ISOVER 50 years Vario System Warranty

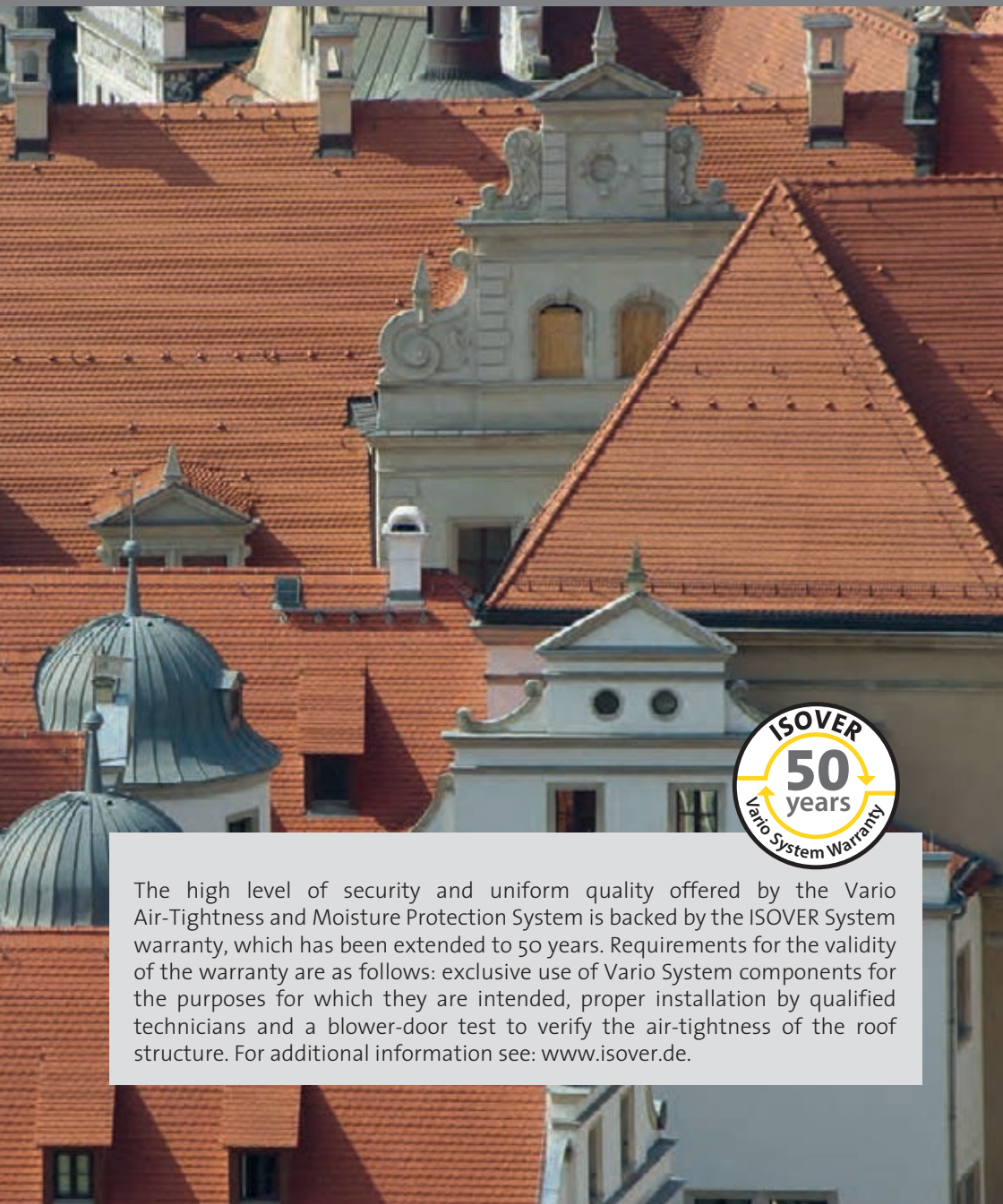
Air-tightness and moisture protection with the Vario Complete System

Professional Tips

ISOVER SAINT-GOBAIN

Your environment. It's the nature of our business.

Security Guaranteed



The high level of security and uniform quality offered by the Vario Air-Tightness and Moisture Protection System is backed by the ISOVER System warranty, which has been extended to 50 years. Requirements for the validity of the warranty are as follows: exclusive use of Vario System components for the purposes for which they are intended, proper installation by qualified technicians and a blower-door test to verify the air-tightness of the roof structure. For additional information see: www.isover.de.

Value Guaranteed

Reliable protection with the Vario System
Over the long term, moisture in a structure has serious consequences. If air-tightness and moisture protection are not reliably guaranteed, expensive structural damage can result – including rotting wooden beams and mold. And if the roof truss gets wet, you as a contractor can quickly find yourself in trouble if the owner of the structure sues for damages.

The use of the ISOVER Vario air-tightness and moisture protection system provides reliable protection against structural damage thanks to the Vario KM and Vario KM Duplex UV variable climate membranes and a series of sealants and adhesive tapes perfectly coordinated with the film material, all commonly encountered structural substrates.

Know-how from specialists for specialists
This manual is a compilation of our most valuable Tips from professionals in the proper preparation and installation of the Vario System components. This practical guide will lead you step by step through complex installation scenarios you would be likely to encounter on any construction site.

Training for professionals: ISOVER Academy
ISOVER Academy offers training programs in the proper installation of the air-tight layer. For additional information, turn to page 63 or visit www.isover.com.

Scan this QR Code
to see our professional
tips online.

Professional tips to make your job easier

Professional tips for indoor use

Professional tips for outdoor use

Removing the cover strip from adhesive tape

An easy way to remove the cover strip from adhesive tape without damaging the adhesive surface:

1. Cut the adhesive tape straight across. The ruled surface of the tape makes it easy to measure out the required length.

2. With one hand, bend the cut edge slightly downward in a U-shape without folding or creasing the tape.

3. Run one finger of the other hand across the edge to easily remove the cover strip from the adhesive surface.

Removing the liner from sealing tape

Use a utility knife to easily remove the transparent liner of the Vario ProTape and Vario ProTape Xtern sealing tapes.

1. Unroll the sealing tape gradually, only as much as you need and can handle easily, and glue it in place immediately. Make sure not to touch the adhesive surface and prevent the tape from coming into contact with the dirt created by the construction project.

