Circular PVB Roofing | *Leadax Roov*

Application instructions

Processors | Architects | Wholesalers | Prefab

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INTRODUCTION

Leadax Roov roll formats

Leadax Roov is a Single ply system without reinforcement. It is 1.5 mm (0,06 in) thick and fully fire resistant (FR), in accordance with NEN 6063.

Leadax Roov is available in the following dimensions:

- 1 x 12,5 m
- 2 x 12,5 m*

**In production from the end of 2022*

Storage

- Leadax Roov rolls must be stored vertically on a clean, dry and level surface, away from direct heat sources.
- Pallets of Leadax Roov rolls can't be stacked.
- If internal storage is not possible, rolls and accessories must be stored in a dry place, out of direct sunlight, and properly secured and protected.
- The ideal temperature for storage of all materials is between 10 °C (50 °F) and 25 °C (77 °F)
  (This applies to products containing PVB, such as corners, drains and Roov itself in particular! Leadax Roov is best applied at these temperatures).
- Extra: additional guidelines may apply for the storage of Leadax Roov Bio bind, depending on local legislation or warehouse characteristics. For more information, check the Material Safety Data Sheet (MSDS).

1. PREPARATION OF LEADAX ROOV

1.1 Preparations

- Coordinate all work in such a way that no damage is caused to the underlying construction parts and spaces. Do not prepare a larger area than can be (possibly temporarily) sealed watertight per day or dry period.
- Work can be carried out without a heat source. This is in accordance with NEN 6050: *Design conditions for fire-safe working on roofs - closed roofing systems and SBR publication 261.09 Fire-safe design* and *execution of flat roofs.*
- Always ensure that the substrate is dry, clean, dust-free, free of sharp edges and level before starting work. Check for slope, flatness, soundness and suitability. Repair where necessary and correct any incorrect sloping in accordance with local guidelines.
- The rolls must always be transported with care. Always store rolls in an upright position. If the Leadax Roov is damaged, mark it with a pen so that a repair can be made when installing it.
- Place the Leadax Roov rolls with an overlap of at least 100 mm (3,94 in) on a suitable surface and allow it to relax. This way, any folds will disappear as much as possible. The weather has a strong influence on this process. In cold weather, it will take longer than in warm conditions.
- Leadax recommends storing products at temperatures between 10 °C (50 °F) and 25 °C (77 °F). Products that are exposed to lower temperatures should be brought to room temperature before processing. It is possible to join the seams in cold weather conditions if the adhesive, Leadax Roov Bio bind, and sealants are at room temperature and are applied as quickly as possible. Liquid products and adhesives must be shaken and/or mixed well before and during use. This is an important step that ensures an optimal functioning of the product. The products must not be altered by adding solvents or other products.
- Leadax Roov can now be applied for the chosen roofing system following the guidelines below.

Ideal application temperature: > 7 °C (44.6 °F).

1.2 Preparation for the renovation of existing roofing systems

Thermal renovation (with or without insulation) and overlaying

- When renovating, redo all details.
- Thoroughly clean the existing roofing system with steel brooms and dry where necessary.
- Dispose of all debris and dirt.
- Defects in the roofing such as cracks, blisters, creases, etc. must be treated accordingly:

  – Repair cracks.

  – Peel, level and repair blisters.

  – Cut away, smoothen and repair creases.
- If no new insulation is used between the existing bituminous roofing and the Leadax Roov, a separating layer of at least 120 g/m² glass fleece/polyester fleece must be applied in case of free, ballasted and mechanically fastened roofs.
- If a naked EPS insulation is used, a separating layer of at least 120 g/m² glass fleece must be used between the EPS and the Leadax Roov.

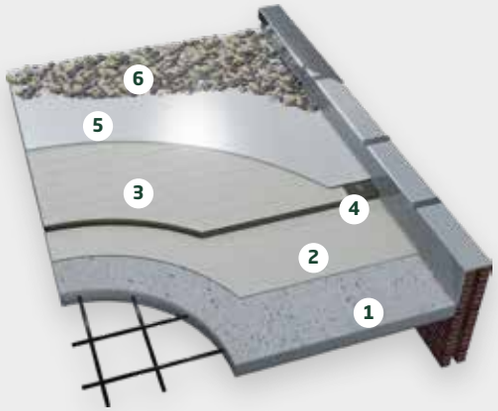
For questions or comments please contact our Leadax Roov technical specialists.

