

Giha Floor system

– Information and installation instructions



Before assembly!

- Ensure all components have been delivered
- Carefully read the installation instructions before you start
- Check all material before assembly. Do not install anything that may cause complaints



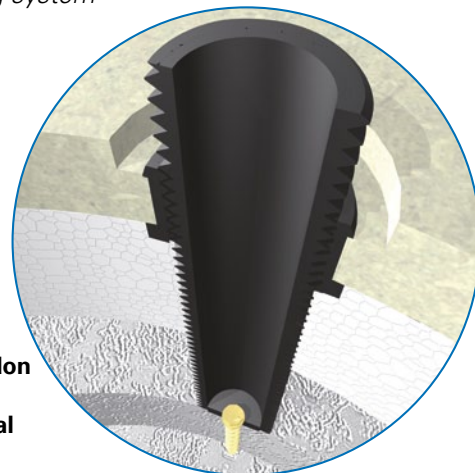
Features and benefits

Giha Flooring system develops and produces flooring systems for new constructions as well as renovations, focusing on functionality and environment. The flooring system is suitable for most types of underlayment, regardless of tilt or unevenness.

Giha Flooring systems has few components and no unnecessary construction material. The nylon screws (the legs) are directly fixed to the flooring particle board's preassembled nylon bushings, which makes it a very quick and easy system to build. Adjusting the height is also easy.

Giha Flooring system has got the solutions for:

- **Installation flooring for quick and invisible installations of pipes, cables etc.**
- **Soundproof flooring, thanks to a patented sound absorbing feet that efficiently reduces noise.**
- **Ventilated floors and walls with existing mould, damp and to some extent radon problems.**
- **Even and flat floors on uneven or tilting underlayment, such as in old industrial premises and old bolted wooden floors.**
- **Floor particle boards which can be delivered with a pre-insulated underside.**



The flooring system has an extremely low build height and self-developed ventilation channels which builds just 20 mm in height. The flooring particle boards can also be delivered with preassembled foam insulation, 20 - 100 mm. The high quality floors are robust and durable. Giha Flooring system is produced in compliance with existing regulations and all components can be reused or recycled. Certified training and support can be provided.

Components

	Installation flooring	Acoustic flooring	Ventilation flooring
Flooring particle board EN 312 P6 (V20), 620x1820x22 mm with preassembled bushings	X	X	X
Flooring particle board EN 312 P7 (V313), 620x1820x22 mm with preassembled bushings	X	X	X
Nylon screws 160 or 250 or 400 mm	X		X
Nylon screws Acoustic flooring 200 or 400 mm		X	
Screw hole covers (only when laying plastic carpet, self-leveling)	X	X	X
Preassembled insulation can be provided	X	X	X
Concrete screw	X	X	X
Nail expander	X		X
Glue for particle boards	X	X	X
Sound absorbing feet		X	
Rubberized steel sleeve		X	
Locking screw for sound absorbing feet		X	
Exhaust fan			X
Alarm panel			X
Iris damper			X
Conduit			X
Ventilation conduit straight			X
Ventilation conduit T-joint			X
Ventilation conduit 90°			X
Ventilation joint			X
End cap ventilation conduit			X
Joint tape			X
Sealing tape			X
Membrane sealing			X
Leveling filler			X
Sealant			X
Primer			X
Smoke bottle			X
Filter			X

Spiro pipes is not included

System description Giha Installation Flooring

Old houses as well as industry and factory premises can easily be rebuilt without the need to lay a new foundation or bolting the floors. Pipe laying is easy and pipes will be invisible under the completed floor. Thanks to the nylon screws' level regulatory function, floors will be completely even and level.

Build height, including the flooring particle board, can be adjusted between 26-400 mm for unventilated flooring and 52-400 mm for ventilated flooring.

The flooring particle boards can be delivered with a preassembled foam insulation.

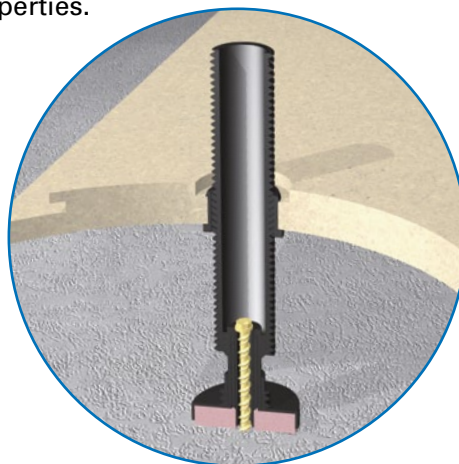
System description Giha Acoustic Flooring

Giha Acoustic Flooring has sound absorbing feet that reduces footfall noise and absorbs movements vertically.

For specific purposes the footfall noise reducing sound absorbing feet can be replaced with another quality, for example in cases where loads are heavier than normal. Giha Acoustic flooring is designed for installations in dwellings so that requirements according to BBR (Boverket ByggRegler) and Swedish Standard 25267 can be met. The floor has been control measured in a laboratory in compliance with SS-EN ISO 140-3 and SS-EN ISO 140-8 and thus we report necessary data to carry out careful calculations of the finished building, according to SS-EN 12354.

In this way it is easy to determine how the product should be combined with frame and adjoining constructions, so that prescribed sound class requirements according to SS25267 can be achieved (class A, B or C). Class C is the

minimum requirement according to BBR construction regulations, while class A and B are applied when more stringent requirements are aimed at. By choosing the right frame and other product combinations the system can be used to meet the sound requirements of all sound classes. P-labeling does not refer to the acoustic properties.



System description Giha Ventilation Flooring

Giha Ventilation flooring is a stand-alone ventilation system in the building and should not be connected to the general ventilation. The ventilation system removes odor and will after a while reduce the underlayment humidity to the extent that mould cannot grow. Underflooring ventilation is created by air being sucked into channels that are laid under the floor. Indoor air is brought down to the floor via filter-equipped air inlets.

The filters are used to prevent dust particles from entering and settle underneath the floor, since over time this might impair the functionality of the ventilation flooring.

The floor exhaust air, i.e. the air that is sucked from the floor, is evacuated outside the building at the frontage or roof. The exhaust air should not be emitted near patios, close to bedrooms (window opening) or near the housing air inlet, because of the risk of odor. GIHA Ventilation Flooring can be fitted with an alarm that will immediately alert the user in case the fan has stopped or for any other reason does not work in a satisfactory way.