2. Roll out any air pockets or wrinkles in the sealing tape using a rubber roller, making certain to press firmly on the sealant.

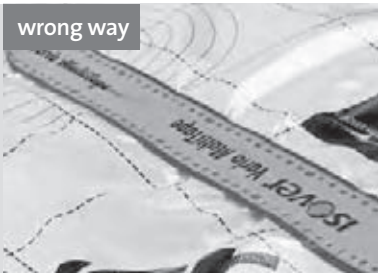
3. Use the tip of the utility knife to lift up the transparent liner. Then pull off the liner without touching the adhesive surface and apply the tape immediately to the film material. This method preserves the strong and immediate adhesive strength of the adhesive tape.

Don’t over-stretch the adhesive tape

Make sure not to over-stretch slightly elastic adhesives tapes with backing (such as Vario MultiTape) when applying them to film.

1. If the adhesive tape is over-stretched when it is glued to the film, it wrinkles the film on account of the extra-strong adhesive strength of ISOVER adhesive tapes.

2. Result: The film develops wrinkles through which the air can circulate, potentially resulting in leaks.



3. To guarantee an air-tight installation, affix the adhesive tape without applying excess tension.
Result: The film remains flat. The climate membrane is sealed airtight and so works the way it was designed to.

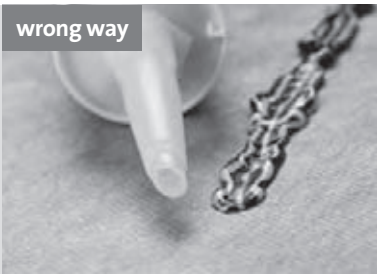
Trimming the Vario DoubleFit cartridge tip into a V-shape

Cartridge tips must be trimmed before they are used for the first time. The quality of the final result is determined by the type of trimming.

1. The correct trimming of the cartridge tip ensures an optimal application of the bead. ISOVER recommends a V-shaped notch.

2. For purposes of comparison: With a V-shaped double notch, the bead is round and thick, perfect for the air-tight sealing of the film.

3. With a simple diagonal cut, the bead is pressed flat when it is laid down and does not have sufficient volume to create an optimum seal.



V-shaped sealing of the climate membrane with Vario DoubleFit

The adhesive sealant, which can be applied to any surface, must not be pressed flat when creating the seal. It is important to use 2 fingers to seal the film in a V-shape.

1. Using a cartridge tip cut in a V-shape (see page 9), squeeze out a generous bead of sealant and lay the film on top of the bead.

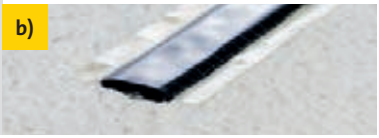
2. To seal the film in a V-shape, run two fingers along the bead of sealant and apply slight lateral pressure to the bead. You can also seal the film by pulling a wooden template along the top of the bead.

3. A small mound of sealant must remain underneath the film to create an optimum air-tight seal.

Sealing the climate membrane to plaster

Vario ProTape (a) and Vario ProTape Xtern (b) sealing tapes can also be used to seal the climate membrane to rough-plastered substrates.

1. First glue the sealing tape to the plaster.



2. Then lay the film material on top of the tape and apply gradually. Use a rubber roller to roll out any wrinkles or air pockets anywhere the tape has been applied. In this case, apply pressure primarily to the sealant.

3. Desired result: The plaster breaks off when you try to pull off the strip of tape. Because of its excellent adhesive strength, the sealing tape bonds with the substrate immediately. This bond ensures a permanent airtight seal with the climate membrane.

Preparing a primer using Vario DoubleFit

Because Vario DoubleFit sealant is water-soluble, you can easily use it to prepare your own primer.

1. What you will need: a jar filled with about 1 cm of water, a clean brush and Vario DoubleFit.

2. Squeeze enough Vario DoubleFit sealant into the jar to cover the surface of the water. Use the brush to thoroughly stir the mixture.

3. Primer prepared as above can be used on porous and non-adhering substrates for excellent results. The substrate is stable after drying briefly (until it is dry to the touch).

Airtight corner sealing of OSB sheets in wood-frame construction

An airtight seal is an essential requirement in wood-frame construction to guarantee the structure's long-term and secure moisture protection.

1. Starting from one corner, glue Vario MultiTape SL* along one edge. Pull off one strip of liner as you go and glue the tape in place. Then remove the second strip of liner and finish the installation.

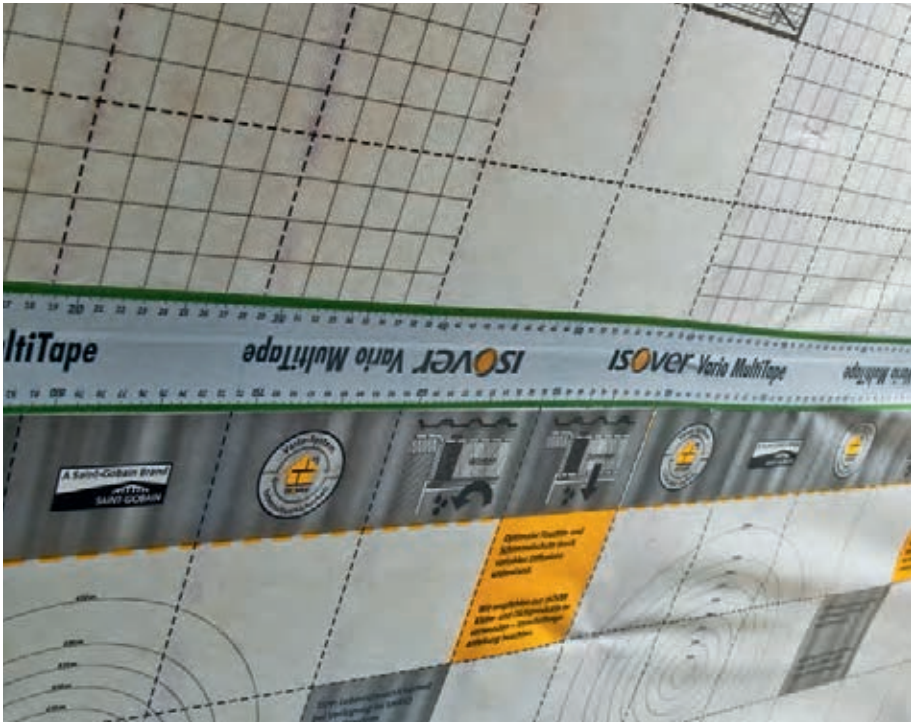
2. Using Vario DoubleFit, squeeze a spot of sealant in the corner and 3 cm along the adjacent edges.

