mould at least a couple of times a year. Should your cabin suffer a mould attack, you can wash away any discolouration with products made for this purpose. You can find these agents at your local paint dealer.



Care advice and maintenance

- Do not allow vegetation to come too close to your cabin as it causes an unfavourable micro-climate. Remember to leave a drip edge on the roof covering and install gutters and down-pipes to direct water away from the walls and prevent it from running down them.
- Be careful with airing and ventilation of the cabin. Wooden cabins that are left unheated over winter can be attacked by mould if the air circulation indoors is poor. Install ventilation vents in the floors and high on the walls to allow air to escape.
- Cabins need regular maintenance such as oiling of the floors, repainting, cleaning the roof of moss, emptying gutters of leaves, lubricating locking devices with locking oil, etc. The more care you give your cabin, the more comfortable it'll be for you and the longer its life.

General advice for log cabins

Log cabins shrink 1-3 % during the drying process. It's important that nothing hinders this process in the form of upright attachments such as shelves, door and window frames or anything else you add to your cabin. It's also good if the cabin is allowed to dry at a relatively slow rate so all parts of if dry at the same time and equally.

In the beginning, the inner walls will dry faster than the outer walls due to the fact that we often add heat indoors, while the outer walls adapt to the temperature and moisture content of the outdoor environment. This can create gaps between the planks which usually sort themselves out over time.

Always use adjustable brackets if you're going to insulate the inside of the outer walls afterwards, as these allow for movement in the planks without affecting the inner walls.

Retighten storm protection at regular intervals. When the cabin has fully shrunk, you can screw upright attachments such as door and window frames directly into the cabin walls.

Commonly asked questions

1. Gaps appear between the planks after a while

Cause: The log frame is prevented from settling when the wood dries.

Solution: If window and door frames have been screwed in place other than at the bottom, remove the screws. If storm protection has been tightened too tightly, loosen the bolts. If you've screwed on gutters or mounted furniture to the walls and it's preventing the cabin from settling naturally, loosen the objects for a while and let the cabin settle as it needs to.

NOTE! In our cabins with log thickness over 70 mm, there are grooves milled into the sides of the planks where T-panels are to be mounted. Check that these are approximately 40-50 mm from the underside of the top log. These T-panels can help with the mounting of windows.

2. Cracks appear in the planks after a while

Cause: Wood's an organic material that interacts with its surroundings. If it's dry out, wood dries out. If it's damp, it attracts moisture.

Solution: This is natural and does not require any action. When the weather becomes more humid, the cracks will swell.

3. Windows and doors are difficult to open and close

Cause: The original alignment of the frames has been disturbed.

Solution: Check if the foundation on which the cabin's built has settled! If so, make adjustments to make your cabin level again. Check that the frame is still rectangular and adjust the lower screws as necessary.

Check that the window or door has not absorbed any moisture and swelled. If so, wait until it's dried to take action. Wood shrinks very little along its length and the frame, which consists of longitudinal parts, shouldn't change shape. It's therefore very unlikely that the frame's shrunk and become too small for its window or door, rather it's usually a matter of adjustment.

Only in an extremely rare cases should you use a planer or sander to correct a jammed window or door, as this almost always results in a larger gap appearing somewhere else later on!

Insulation in log cabins

Construction kits from Polhus are delivered without insulation as not everyone needs a cabin that's suitable for living in all year round. All cabins can of course be additionally insulated, and in the following section we give some advice on what you should consider when adding insulation.

If you're going to insulate the floor, walls and ceiling, we recommend you start by insulating the floor, then the ceiling, and finally the walls. All steps related to insulation are shown in our **assembly instruction videos** to make it even easier for you to follow all the instructions. Note that the procedures differ slightly depending on whether you're insulating a prefab cabin or a log cabin.

Floor insulation

An uninsulated floor can cause cold feet even in summer, so it's a good idea to start consider adding floor insulation early in the construction process. This is because, if you want to insulate the floor, you must do so before you've installed the floorboards.