2. ROOFING SYSTEMS

2.1 Systems for Leadax Roov

The following systems can be used for the fixing of Leadax Roov. The choice of system depends on the substructure (wood, concrete and steel) and the type of insulation.

LOOSE-LAID BALLASTED



1: *Substrate: concrete*

2: *Leadax Aluvap 500 FR vapour barrier layer*

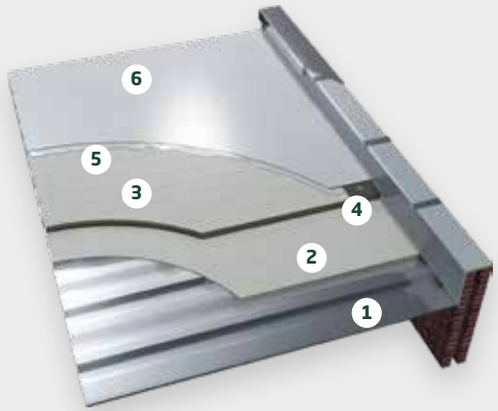
3: *Insulation*

4: *LRS/Leadax perimeter strip*

5: *Roof covering: Leadax Roov*

6: *Ballast: Gravel*

FULLY ADHERED



1: *Substrate: steel*

2: *Leadax Aluvap 500 FR vapour barrier layer*

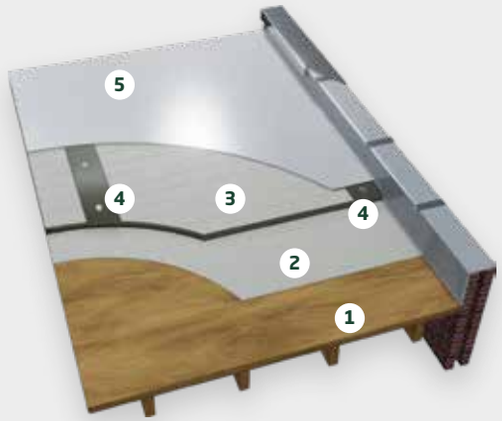
3: *Insulation*

4: *LRS/Leadax perimeter strip*

5: *Water-based adhesive*

6: *Roof covering: Leadax Roov*

MECHANICALLY ATTACHED (LRS)



1: *Substrate: wood*

2: *Leadax Aluvap 500 FR vapour barrier layer*

3: *Insulation*

4: *LRS/Leadax perimeter strip*

5: *Roof covering: Leadax Roov*

2.2 Multifunctional roofs

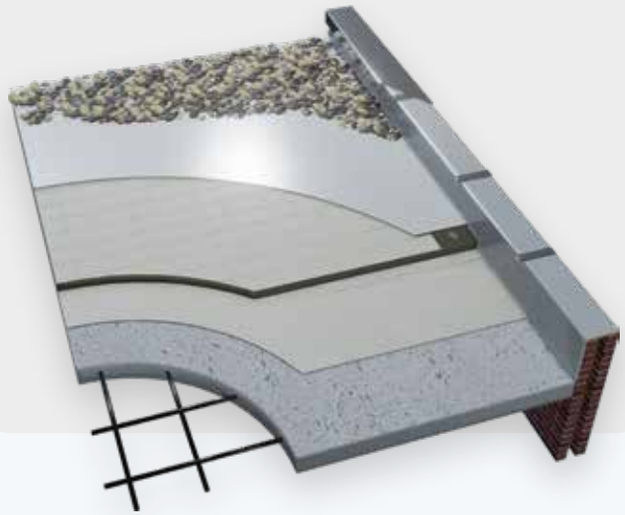
Leadax Roov can be used on many types of roofs, including white, energy and green roofs. Several types of roofs can be combined. This is called a multifunctional roof. Please take into account the minimum load that is required to keep the system in place (wind load). If there are joints and/or breaks in the membrane, measures must be taken accordingly. The preference for multifunctional roofs is to make them into a fully adhesive system (compact roof). This is to prevent underflow in the event of leaks. Before installing the vegetation package, we recommend testing the roof for watertightness. This can be done by temporarily raising the drains and flooding the roof with a few centimetres of water. After at least one day, carry out a check for any possible leakages.