3. Seal the other two edges as described in Step 1 above. Press out any air pockets or wrinkles with a rubber roller to guarantee an optimum seal.

* SL stands for "Split Liner" and describes the liner strips, which can be pulled off separately.

Sealing the seams in the overlap between climate membranes

After the climate membrane has been installed, the edges of the membrane must also be sealed. Otherwise, there is a risk that dust or dirt from the construction project will interfere with an effective seal, leading to less rigorous protection against moisture damage.



1. Starting from the top, lay the climate membrane in strips with a 10 cm overlap. Seal the film strips in place using Vario KB1 adhesive tape or Vario MultiTape with a 3 cm overlap. Use the dotted line on the film as a guide.

2. To make the job easier, pull only as much liner off the adhesive tape as you need at the moment.
Tip: Drape the roll of adhesive tape over your wrist or use a standard commercial tape dispenser.

3. To create an effective seal in the corners, use a trowel to carefully press the adhesive tape into the corners.

4. Then press all the taped joints flat with a flat rubber roller. Take special care to press on the edges. Do not use a foam roller or a cambered or textured roller.

Sealing the climate membrane to the end wall

Before sealing the climate membrane to the wall, consider whether the wall material is crumbly, porous or uneven. If it is, the substrate must be optimized by applying a smooth cement finish.
Do not use Vario DoubleFit tape when the working temperature is below 5°C. Under such conditions, use Vario ProTape to create the seal.

1. Press the climate membrane flat and hold it in place temporarily using masking tape. Do not use Vario adhesive tapes to hold the membrane in place as they have very strong adhesives and cannot be removed once applied.

2. Mark a sealing line at a distance of approximately 2.5 cm from the pitched surface of the roof. It can be helpful to use a piece of wood to maintain a uniform distance. Then squeeze out a continuous bead of Vario DoubleFit along the sealing line you have marked.

3. Remove the masking tape from the climate membrane provisionally held in place in Step 1. Allow for a strain relief loop by leaving about 3 cm of additional material as an expansion joint and use two fingers or a template to seal the film in a V-shape (see page 10).

4. Glue the overlapping area of the film strips in place using Vario DoubleFit.

Sealing the climate membrane to the cement with corner seals

The climate membrane can be sealed to the cement floor using either Vario ProTape (as shown here) or Vario DoubleFit. The substrate must be dry, clean and stable to take the fullest possible advantage of the adhesive effect and so achieve an optimum seal. Open-pored or non-adhering substrates must be prepared using a primer.

1. Press the climate membrane flat and hold it in place temporarily with masking tape. Use a roof batten to help you draw a straight glue line. Then glue Vario ProTape in place along the line, tight up against the edge of the wall on the cement. Don't remove the transparent liner just yet.

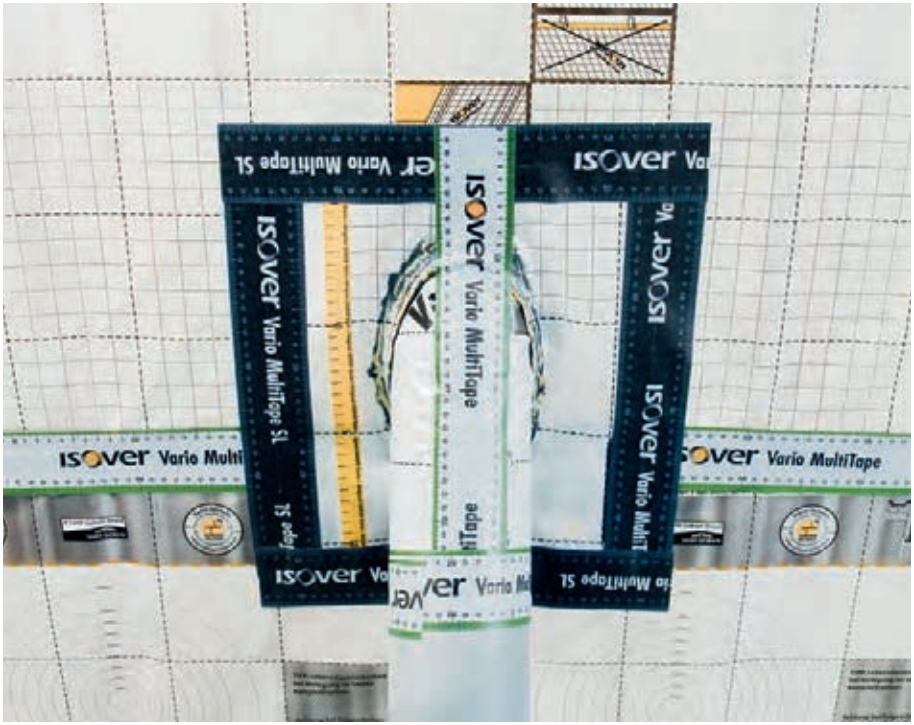
2. Using one hand, lay a strain relief loop as an expansion joint and press the climate membrane onto the floor. Using your other hand, gradually remove the liner and immediately glue the film in place. Be careful not to touch the adhesive surface.

3. To seal the corners, cut a slit into the excess climate membrane along the dotted line (toward the corner) and fold the film tabs over one another so that they overlap at a right angle.

4. Using Vario DoubleFit, carefully glue the entire overlapping area all the way to the corner.

Sealing a pipe penetration with a sleeve

Special care must be taken to achieve an airtight seal at points where a pipe penetrates the plane of the vapor barrier. A pipe sleeve can be used to achieve an optimum seal at the point of penetration. Pipe sleeves can be used in any type of roof and can be easily pre-fabricated in the workshop.