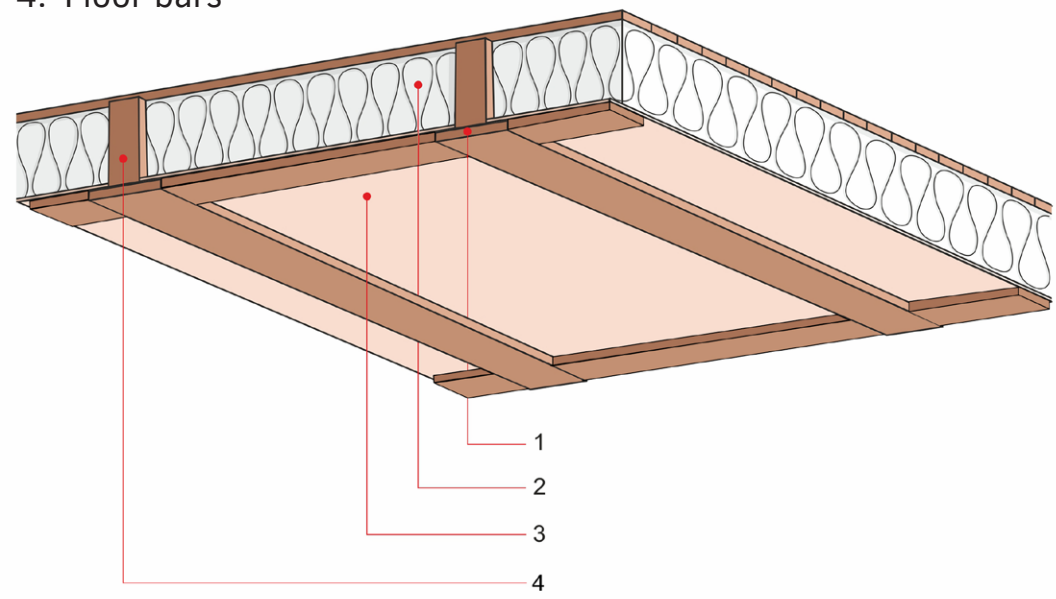
How much you can insulate the floor is primarily determined by the height of the floor bars. If you want to insulate more than the floor bars in your cabin allow, you can replace the floor bars included in the kit with other, thicker bars.

Floor insulation consists of a base that holds up the insulation called the sill plate or truss. We call the boards that hold the insulation in place insulation bottom boards. Then we have the insulation itself and the floor, which is screwed or nailed to the floor bars.

We do not recommend that you include a vapour barrier in the floor construction, as in certain climates, moisture from outside can rise up into the cabin. That moisture stops at the vapour barrier, which is adjacent to the wood, so the risk of mould formation increases.

From the outside in, floor insulation looks like this:

1. Wooden sill plates, support for the insulation boards
2. Insulation
3. Insulation bottom boards
4. Floor bars



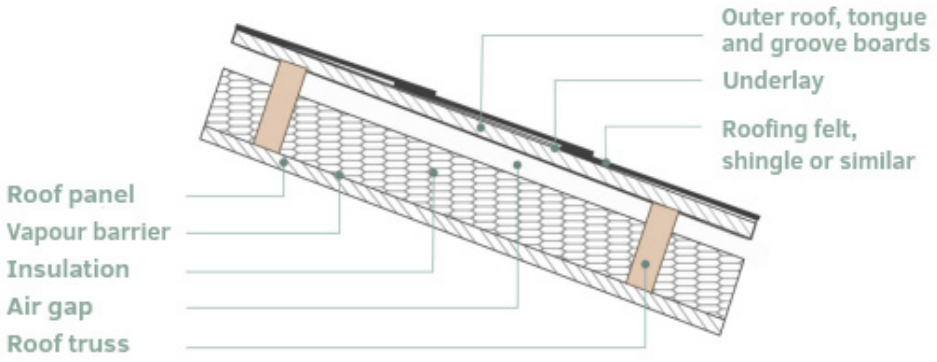
ATTENTION! To prevent the insulation bottom boards on which the insulation rests from warping over time, we recommend that you supplement with sill plates on the short sides, too, as shown in the picture. Materials for this can be found in our insulation packages, which include 22 x 95 mm impregnated sill plates. These can be sawn into shorter lengths and attached as support for the insulation bottom boards.