GIHA Ventilation Flooring efficiently prevents odor that is sometimes present in indoor air.

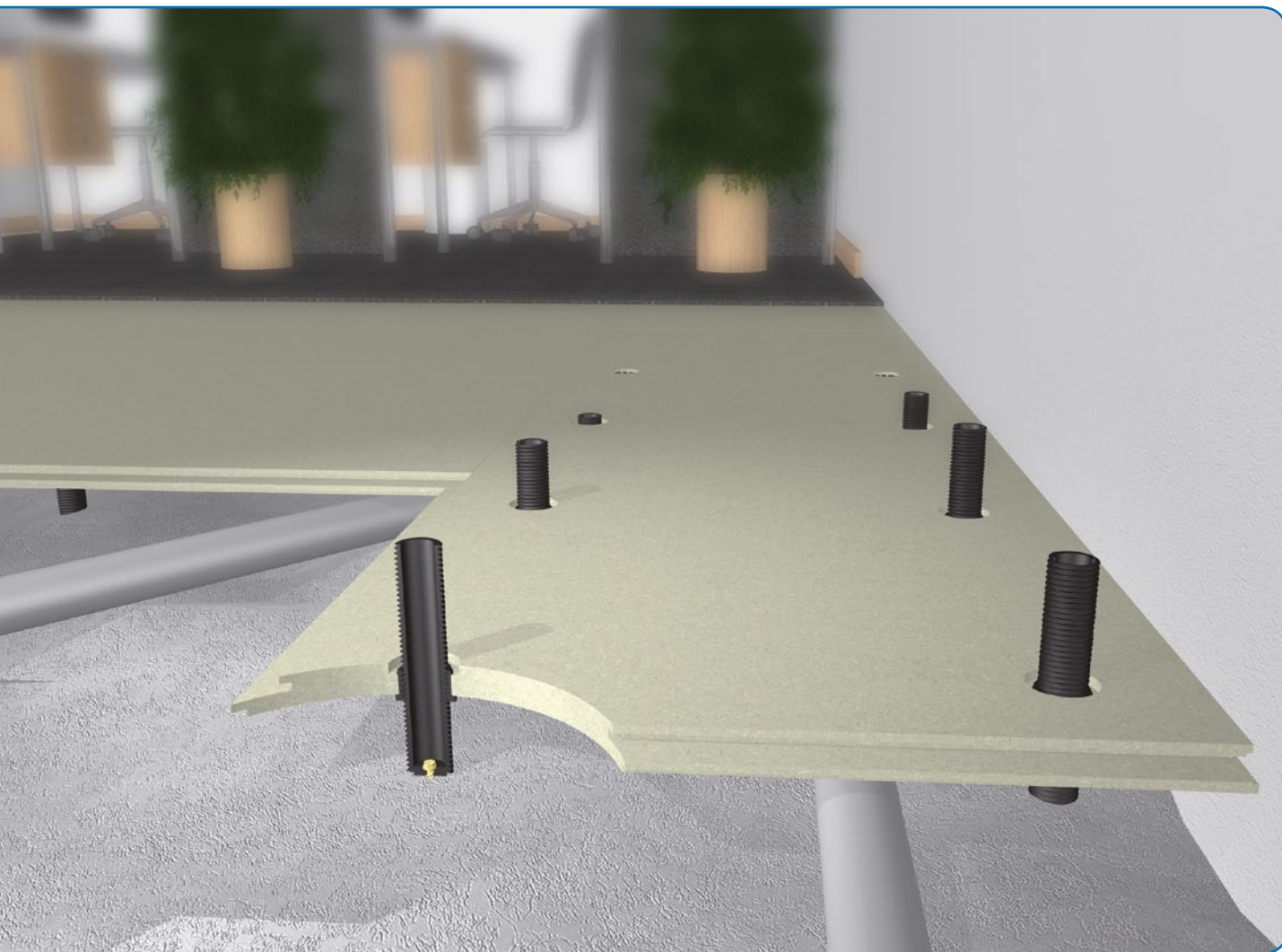


The flooring system is intended for normal furnishings and loads as class A according to EKS and Eurocode EN 12871. In case of abnormally heavy load, enforcements might be required according to separate instructions and handling. Contact Giha Support.

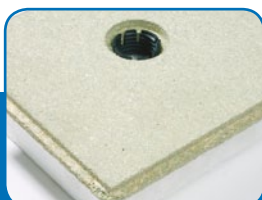
Giha Installation Flooring

Flooring for uneven underlays

It is quick and easy to transform old houses, industry and factory premises into offices or similar without the need to lay a new foundation or bolting the floors. Pipe laying is easy and pipes will be invisible under the completed floor. Thanks to the nylon screws' level regulatory function, floors will be completely even and level. The system is also suitable for old uneven bolted wooden floors etc. Build height, including the flooring particle board, can be adjusted between 26-400 mm for unventilated flooring and 52-400 mm for ventilated flooring. The flooring particle boards can be delivered with a preassembled foam insulation.



There are few components and the floor can handle heavy loads. The flooring particle boards are 22 mm thick, with 10 nylon screws fixed with c-c 400 mm. The nylon screw is fixed to the underlayment using the supplied mounting details. The nylon screw is cropped at the upper edge of the bushing, after the correct level has been set. When laying a carpet or self-leveling the screw is milled down and the screw hole covers are glued into the holes. The screw hole covers are sanded down before laying the carpet.