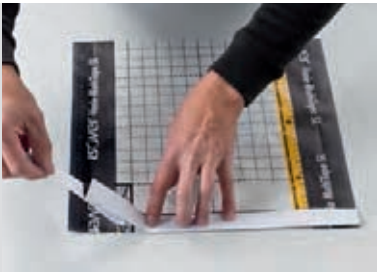
Preparation

1. Materials required: A leftover piece of pipe with the appropriate diameter (trimmed on one end to match the slope of the roof), two pieces of film, a template (width = circumference of the pipe plus 2 cm, length = circumference of the pipe minus 4 cm), Vario MultiTape SL, Vario DoubleFit, a utility knife and a ball-point pen.

2. Measure out and cut off four strips of Vario MultiTape SL the same length as the long side of the template.

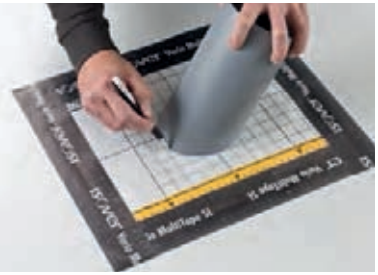
3. Using the utility knife, trim the two pieces of film to the size of the template.

4. First make the base plate. Glue one of the pieces of film in place on all four sides with the tape strips, removing only one-half of the liner strip from each strip of tape, and gluing only that half to the film. Press the adhesive tapes in place with a pressure roller.

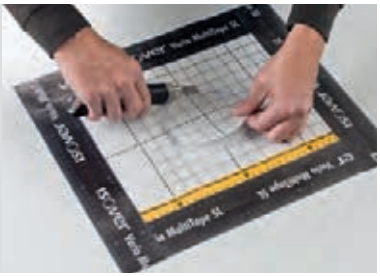


Preparation

5. Place the pipe section with the diagonal end in the center of the foil and trace its outline.



6. Using the utility knife, cut out a circle about 2 mm inside the outline traced in Step 5.



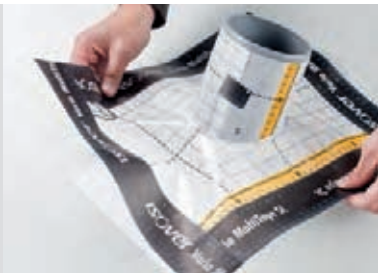
7. Wind the second piece of film around the pipe and fix it in place so that it overlaps on the long side. Trim off the film along the diagonal edge.

8. Pull the pipe about 3 cm back into the sleeve (a) and cut the excess to make little tabs (b).

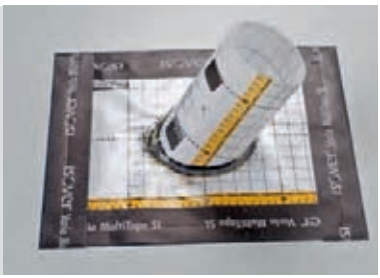
Preparation

9. Stand the tube up and bend the tabs outward. Apply a bead of Vario DoubleFit adhesive sealant all the way around. Place a piece of paper underneath to protect your work surface.

10. Pull the previously prepared film base plate with the cut-out circle over the pipe segment.



11. Glue the base plate and the sleeve together with a bead of Vario DoubleFit. Then pull out the pipe segment and dispose of the protective paper. Allow the finished sleeve to dry for about a day.



12. You can also make multiple pipe sleeves for pipes that penetrate the film close to one another. Follow the same step-by-step instructions as for the single pipe collar.

13. To completely seal the pipe penetration, cut open the prefabricated sleeve along the long side to fit.

14. If the seal is for a PVC ventilation pipe, the surface of the adhesive joint must be roughened. To roughen the location of the joint, trace the lower edge of the sleeve on the pipe before gluing it in place.

15. Roughen the surface to be glued with emery paper or using thinner. The site has now been prepared for an optimum adhesive seal between the adhesive tape and the pipe.

16. Slide the sleeve over the pipe, guiding it from behind, so that it fits correctly around the pipe. Remove the second strip of liner from the Vario MultiTape SL and glue the sleeve airtight to the climate membrane all the way around.

17. If a spiral pipe (flexible tube) is to be sealed, there can be no possibility for air to escape along the spiral. To seal the pipe, apply a generous quantity of Vario DoubleFit sealant into the grooves all the way around.

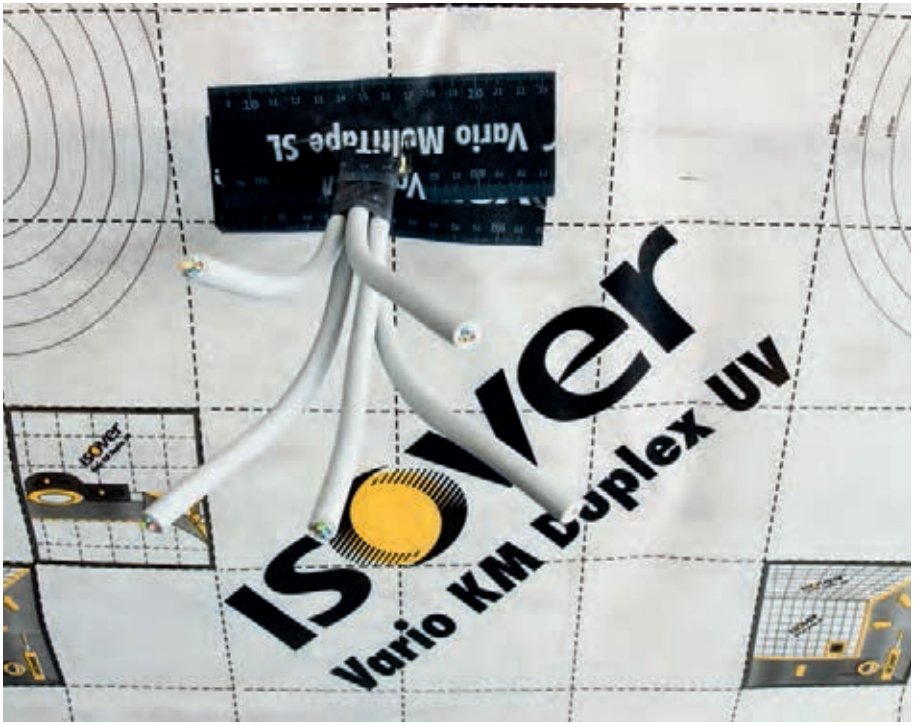
18. Use Vario MultiTape to glue the open film tabs of the pipe sleeve to the front of the pipe.