2.3 Loose-laid ballasted systems

Place the Leadax Roov membranes with a minimum overlap of 100 mm (3,94 in) on a suitable substrate and allow them to rest so that any creases are removed as much as possible. The ballast to be placed must comply with the legal requirements (wind load) and the construction must be designed for it. The loose Leadax Roov membranes must be ballasted as soon as possible using one of the following techniques:

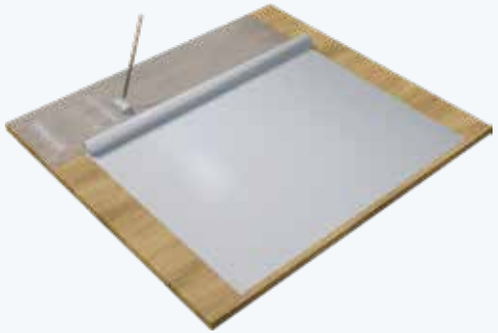
- The ballast layer of gravel and/or concrete tiles on free ballasted roofing systems must be determined according to NEN 6707 and NPR 6708. The ballast layer can be applied up to a roof pitch of 3°.
- Roof tiles with flat undersides may only be placed on suitable (rubber) supports.
- In case of an inverted roof system, the extruded polystyrene insulation (XPS) is laid directly on top of Leadax Roov. The insulation must be tightly connected around penetrations and details with a maximum distance of 6 mm (0,24 in). The insulation boards must be completely separate and free from each other and from the substrate in order for the XPS to work (expansion/contraction). This insulation must be covered completely with the aforementioned ballast at all times.

In case of a loose-laid ballasted systems, a mechanical fixing (LRS) of the parameter fixation (transition between roof surface and upstand) and at penetrations is mandatory.

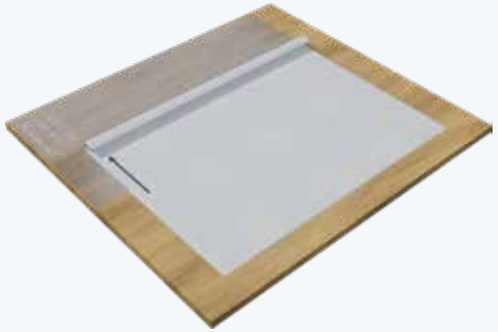


2.4 Fully Adhered system

- Bonding of Leadax Roov with Leadax water-based adhesive which is applied with a roller. Apply the Leadax water-based adhesive to a suitable, preferably absorbent substrate.



Make sure there is a nice uniform misting/distribution of the Leadax water-based adhesive. Apply Leadax Roov immediately after application of the adhesive.



It is important to ensure that the part of the overlap to be made with Leadax Roov remains clean. Leadax water-based adhesive can be applied to the substrate on one side only. Leadax Roov can be corrected for a number of minutes after it has been applied, as long as the adhesive is still wet (depending on the weather conditions). Make sure that any folds that may occur are removed immediately. Lay the next Leadax Roov roll with a minimum overlap of 100 mm (3,94 in) on top of the glued substrate and continue in this manner. Make sure that the transverse seams are staggered relative to each other.

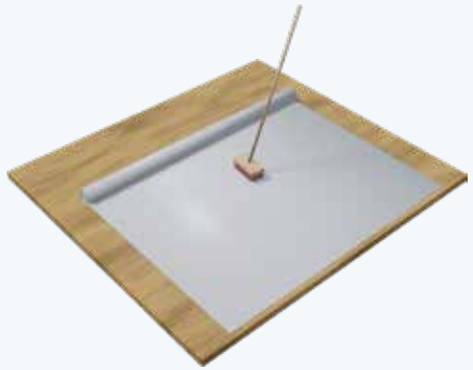
Low temperatures can affect the workability of the Leadax Roov rolls and the adhesive. During the winter months, the membrane will need a longer relaxation time and any creases will be more difficult to remove.