Preassembled bushings



Concrete screw for fastening



Nail expander for fastening



Screw hole cover

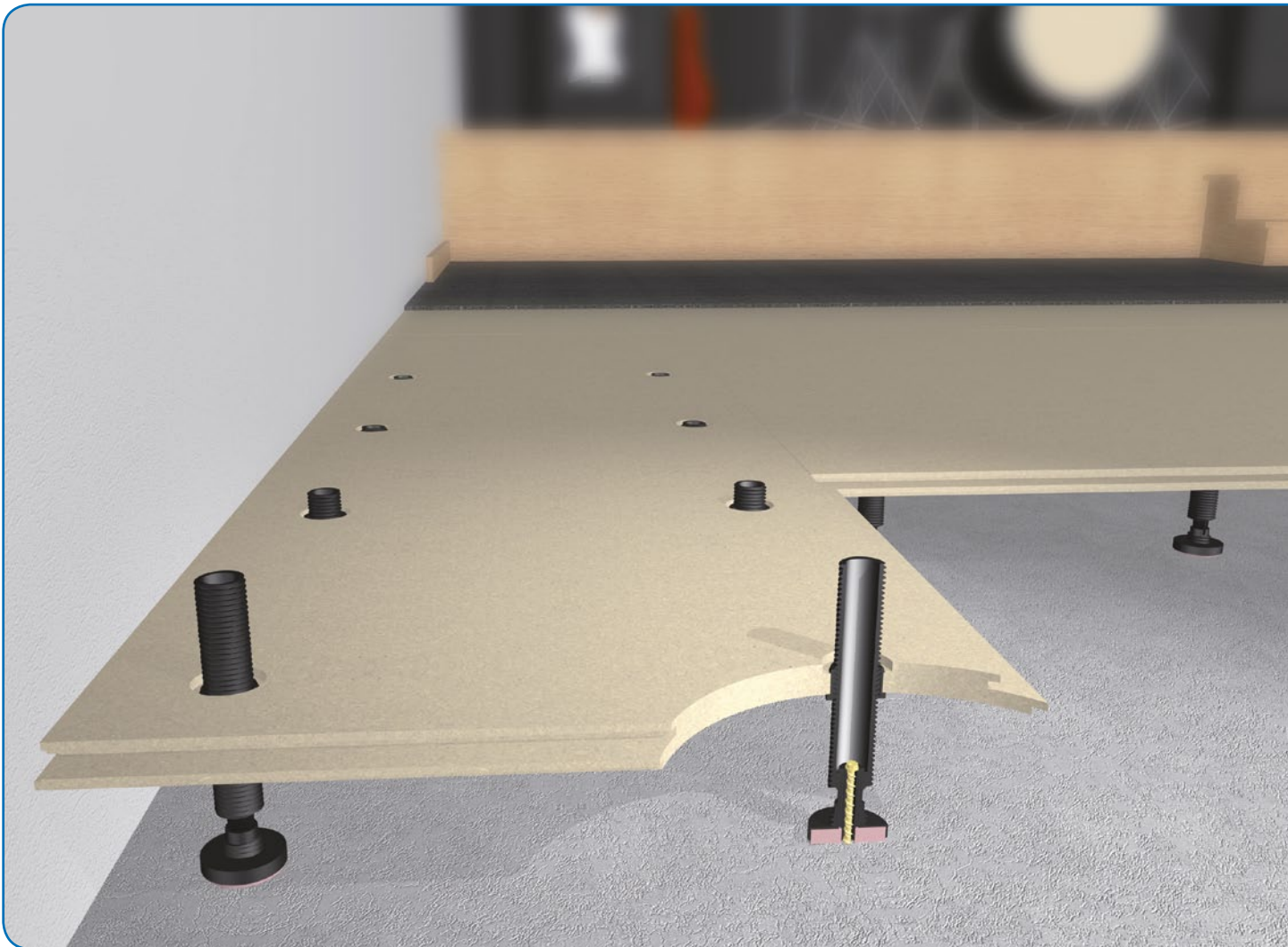


Double nozzle for glue application

Giha Acoustic Flooring

Soundproof flooring

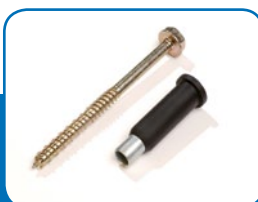
Giha's patented sound absorbing feet has a large noise absorbing surface. Noise is efficiently reduced and prevented from spreading to surrounding rooms and premises. The flooring particle boards can be delivered with preassembled foam insulation.



We report input data for calculation of soundproofing in accordance with SS EN 12354. The measurements are carried out in compliance with ISO 140 at SP in Borås, Sweden and for a standard floor in a lab the footfall noise is reduced by 26 dB.