19. Then carefully apply the adhesive tape to attach the bottom edge of the sleeve. When using PVC ventilation pipe, make sure the sites to be glued have been roughened up.

20. Roll all the adhesive tapes flat with a pressure roller to guarantee optimum adherence.

Sealing a cable penetration (multiple cables)

Cable penetrations through the moisture-regulating climate membrane should be avoided entirely or minimized at the very least. Where cable penetrations are unavoidable, make sure to create an optimum seal to reliably prevent leaks.



1. Fill the spaces between cables with Vario DoubleFit.

2. Gather all the cables together and wrap them in a bundle with adhesive tape. Apply generous amounts of Vario DoubleFit sealant all around the cable bundle to create a complete seal.

3. Remove one strip of the liner from a piece of Vario MultiTape SL and glue the tape directly underneath the cable strand. Then remove the second strip of the liner, trim to the width of the cable bundle with the utility knife and glue in place.

4. Glue a strip of Vario MultiTape SL onto the cable bundle from the top and proceed as described in Step 3.

Sealing a beam or tie beam with a sleeve

To guarantee a reliably airtight seal of the climate membrane to a beam, the climate membrane must be cut to an exact fit and sealed snugly to the beam. This may of course not be possible under all construction conditions. In such cases, the seal must be created by means of a sleeve.

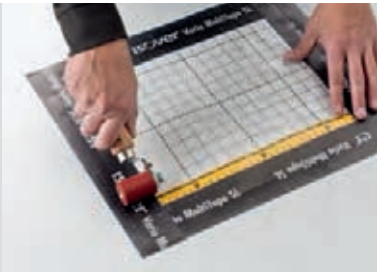
Preparation

1. For the base plate, cut a sufficiently large rectangle out of a leftover piece of film. A template can be very helpful in this part of the task.

2. Pre-fold a piece of Vario MultiTape SL down the center. Pull off one half of the cover strip and glue the Vario MultiTape SL to the long side of the film. Repeat on the opposite side.

3. For the short sides of the base plate, measure and cut the pieces of adhesive tape so that they cover the entire width of the film. Pull off half of the cover strip and glue to the edge of the film. Repeat on the opposite side.

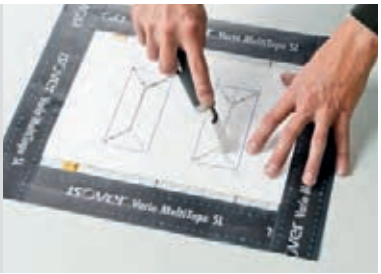
4. Roll the seam with a pressure roller to ensure optimum hold.
Tip: Base plates can be prepared in the workshop and brought to the construction site.



Preparation

5. Place an appropriately sized cardboard template on the beam and transfer the beam dimensions to the template.

6. Lay the template with the beam dimensions on the previously prepared base plate. Use the drawing as a template to cut an X-shape in the climate membrane.



7. Pull up the film tabs that were cut in the previous step. The tabs may stick up a maximum of 3 cm. If they are longer, trim them down to 3 cm.

8. Cut the sleeve on the narrow side and pull it over the beam.
Note: The tabs cut into the sleeve must point toward the room side (i.e. toward the installer).

9. Remove the second strip of liner on the Vario MultiTape SL from the sleeve and seal the sleeve airtight all the way around the climate membrane.

10. Place a small dot of Vario DoubleFit sealant on all edges of the beam.

11. Seal the folded-up film tabs to the beam using individual pieces of Vario Multi-Tape. Also seal the climate membrane at the slits cut into the sleeve.

12. For optimum hold, roll out all the pieces of adhesive tape using a roller.

Sealing a beam with adhesive tape a) in new construction and b) on cracked beams in existing structures

To ensure the climate membrane's airtight adhesive tape seal to tie beams, beams or purlins, the film must be fitted tight up against the beam. In other words, the cutout in the film must match the shape of the beam exactly. Special care must be taken during installation, especially on old or cracked beams.

1.a Sealing beams in new construction

First use Vario MultiTape to make a seal between the short sides of the beams and the film. Remove only one strip of the liner.

2.a

Remove the second strip of liner from the adhesive tape and firmly glue the tape to the beam. Use a utility knife to cut into the adhesive tape on the beam ends as shown in the picture and seal firmly.

3.a

Squeeze Vario DoubleFit sealing compound on all the edges of the beam.

4.a

Seal the long sides as described above with Vario MultiTape SL. Use a rubber roller to press out any air pockets and wrinkles in the adhesive tape.

1.b Sealing a beam in existing construction

Cut an X-shaped film section. Make sure the film tabs point toward the room.

2.b Trim the triangular film tabs parallel to the sloped part of the roof to a length of 2.5 cm. This step ensures an airtight seal with the film and the beam.

3.b Use a steel-bristle brush to thoroughly clean the beam and remove dust and dirt at the location of the seal.

4.b Fill up the crack in the beam with a generous quantity of Vario DoubleFit. To create an optimum seal, extend the sealing bead a few centimeters beyond the ends of the actual location to be sealed.

Sealing a beam with adhesive tape a) in new construction and b) in existing structures

5.b Apply dots of Vario DoubleFit adhesive sealant in all corners.

6.b Glue the individual flaps of film in place using Vario Multitape SL. Start by gluing one of the strips of adhesive on the film tight up against the beam. Remove the liner from the second adhesive strip and glue in place with some excess. Score the adhesive strip at the edge of the beam, and turn the excess flap back over onto the beam. Glue in place without any wrinkles or folds.

7.b For a secure seal, glue four additional strips of Vario MultiTape around the beam.

8.b For an optimum hold, roll the adhesive tape flat with a rubber roller.

Sealing the climate membrane to a skylight

Special care is required to reliably prevent thermal bridges when sealing a climate membrane to a skylight. It is essential to fit the climate membrane tightly to the H-shape cutout of the skylight opening and to make the proper preparations for the installation of the climate-regulating seal.

1. Lay the climate membrane over the skylight opening and seal all the film overlaps.

2. Cut into the climate membrane in an H-shape (vertically on the long sides and horizontally in the center) along the skylight opening. Fold the resulting film tabs up or down (out of the way) and hold them in place temporarily with masking tape.