- If a roof insulation is used, it must be suitable and tested for a glued system (see KOMO-certificate supplier), and the insulation must be fixed according to the legal requirements (wind load). This can be done by mechanically fixing the insulation boards to a suitable substrate/vapour barrier using roofing fasteners and plates/tules in accordance with the calculated wind load.

- Leadax Roov is fully adhered with a water-based adhesive. The water-based adhesive is applied in an even layer to the surface to be bonded (substrate). Avoid puddles. Excess adhesive will increase drying times and reduce the efficiency of application. It may also cause blisters. In the area of the perimeter fixation strip, keep the substrate and Leadax Roov free from any adhesive. This is where the Leadax LRS strip will be installed. It is recommended to mark this "glue-free" zone in advance or place the LRS strips before gluing.

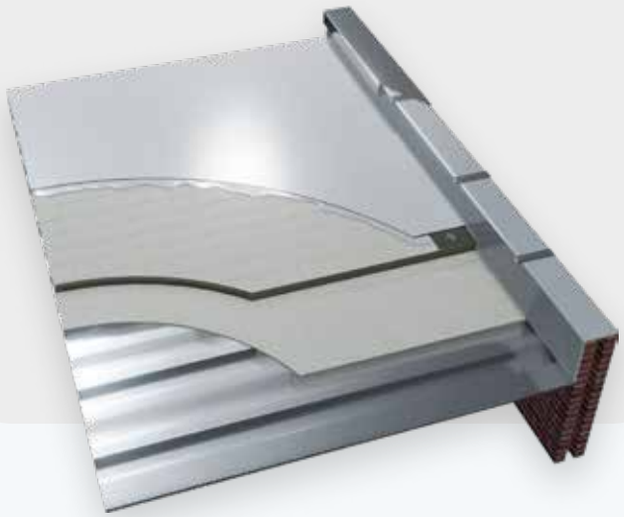
Wait a maximum of five minutes before laying the two parts on top of each other. Drying times depend on weather conditions, the substrate and the amount of water-based adhesive applied.

- Slowly roll the roofing sheet into the glued substrate to avoid folds. Press the roofing membrane down well with a wide steel roller (± 7 kg) or with a broom in order to be sure of a good connection.



Repeat this procedure for the bonding of all other rolls. This wet bonding technique is only applicable when the roof is not subjected to a strong wind load for approximately 12 hours and is not exposed to freezing temperatures for at least 48 hours. Please consult the Technical Documents for more information on the recommended usage. Leadax water-based adhesive is also designed to be dismantled: the water-based solvent-free adhesive can easily be removed from the roofing when the Leadax Roov needs to be replaced. This makes it possible to recycle the PVB roofing into new roofing material.

In case of a fully adhered system, Leadax Roov is attached to the substrate by means of a water-based adhesive. The use of a Leadax reinforced strip (LRS) is also mandatory for a fully adhered roof system.



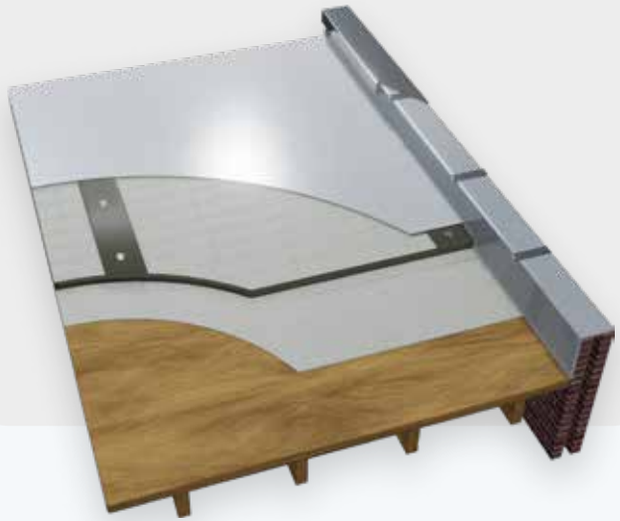
2.5 Mechanically fixed system - Leadax Reinforced Strip - LRS