Roof insulation

Insulating the cabin roof is important as heat always rises, as warm air is lighter than cold air. It's also important to include an air gap when you insulate the roof to avoid moisture problems that can ultimately lead to problems with mould.

Generally speaking, the roof must be constructed in the following way, from the inside out:

- An inner ceiling of panels or boards
- Stucco/sparse panel or other installation layer
- Vapour barrier
- Insulation, mineral wool or similar
- Air gap with spacer and cardboard or masonry board
- Roof truss
- Outer roof, tongue and groove boards
- Underlay
- Roofing felt, shingle, tin, brick or other roof covering



Wall insulation

Insulation of the walls is usually done last, after the ceiling and floor have been insulated. An important difference is that the walls of a log cabin shrink in height so insulation can't be attached to the walls. The wood dries out over time and the largest reduction in volume occurs across the grain in a phenomenon called settling.

A cabin can settle between 10-30 mm per metre of wall height, depending on how moist the wood is when the cabin is built. Polhus uses sawn-dried wood, i.e. wood with approximately 17% moisture content, and this means that our cabins shrink a little less. It's therefore important that this settlement margin is found on all upright planks or other upright structures that are attached to the walls. Please note that we've built in shrinkage allowances in window and door frames. You can see this by the fact that there's a space at the top of the window opening between the window and the wall frame. When you add insulation to walls in our log cabins, you must use adjustable brackets to mount upright studs, or make other sliding studs yourself.

Attach the upright plank to the side of the adjustable bracket that has four holes and fasten the other side of the bracket with a screw at the top of the long hole in the existing walls of the cabin. Attach adjustable brackets with approximately 600 mm of c/c for excellent attachment of your wall frames. Also remember to leave a few cm of space between the uprights and the ceiling. If you don't leave this gap for shrinkage of the cabin, the walls will hang on the interior wall studs, cracks will appear between the wall panels and the cabin will no longer be tight. Correcting the error afterwards can be very laborious.

Polhus provides adjustable brackets that make installation very easy. The fittings are supplied with the appropriate screw and torx bit for your screwdriver.

You can also make sliding rules yourself by sawing one or more longitudinal holes in a rule with a circular saw. The hole must go through the entire rule. Saw so that it's at least 10 cm long, and wide enough for a screw to fit in it properly.

You can choose to add insulation either to the inside or the outside.

Adjustable brackets from Polhus

Internal insulation of the walls consists of the following layers:

- A windbreak layer attached to the walls
- Then come planks and insulation
- Vapour barrier
- Sparse panel or similar
- Interior lining

Homemade sliding rule

External insulation of the walls consists of the following layers:

- Planks
- Insulation
- Windbreak layer
- Sparse panel
- Facing panel
- Cover panel

Our packages for external insulation also include materials for external trims around windows and doors as well as gable boards, insect netting, nails, screws as well as angle brackets and adjustable brackets for installation. Materials for internal trims are not included in internal insulation packages because there are so many choices you can make with your interior trims around windows and doors, and we want to leave those decisions to our customers.

If your cabin will be heated year round and is well insulated, you can put a vapour barrier inside the wall cladding, which usually consists of a wall panel or some type of wall board. If your cabin is only used occasionally and is left unheated for longer periods, it might be a good idea not to install a vapour barrier. You can either leave it out entirely or install a vapour retarder that can transport any condensation.

Insulation in prefab cabins

Wall insulation

Many of our prefab cabins have a weatherboard mounted directly on the inside of the wall panels. It's fine to insulate directly against the wind board to the width the cabin's wall planks allows. Inside the insulation, you can choose to install a vapour barrier or directly install internal cladding, such as panels or plasterboard.