3. Cut and install four insulating panels of maximum possible thickness to fit the window reveals and the lintel.

4. Apply Vario ProTape to seal around the frame rebate. Then trim the overhanging foil tabs and seal in the frame rebate.

5. Seal any additional film material require to the sides of the window. Cut two film flaps to the correct size (taking into consideration the excess length necessary to seal the groove) and tack to the rafters.

6. Cut the attached film flaps along the dotted line until the film can be laid without folds or wrinkles around the edge of the soffit.

7. Gradually remove the transparent cover strip from the Vario ProTape and immediately seal the film in the window groove.

8. Squeeze Vario DoubleFit adhesive sealant into the grooves in the corners and use it to seal the flaps of excess film.

9. It is absolutely essential to have neat corners, so use your fingers or a piece of cardboard to push the film deep into the window groove.

10. Then use a strip of Vario MultiTape to glue the overlapping edges of the film into the corners.
Tip: Hold the tape around a trowel (a) and then press it deep into the window groove (b).

a)

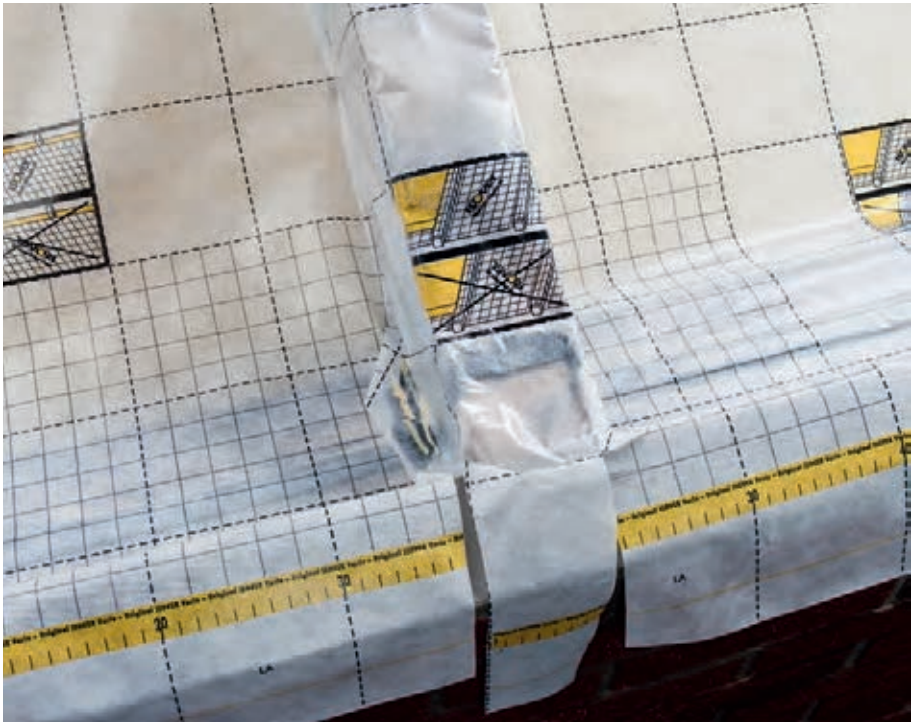
b)

11. Use Vario MultiTape to seal the resulting seam edges all the way around.

12. For optimum hold, roll out all the adhesive tape once again with a rubber roller.

Sealing the climate membrane under the eaves

For an optimal airtight seal, make slits in the climate membrane as necessary so that it lies smoothly and without creases and then seal it airtight to the eaves. Remember that all of the adjacent structural elements must be dry, clean and grease-free.



1. Clean the beams and eaves in the vicinity of the seal with a wire brush to remove all dust, dirt and any remnants of the old insulation.

2. Use a vacuum cleaner to remove as much of the remaining dust and dirt as possible. The area of the seal must be dry and free of dust and grease. If the substrate is not stable, use primer as a base to which the sealant can adhere (see page 2).

3. Apply Vario ProTape Xtern special sealant in strips in the eaves without removing the transparent cover strip. Use a trowel to press the adhesive tape into the corners.

4. Pinch the top edge of the adhesive tape to straighten the bead of adhesive over difficult angles at the corners of the rafters.

5. Roll the Vario ProTape Xtern flat with a pressure roller. Apply pressure primarily in the center of the sealant.

6. Install Integra UMP-032 to cover the nails in the gaps between timbers. Drape the climate membrane over the rafters and tack in place. Because the draped film will lie in folds under the eaves, it will be necessary to make slits in the film using a utility knife so that it lies flat.

7. Mark the corner points of the rafters on the film to determine the location of the slits.

8. Make slits in the Vario KM Duplex UV climate membrane parallel to the dotted line up to the marked points.

9. For each rafter, make four parallel cuts that project beyond the edges of the rafters.

10. Trim the two outer film flaps to a length of approximately 3 cm. Lay the film around the sides of the rafters smoothly and without any drapes or wrinkles.

11. Gradually remove the transparent cover strip of the Vario ProTape Xtern and seal the film to the rafter smoothly, without air pockets or wrinkles. For optimum hold, roll out carefully with a roller.

12. Glue all the overlapping pieces of foil using Vario DoubleFit adhesive sealant. Fix the foil to the rafter using Integra ZSL renovation strips.

Sealing the film to the gable rafter

It is often difficult to fasten the climate membrane in the gaps between timbers between the gable rafters and the gable wall or on building partitions because the space between the frames is too narrow. Tackers or ZSL strips cannot be used to fix the membrane in place here either.

1. First fix the Vario KM Duplex UV climate membrane to an adjacent rafter and press a sufficient width of the film flaps loosely over the gap between timbers.

2. Gather the Integra UMP-032 insulation into a suitable package (in several plies, if necessary) and press with the film into the gap between timbers. Leave in the gap. In especially narrow spaces, a board can also be used to push the film into place.

3. Glue the drapes of film formed under the eaves using Vario DoubleFit adhesive sealing compound to provide optimum insulation.

Sealing the film to the masonry coping

The climate membrane can be sealed to a masonry coping provided that the coping is straight and level. If the wall coping is irregular or stepped, the film must be attached to the gable wall.