Patented sound absorbing feet



Concrete screw and sleeve for fastening



Double nozzle for glue application

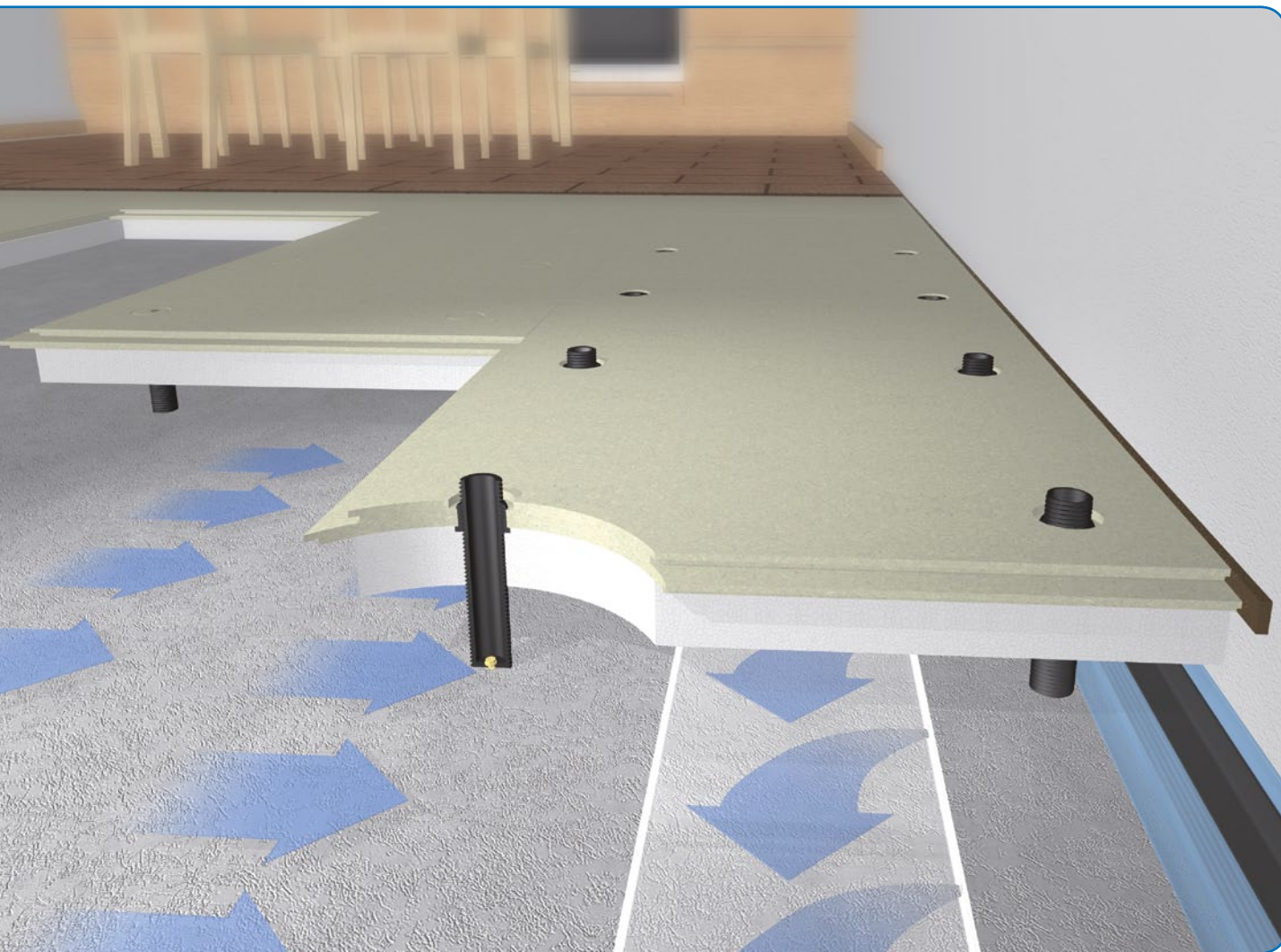


Patented vacuum nozzle for drilling

Giha Ventilation Flooring

Ventilated flooring for good indoor environment

In case of existing damp, mould or to some extent radon problems the flooring should be fitted with ventilation conduits and exhaust fan. Thanks to the underpressure ventilation a drying effect is obtained and odor is efficiently discharged outside. The ventilation conduits have a very low build height, which is preferable since there is no need to replace existing doors. The picture illustrates flooring particle boards with preassembled foam insulation.

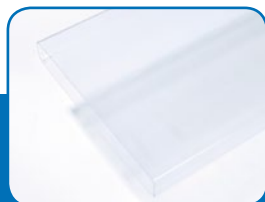


The ventilation conduits are joined with supplied splice tape. The channels' build height measures just 20 mm, resulting in an extremely low build height.

The conduits are delivered in lengths of 2 metres with elbows and end caps, as well as spigots for connecting the exhaust fan with the spiro pipe.



Exhaust fan with iris damper



Ventilation conduits



Splice tape



Preassembled insulation

Giha Underfloor heating

52 mm underfloor heating

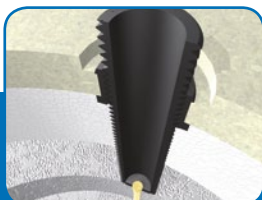
Giha Underfloor heating is a complete hydronic floor heating system based on the same reliable, high quality concept as in all the other products. Giha Heated Flooring provides quick and easy access to comfortable floor heating where otherwise major disruptions on the premises would be required.



In general floor heating provides a more pleasant indoor environment and comfortable heating distribution. Giha Heated Flooring system is patented (pat. no: 1000240-0). Insulation boards and heating plates are not included in the P-marking or approval.



Also suitable for soundproofed flooring



Nylon screw in a pre-assembled bushing



Suitable for all floors regardless of tilt and irregularities

Preparations and measures before assembly



Start by carefully reading the control plan, page 14-15.

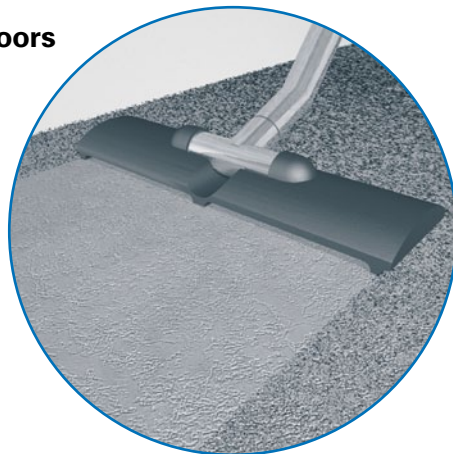
Clean and vacuum the floor surfaces. Then check that the finished floor will have the correct height relative to doors and other important connections.

Note! If there is a risk of remaining moisture in the floors or walls or if there is a bad odor, the Giha Ventilation system should be installed. Giha Ventilation system can also be used in certain cases of radon problems. Find out more on how to proceed on page 11 or contact our support for tips and advice.

When installing mechanical ventilation, start by performing steps 10-12, page 12.

Tools needed:

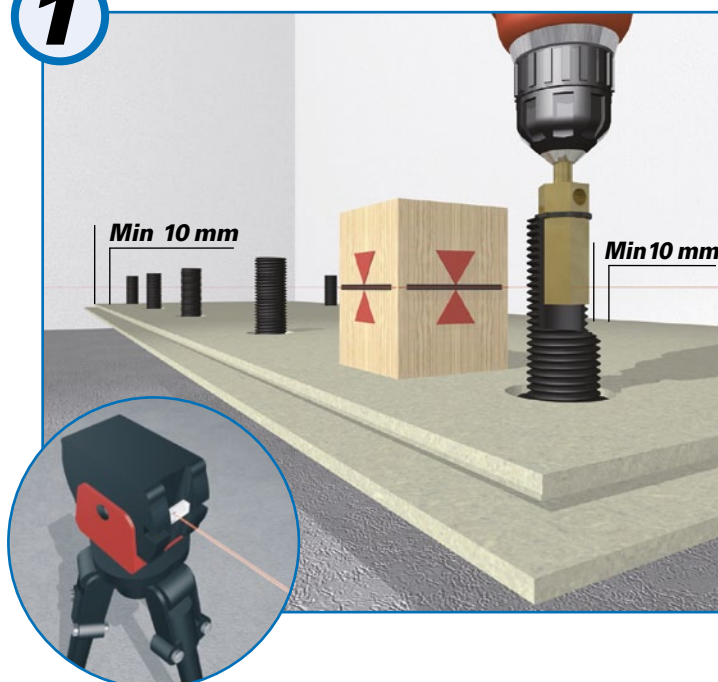
- Giha toolkit
- Circular saw
- Handsaw
- Router with a 12 mm chuck
- Hammer drill
- Industrial vacuum cleaner
- Line laser on a tripod
- Double nozzle for glue bootle
- Screwdriver for mounting the nylon screws to the floorboard



Giha toolkit.