Floor insulation

Insulation of the floor is undertaken in the same way in prefab cabins as in log cabins. We don't recommend a vapour barrier as part of the insulation of floors made of wood.

Roof insulation

The trusses are slightly different in prefab cabins compared to log cabins. There are both pulpit roof and gable roof solutions, but the different roof types are insulated in roughly the same way. It's important you always include an air gap between the underside of the roof board and the insulation layer. We also recommend installing a vapour barrier on the inside of the roof, behind the interior cladding, to prevent moist air from inside the cabin from passing through the structure and condensing further into the roof.

All steps are shown in detail in our **instructional videos**, so please take a look at them before starting work.

Ventilation

Keep your cabin healthy by providing good ventilation. If you notice there's condensation inside your cabin, installing ventilation will both supply you with new air and allow old air to leave.

We recommend placing a supply air valve in each bedroom. In kitchens and bathrooms, mechanical exhaust ventilation is advisable to increase air flow in the cabin. In larger rooms such as the living room, you should install both supply and exhaust air valves diagonally across from each other in the room in order to increase air movement. Also think about the height at which you place the valves. Install low-positioned ventilation valves for supply air, as air enters from outside low down and is released from exhaust valves higher up. The cold air that comes in is heated and because warm air is lighter than cold air, the air rises as it warms and can leave the cabin though the higher exhaust vents.
Keep in mind that this only works if you add heat indoors.

Wooden cabins that are left unheated over winter can have higher levels of moisture inside, which can lead to mould formation indoors if good air circulation isn't ensured. We recommend you install a mechanical exhaust fan that starts when the moisture content of the air inside your cabin becomes too high. Other good options are the solar cell-powered supply and extract air fans we offer. They start up when the sun shines on the solar panels and create the air exchange that an unheated cabin may need in order to maintain a good indoor climate.

In our sauna cabins, the uninsulated and not completely sealed floor in the sauna part contributes to a natural flow of supply air, while a wood-burning stove contributes to natural removal of air when it's lit. If you need extra supply and exhaust air, you can install it. The suppliers of the various units we sell describe well in their manuals how they recommend you achieve good ventilation in your sauna, so please do make use of their tips. Good ventilation is important in all Polhus cabins, summer houses, sauna cabins, garden sheds and playhouses.

Warranty

Our products are manufactured from quality graded timber delivered by Northern Europe's largest manufacturer. Before the products leave the factory, the quality and contents of all packages are checked.

At Polhus, we work with systematic quality work and drive continuous development and improvement. Despite this, it can occasionally happen that you as a customer are not satisfied and have reason to complain about the product. It's important that we're given the opportunity to resolve the issue immediately. In order to be able to help you as quickly as possible, it's important we receive all the information we need, including which part of the kit has the problem. You must register your complaint on our website under Claims and returns, after which we'll be in contact with you with proposed solutions.

Polhus is responsible for errors or damages that are discovered when unpacking the cabin. If the package is damaged upon delivery, you must report it to the carrier so that it's recorded as transport damage.

Moisture or mould damage that occurs due to improper storage by the customer or after the cabin's been built is not covered by the warranty. Consequential costs incurred due to a part being damaged, incorrect or missing are not reimbursed. Consequential costs refers to costs for transport, delays in expected construction time, extra costs for externally hired craftsmen, etc.

NOTE
It's extremely important that you keep your manual and the cabin ID number that comes with the delivery. We need that information in the event of any complaint and so we can produce the correct parts when you order extras. We only accept complaints that are accompanied by a valid product ID number.

On our website, **polhus.co.uk**, you can read more about our general terms and conditions and what's covered by our guarantee. We're with you all the way and wish you the best of luck with the assembly of your cabin!

Help & Support

If you have questions about your Polhus cabin, you're more than welcome to contact our customer service and technical advice teams. Give us a call: **01625 682250**