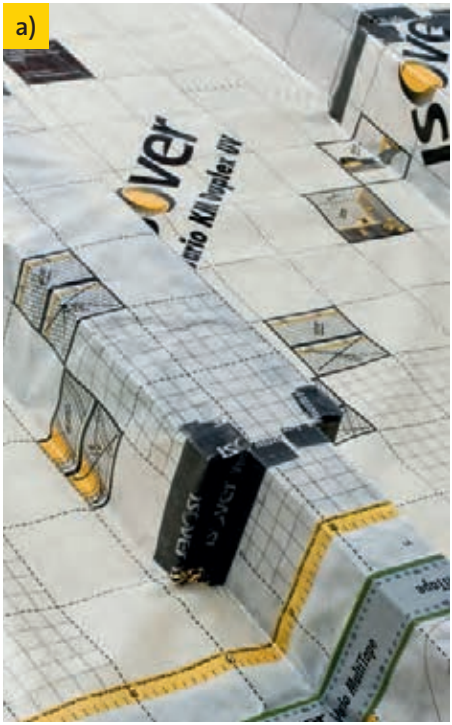
1. To attach the climate membrane to straight wall copings, glue Vario ProTape Xtern in the center of the wall coping.

2. Gradually remove the transparent cover strip from the Vario ProTape XTern and immediately attach the film.

3. To achieve an optimal hold, roll the film onto the sealant using a rubber roller. Exert pressure primarily on the middle of the sealant.

Sealing the climate membrane to tie beams with wedges of a) insulation or b) wood

If tie beams are present to reinforce the roof truss or support a ceiling, Vario KM Duplex cannot simply be pulled over them. Because tie beams form acute angles with rafters, these joints cannot be sealed without folds or creases. Cavities are inevitably formed underneath these folds, potentially causing structural damage by providing spaces for moisture to accumulate. Acute-angle tie beams must therefore be modified to form a rectangle which can be sealed effectively and airtight.



Preparation

1. First make a template. Transfer the angle points of the tie beam to cardboard strips cut to the height of the rafters.

2. Connect the marked angle points with one another and use a utility knife to cut the template along the line.

3. Prepare a piece of insulation (e.g. Integra-032, in multiple piles if necessary) the same thickness as the tie beam and use an insulation knife and the template to cut it to the required dimensions.

4. Tie beam wedges can be made of both insulation and wood.

1.a Sealing the tie beam with an insulation wedge

Screw or nail the insulation wedge cut to the proper size as a rectangular extension.

2.a Drape the film over the rafters and tie beams and tack to the beams.

3.a Cut into the film horizontally on the bottom and top sides of the insulation package.

4.a The foil can then be easily installed and tacked tight against the rafters.

5.a Seal the exposed edges airtight with Vario MultiTape SL. Pre-fold a strip of adhesive tape down the center and glue onto the edge. Cut into the projecting strip along the fold. Fold the adhesive tape over and glue in place.

6.a Proceed on all exposed edges as described in 5.a above. Then squeeze Vario DoubleFit sealant on all corner points to create a seal.

1.b Zangenanschluss mit Holzkeil

Cut a wooden wedge to fit and screw it in place as a right-angle extension of the tie beam.

2.b Lay a film strip of Vario KM Duplex KM over the tie beam with the extension. Guide it around the top and bottom of the tie-beam and tack to both the rafters and the tie beam.

3.b Drape the film over the rafters and the tie beams to which the rectangular wedges have been added and tack in place. Cut into the film horizontally along the top and bottom edge of the tie beams.

4.b Press the climate membrane against the sides of the rafters and tack in place without wrinkles or folds or fix in position with Integra ZSL.

5.b Seal the inner edges with Vario Double-Fit.

6.b Seal the outer edges with Vario Multi-Tape. Cut a piece of tape to fit, pre-fold it down the middle, remove half of the liner strip and glue it to the edge. Cut a slit in the tape, pull off the second liner strip and guide the adhesive tape tightly around the corner of the beam.

Changing the level of the seal in an uninsulated attic (counter-board sealing)

If the roof will not be insulated all the way to the peak and the ceiling of the uppermost floor (single-framed roof) is the highest level of insulation, an airtight OSB board, also known as a counter-board, is bolted onto the inside of the rafters above the ceiling. The objective is to create a medium to which film and adhesive tapes can be sealed airtight on both sides.

Such a counter-board seal can be created with Vario MultiTape or alternatively with Vario ProTape Xtern. When Vario ProTape Xtern is used on the outside, we recommend first drawing a chalk line to make it easier to apply the sealing tape in a straight line.

1. Glue the compressible Vario DB tape to the edge of the board and the areas in which the counter-board comes into contact with the rafters. Roll out the adhesive tape with the pinch roller. Then bolt the counter-board to the beams from the inside (the attic side).

2. Seal the counter-board to the climate membrane from the outside. When gluing with Vario MultiTape, use a trowel to press the adhesive tape into the edges. For an optimum hold, roll out the adhesive tape with a rubber roller.

Sealing the climate membrane to a collar beam with a) adhesive tape or b) a sleeve.

Collar beams often project unnecessarily far beyond the roof timbering, making it difficult to install an airtight layer. Collar beams that stick significantly must therefore be trimmed at a right angle to the center purlin while preserving their full load-bearing capacity. Do not throw away the piece that is cut off as it makes an ideal base for the sleeve.

1. Drape the Vario KM Duplex UV over the collar beams.

2. Using a utility knife, cut an opening in the film that matches the dimensions of the collar beam. Take care to work with extreme precision so that the collar beam can be sealed with adhesive tape (a). If the space between the film and the beam is too large, the seal must be created using a sleeve (b).

3.a Sealing a collar beam with adhesive tape

Note: First lay down the whole strip of film and glue it at the overlaps before continuing to work on the collar beams.

4.a Cut a rectangular piece of film from a scrap and lay it over the collar beam. Make the piece of film large enough to cover the whole end of the collar beam.

5.a Wind the film piece around the side and tack it to the collar beam.

6.a Before wrapping the top corners like flaps (7.a), spread Vario DoubleFit adhesive sealant on the folded edges of the inside of the film to create a seal. This step reliably prevents air circulation.