Installation of Giha Installation Flooring

1



Mount all nylon screws to the pre-assembled bushings of the first flooring particle board.

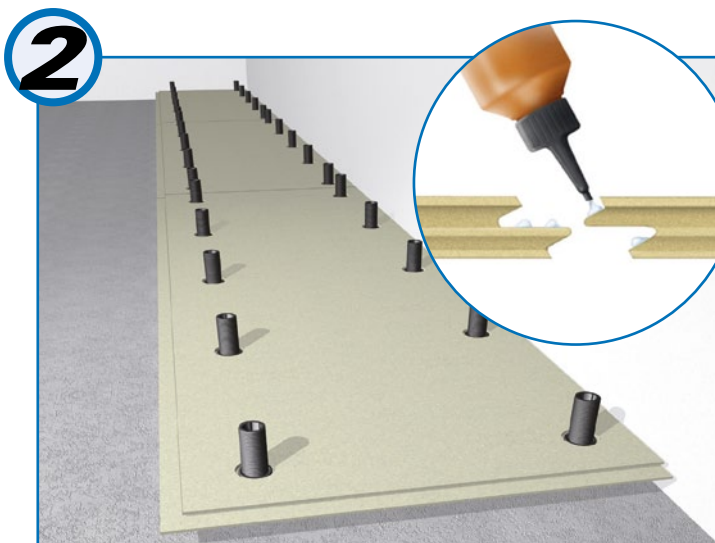
Start in one corner and lay from left to right. Carefully adjust the boards height and sidewise. Use a line laser or a spirit level and straight-edge. **Leave a 10 mm expansion gap against the wall.** Large floor areas get an expansion gap every 10 metres.

Attach the first flooring particle board to the underlayment according to picture 3 and 4, page 9.



When installing ventilation flooring, the flooring particle board's tongued edges against walls should be cut off and later be provided with sealing tape (see picture 13, page 13).

Installation of Giha Installation Flooring



Continue installing the first row of flooring particle boards. Apply glue to the joints carefully, so that the whole joint is filled with glue. Use the double nozzle for the glue bottle (supplied with the Giha toolkit) and use glue such as Casco 3303 wood glue or equivalent. For flooring particle boards of EN 312-P7 (V313) quality, Casco 3337 or equivalent should be used.

! To prevent gaps, ensure the flooring particle boards are properly merged. Use a tapping block.



Drill a hole through the nylon screws so that these can be anchored with concrete screws or nail expanders. Use the Giha vacuum nozzle that comes with the Giha toolkit to efficiently suck up all drill cuttings.

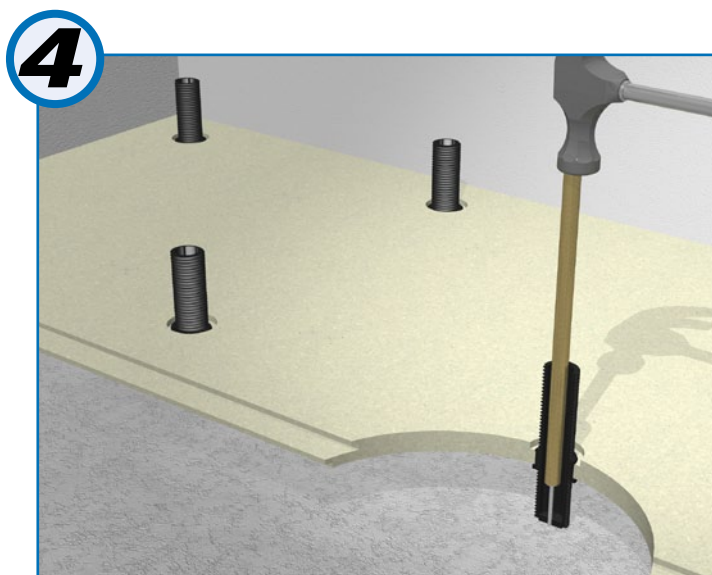
! To find out which fastening element is suitable for the existing underlayment, try them in several different places of the underlayment.



Concrete screw



Nail expander

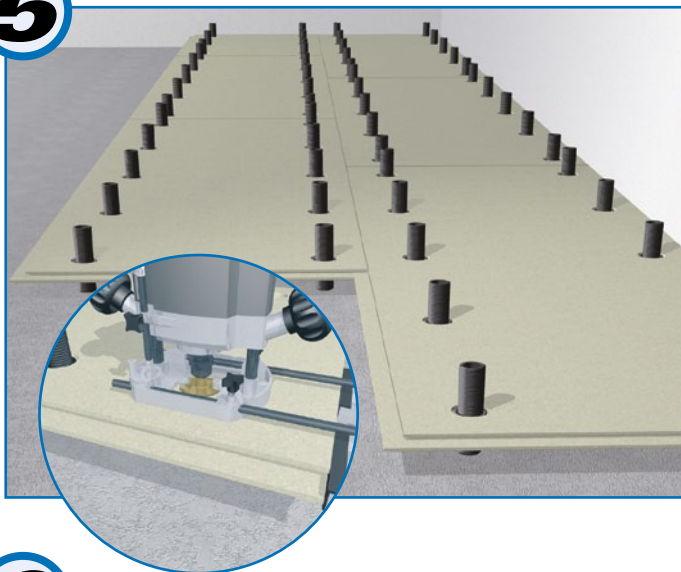


Then anchor the entire first row of flooring particle boards to the underlayment.

! By doors, entries or higher point loads, mounting an extra nylon screw is recommended.

Installation of Giha Installation flooring

5



Continue installing the next row of flooring particle boards. The short side joints of the adjacent row will be shifted approximately 400 mm. When cutting the flooring particle boards, new holes for bushings should be milled 100 mm from the wall using a Giha router. Use a router with a 12 mm chuck. Vacuum any mill-chippings from the underlayment (concrete base). Insert the enclosed bushings into the holes.



Caution! Cutting depth. The bushing must NOT be loose!

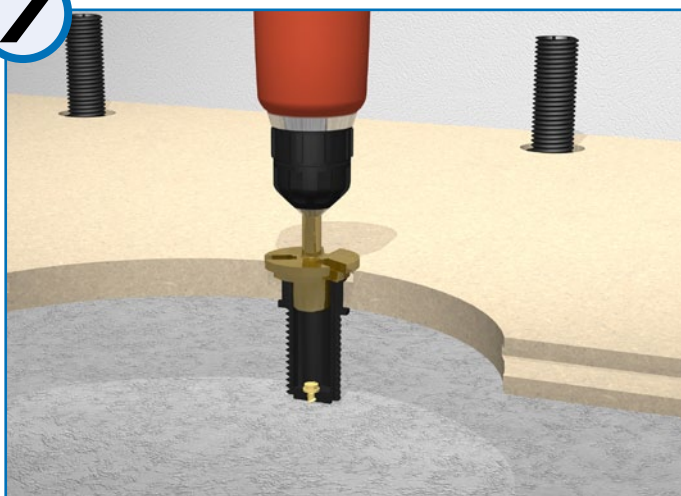
6



Attach the first row of the nylon screws to the underlayment. Apply glue and lay the next board row. Anchor the outer screw row to the underlayment. When the entire floor is laid, attach the nylon screws closest to the joints too.

As a next step, cut the protruding nylon screws using a "Multi-cutter" or saw.

7



Only applies when laying carpet or self-leveling:

To mount the covers, the nylon screws are milled down .

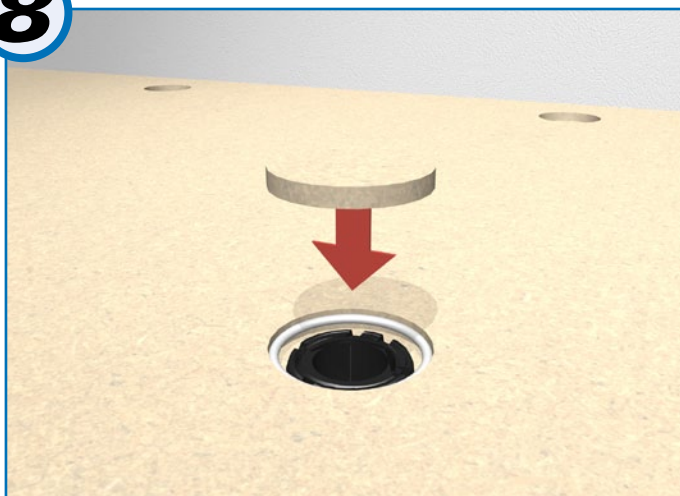
The router should reach the bottom of the flooring particle board. Ensure the particle board moisture ratio does not exceed 8 % when laying a carpet.



Clean/vacuum after cutting.

Installation of Giha Installation Flooring

8

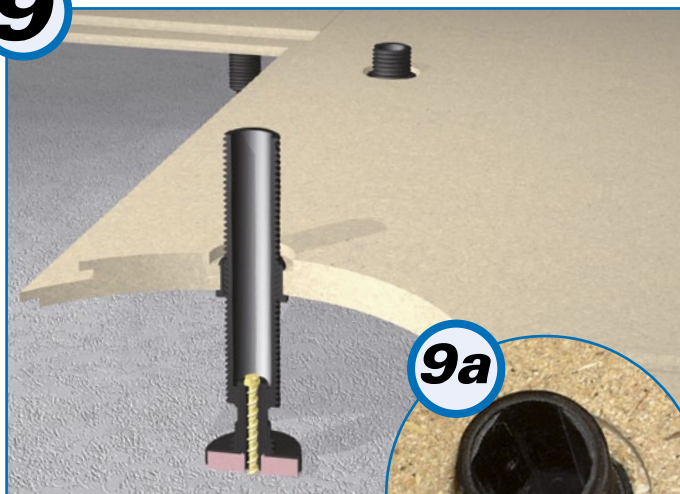


Use glue to attach the supplied screw hole covers in the holes. The screw hole covers should be sanded down before laying a carpet or similar.

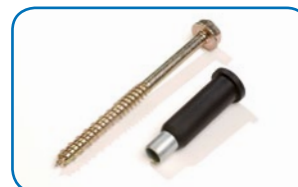
Note! Screw hole covers are only required when leveling and laying carpet.

Installation of Giha Acoustic Flooring

9



Install Giha Acoustic flooring using the same method as when installing the Giha Installation flooring. Before drilling, a rubberized steel sleeve is mounted to the nylon screw. The nylon screw and sound absorbing feet are then attached to the underlayment using a Giha concrete screw.



Screw for fastening sound absorbing feet, 80 mm and a rubberized steel sleeve.

For each new row of flooring particle boards, adjust all sound absorbing feet to the concrete. Then anchor the flooring particle boards using two concrete screws. After height adjustments, lock all nylon screws using a set screw, as illustrated in picture 9a.

Installation of Giha Ventilation Flooring

Note! All ventilation installations should be carried out before laying the floor.

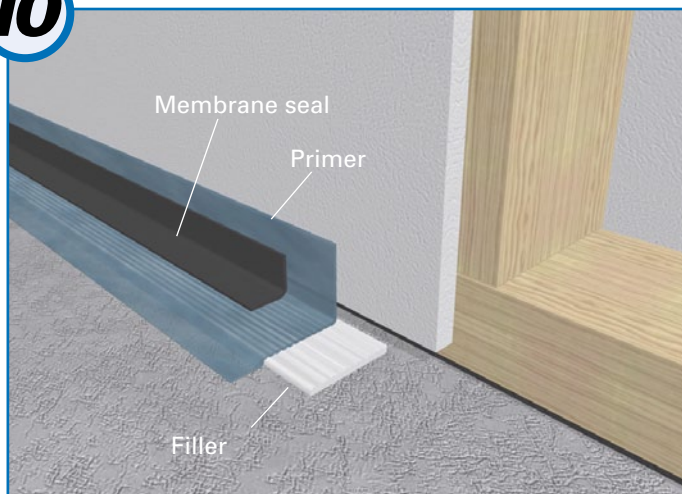
Check the concrete base to ensure there is no air leakage, such as permeating cracks (using a smoke bottle). Inspect and seal any penetrations, cracks, holes or similar. All surfaces adjoining mechanically ventilated areas should be sealed to prevent air leakage. Any cracks in the concrete are sealed using the same material as for the floor - wall angle, as illustrated in picture 10.