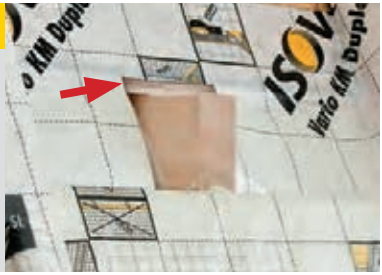
7.a Turn over the film flaps and tack firmly in place. Cut off any excess film material.

8.a Seal the edges of the film together all around the collar beam with Vario Multi-Tape SL. Use a utility knife to cut slits into the edges of the adhesive tape in the corners to achieve a neat seal.

Sealing the climate membrane to a collar beam with a) adhesive tape or b) a sleeve.

3.b Sealing the collar beam with a sleeve

If the cut-out for the collar beam does not fit the collar beam exactly and there is a gap between the film and the beam, the seal must be created using a sleeve.



4.b To seal the joint using a sleeve, pull the prefabricated sleeve over the collar beam. For information on creating a sleeve, see page 56.

5.b Gradually remove the second strip of liner tape from the base plate to which Vario MultiTape SL has been applied all the way around and seal the sleeve to the climate membrane airtight and without wrinkles.

6.b To guarantee an optimum hold, roll out the adhesive tape using a rubber roller.

Preparation

1. Materials required: rectangular piece of film, base plate made of KM Duplex UV (see page 21), dummy collar beam end with the appropriate beam thickness and angle, Vario MultiTape SL, Vario DoubleFit, tacker, yardstick or folding ruler, utility knife and ball-point pen.

2. Measure the collar beam end and transfer the measurements to the middle of the sleeve base plate. Use the utility knife to carefully cut out an area that matches the dimensions of the collar beam.

3. Lay the rectangular scrap of film over the end of the collar beam. Make sure the film covers the whole end of the collar beam.

4. Before folding the sides like flaps (5), spread Vario DoubleFit adhesive sealant on the folded inside edges of the film. This step reliably prevents air circulation.

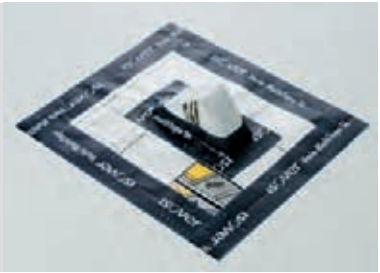
Preparation

5. Fold the flaps down. The end of the collar beam is now covered all the way around like a cap. Use the tacker to just barely fix the cap in place to keep it from shifting while you continue.

6. Pull the prefabricated base plate with the cutout over the cap.

7. Seal the edges together with Vario MultiTape SL. Cut slits into the tape with the utility knife so that it can be glued in place without any wrinkles to achieve a neat corner seal. Roll out with the rubber roller to achieve an optimum hold.

8. Carefully remove the sleeve from the dummy collar beam end.



Sealing a pipe penetration through the suspended ceiling with a sleeve

Pipe penetrations through suspended ceilings and housewrap must always be sealed with a sleeve. This type of seal uses Vario SilverFast tape, which has a waterproof adhesive formulated specifically so that it adheres to the special surface texture of housewrap. The pipe sleeve can also be easily prepared ahead of time in the workshop.

Preparation

1. Materials required: pipe section of an appropriate diameter, smaller pipe section (both trimmed on one end to match the slope of the roof), template (width: pipe circumference plus 2 cm, length: pipe circumference minus 4 cm), Integra ZUB, Vario SilverFast, Vario DoubleFit, utility knife and ball-point pen.

2. Trim the two scraps of Integra ZUB to the dimensions of the template.

3. Wind a piece of Integra ZUB housewrap around the pipe and fix it in place on the long side with an overlap. Cut off the Integra ZUB along the diagonal end of the pipe. Unfasten and set the sleeve aside for later use.

4. Prepare four strips of Vario SilverFast tape. Place the pipe section on the tape so that it covers half the width of the strip. Draw a half-moon shape and cut out the circle. Set the strips of tape aside for later use.

Preparation

5. Place the pipe section (diameter of the ventilation pipe) with the diagonal end in the center of the film and trace the outline.

6. Place the diagonal end of the smaller pipe section in the center of the outline traced in Step 5 above and trace its outline.

7. Use a utility knife to cut out the small outline. Then cut tabs in the larger outline toward the center and fold upward.

8. Pull the base plate with the round cutout over the pipe. Make sure the tabs are standing upright. Apply Vario DoubleFit adhesive sealant all the way around on the outline traced in Step 5 above.

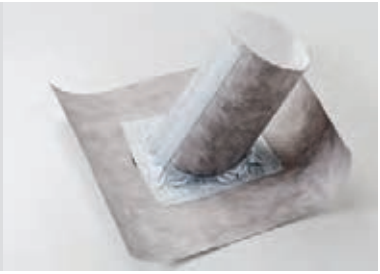
Preparation

9. Lay the prepared pipe sleeve (Step 3), starting from the short side, around the pipe and use adhesive tape to fix the front seam. Seal the sleeve to the base plate by means of a bead of Vario DoubleFit.

10. Glue the previously prepared strips of Vario SilverFast tape (Step 4) around the pipe on all four sides along the cutout crescents.

11. Close the front seam of the sleeve with Vario SilverFast. Use the rubber roller to roll out all the Vario SilverFast tapes to guarantee an optimum hold.

12. Remove the pipe section from the finished pipe sleeve.

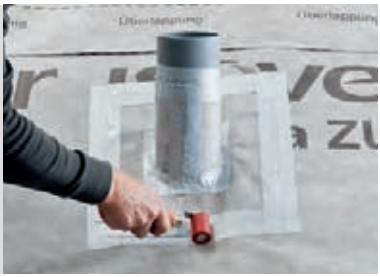


13. Cut out the hole for the ventilation pipe as accurately as possible when laying the housewrap. Before sealing the pipe penetration, check the housewrap to make sure it is securely sealed.

14. Push the prefabricated sleeve over the pipe (shorten the neck of the sleeve if necessary) and glue it to the housewrap. It is essential to use waterproof Vario Silver-Fast adhesive tape to achieve an optimum adhesive hold outdoors.

15. Seal the upper edge of the sleeve to the pipe.
Note: First roughen the surface of the PVC pipe in the area of the adhesive seal using emery paper or thinner.

16. To ensure an optimum hold, roll out the adhesive tape by applying strong pressure on the roller.



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