If there is any uncertainty regarding underpressure ventilation and Giha's ventilation flooring, please contact our support.

Installation of Giha Ventilation Flooring

10



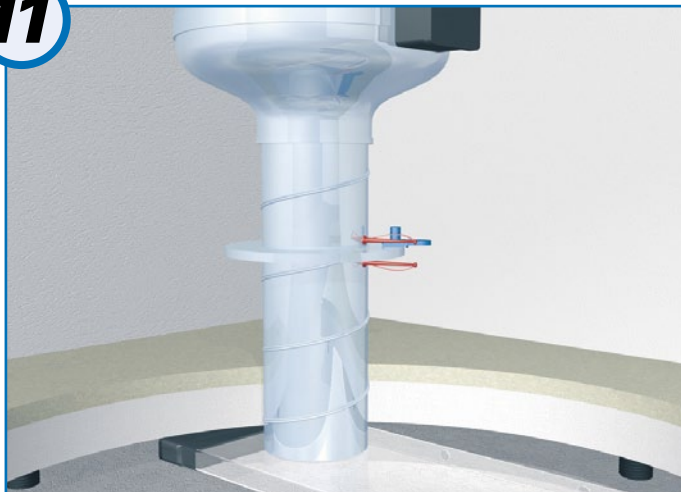
Carefully seal the floor and wall angle using Giha membrane sealing to prevent air leakage.

If the underlayment is uneven, apply leveling filler. Before applying membrane sealing, ensure better adhesion by priming walls and floor.



For optimal functioning of Giha ventilation flooring, a thoroughly sealed floor and wall angle is a prerequisite!

11

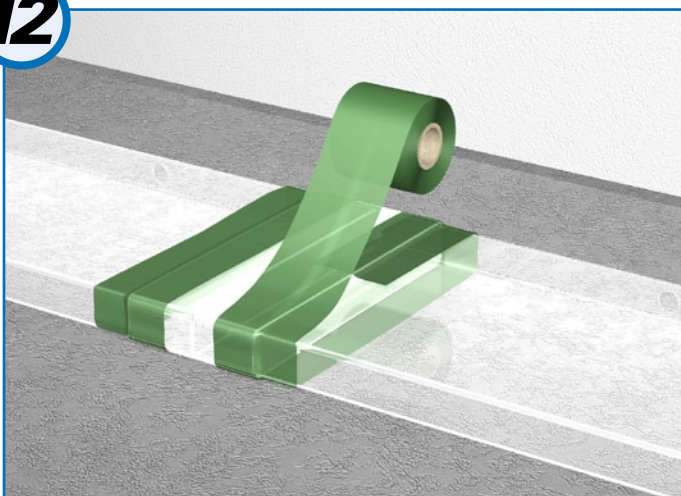


Find out where to place the exhaust fan. Hidden in a wardrobe or similar is recommended. Exhaust air odor should be taken into consideration. Ensure the exhaust air will be evacuated in the correct place. See planning document.

Begin with the spigot equipped "start conduit" where the fan is to be placed. Then place the ventilation channels according to the planning document, with the pre-drilled holes against the wall.

Mount the exhaust pipes (spiro pipes Ø 100 mm) to the start conduit's spigot and mount the iris damper and fan to the pipe. The iris damper should be placed approximately 30 cm before the fan.

12

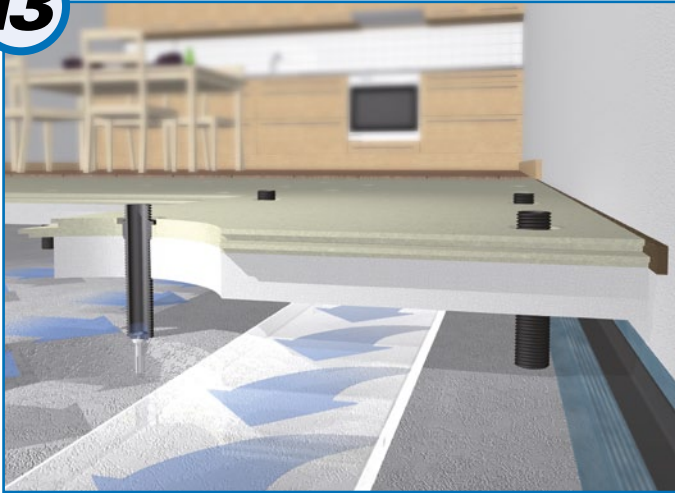


To make the ventilation channels the right size, simply cut them using a regular handsaw.

Join the channels and seal joints and ends carefully using Giha joint sealant. With ventilation channels and exhaust air device in place, a density check of the channel system should be carried out together with the fan.

Installation of Giha Ventilation Flooring

13



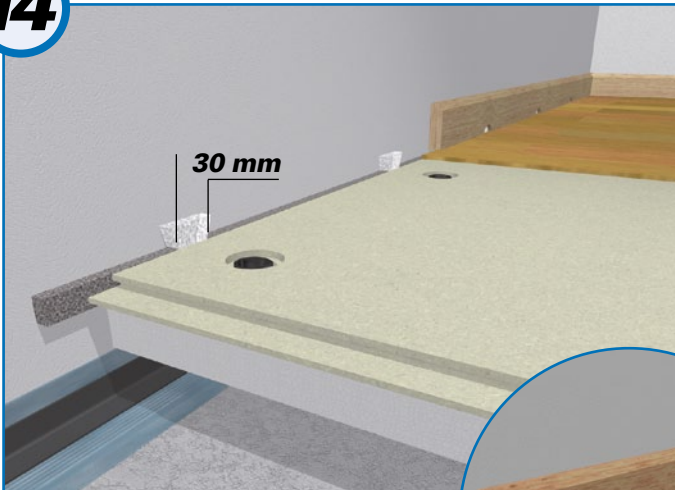
Flooring particle boards against walls should be cut to remove the wall facing tongue. Use a vacuum cleaner to suck up any cuttings from the underlayment.

Leave a 10 mm expansion gap approximately 10 mm from the wall. Large floor areas get an expansion gap every 10 metres. This is where Giha's sealing tape will later be mounted.



All other piercings in the flooring particle board should be sealed to prevent air leakage.

14



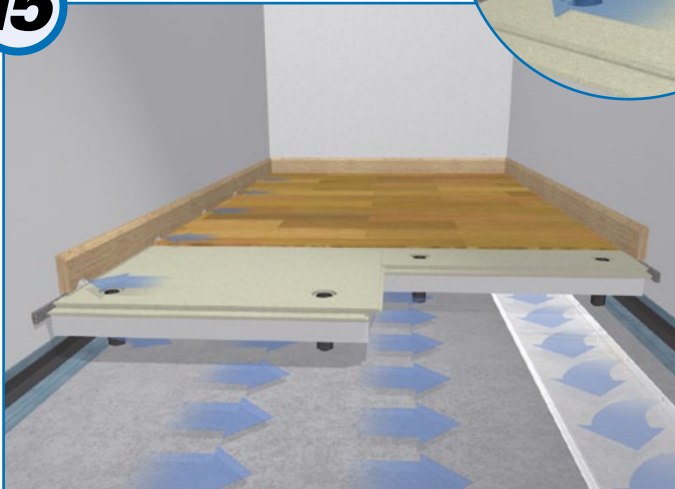
When the entire flooring is laid a sealing tape should be mounted. The sealing tape is pushed down between the flooring particle board and the wall. Ensure the sealing tape fills out properly.

Leave a 30 mm opening for filters on c-c 400 mm, in accordance with drawing.

Ensure the filter is hermetically sealed against the cavity to prevent dust from entering and settling underneath the floor.

Giha Floor system can be equipped with supply air duct with filter instead of the intake air with skirting.

15



Ensure the boards' dampness ratio does not exceed 8 % when laying a carpet. When the flooring system is completed and the floor coating is laid, the skirting board is mounted.

Note! Add a 30 mm socket in the skirting board for air intake, c-c 400 mm adjacent to the filter.



Adjustments and inspections of the mechanically ventilated flooring system should and must be carried out by an authorized adjuster only.

Control plan and functional testing

Name: _____

Property unit designation: _____

Order number: _____

Address: _____

Paragraphs highlighted in **red** to be completed by contractor.

Paragraphs highlighted in **blue** to be completed by inspector.

Checkpoints	Date and name of inspector	Function approved		Comments
		Yes	No	
1 Delivery inspection to ensure that: delivery matches the delivery note, no material has been damaged during transportation, stored material has been covered or kept indoors.				
2 Check the underlayment in order to choose the correct fastening method.				
3 Additional reinforcements at doors and point loads are made.				
4 Movement joints are correctly made.				
5 Floor angle sealing (concrete base - wall) is done correctly				
6 Any concrete base leakage is sealed and checked. In case of underpressure indoors relative to outdoors, use a smoke bottle to check.				
7 Any organic material on the concrete base has been thoroughly vacuumed. Ocular inspection.				
8 There are no leaks in the ventilation channels (joints, end caps, collar saddles etc.) Use smoke with a connected fan for verification.				
9 There are no leaks in the fan housing or where the fan is connected to the channel. Use smoke for verification.				
10 There are no leaks in the fan housing or where the fan is connected to the channel. Use smoke for verification.				
11 Airtight connection between floor board and wall (not valid by the air intake). Check with smoke and ventilation in operation.				

Checkpoints	Date and name of inspector	Function approved		Comments
		Yes	No	
12 Filter is mounted between plinth and wall by the air intake. Ocular inspection, possibly with smoke and ventilation in operation.				
13 Air and water tightness between exhaust air channel and the outdoor frontage. Ocular inspection.				
14 Fan and damper settings are recorded in the Comment section and the damper is mounted according to instructions on damper (measurement indications).				
15 Air flows to the floor by all air intakes. Use smoke for verification.				
16 Any difference in pressure is measured above the floor, by the air intake, a hose is brought down to the floor via the intake filter, furthest away from the fan. Measured value and location is recorded in the Comment section (approved measured value > 0,5 Pa)				
17 Total airflow from floor is measured. Measuring method, measured airflow and floor space is recorded in the Comment section. (<0,08 l/sm ² floor space)				
18 Alarm function has been fitted and inspected.				
19 The user has been given operating instructions (alarm, cleaning, filter etc.)				
20 For natural draft ventilated houses: use a smoke bottle to check all channels, with the floor ventilation in operation, to ensure that the air-flow does not turn around in the exhaust air channels for general ventilation and flows back into the house.				
21 A marking label is sent out after the control plan has been received and should be placed near the fan. The location is recorded in the Comment section.				

Environment & Quality

All products in our system are part of the natural cycle for reusing or recycling.

Requirements are gradually increased to ensure our products continue to be among the best, both from an environmental and quality perspective. Our products have been examined, tested and approved according to certification rules that exist for different product areas.

Product description

For more information, visit our website.

Handling instructions

1. EN 312 P6 (V20) boards in general

Wood white particle boards, the so-called EN 312 P6 (V20) boards, are intended for use in dry indoor environments. Not for use outdoor, in rain or high humidity.

2. EN 312 P7 (V313) boards in general

Moisture resistant particle boards, the so-called EN 312 P7 (V313) boards, are intended for use up to a relative humidity of 80%. Short-term (no more than a couple of days) higher relative humidity could be allowed.

3. Protection during transport

When transporting the boards they should be protected from precipitation and pollution.

4. Protection during storage

Boards should always be handled with care. All boards should be stored on a flat and horizontal surface. **Note!** Never stack the boards directly on the ground.

EN 312 P6 boards are stored indoors

In the event of short-term outdoor storage, the boards should be completely covered with tarpaulin or similar. Optimal storage condition is 15 - 20°C and 40 - 50 % relative humidity. When stored in damp areas the particle board packages are wrapped in plastic foil (polyethylene foil). In case of a significant drop in temperature the humidity might turn into condensation. In that case, uncover the packages to avoid damage from moisture.

EN 312 P7 boards can be stored outdoors, but should be protected from precipitation etc. using a tarpaulin or similar. Long-term, the relative humidity of the storage area may not exceed 80%. If profilerade boards are exposed to high humidity long-term, their profile might be damaged (swelling) and assembly might be difficult.

5. Formaldehyde

The particle boards are produced with an extremely low formaldehyde content, according to the E1 norm and meet the requirements of the Swedish Chemical Agency.

Technical support:  +46 70 623 76 60



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