This technique applies to the Leadax mechanically fastened system LRS, where according to a calculated wind load, Leadax Roov membranes of +-200 mm (7,87 in) wide are mechanically fastened to the substrate by means of approved plates/tules. These LRS strips are placed under the Leadax Roov rolls and are connected to each other with Leadax Roov Bio bind. This way the Leadax Roov rolls are not perforated, and the specified installation dimensions can be adhered to.

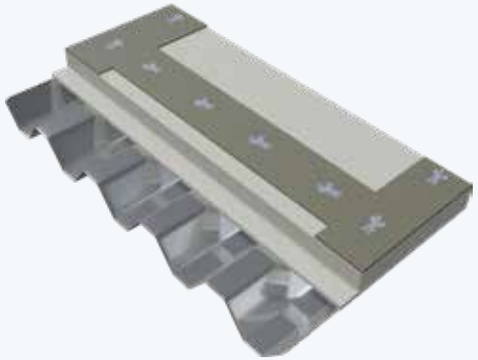
Please note: No pipes may be laid on the substructure (check before starting work). If pipes are included in a sloped layer, no mechanically fixed roofing system can be used.

- Please refer to the wind load calculations and the installation of the mechanical fasteners to determine the correct wind zones (zones with higher loads such as corner and edge zones, at the base of a higher section, etc.) to determine the correct location of the LRS strips.

In case of a mechanically fixed roof system, Leadax Roov is fastened to the roof construction by means of LRS strips. These strips are fastened to the roof structure with roofing fasteners at a set distance from each other.



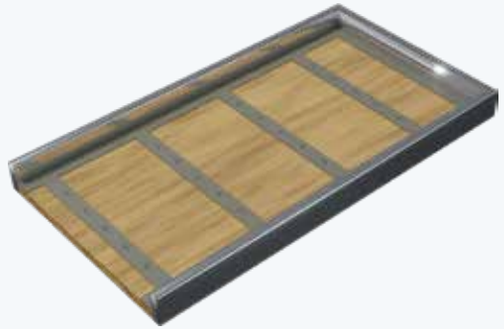
- When working on a steel base, the LRS strips must be placed as perpendicular as possible to the cannelures in order to prevent local overloading of the substructure.



In the higher load bearing zones, such as the edge and corner zones, Leadax Roov can be mechanically fixed with one or more LRS strips which should be applied parallel to the strips already in place. LRS strips that are installed at right angles to each other must be installed in such a way that they form a framework for the attachment of the Leadax Roov roofing.

- Make sure that Leadax Roov lies flat and without creases before starting the joining. Leadax Roov is bonded to the LRS strips as set out in section 3.2.1. *"Bonding with Leadax LRS strips"*.

- If work is carried out on a continuous substrate (wood, concrete), an alternative installation plan can be used for practical reasons.



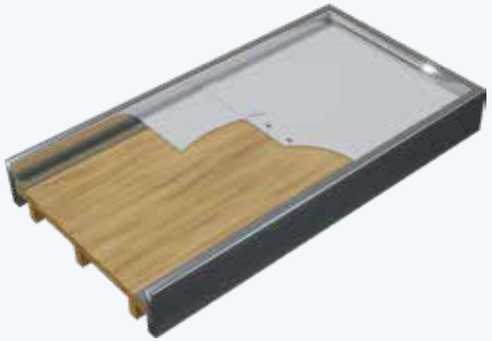
In this case, the membranes and LRS strips are laid parallel to the roof edge. Leadax Roov can then be installed in the simplest direction.

- Between the edge and middle zone, a continuous LRS strip is always placed to separate the two zones.

- In case of a mechanically fastened system, a mechanical fixing (LRS) of the perimeter fixation (transition between roof surface and upstand) and at penetrations is mandatory.

2.6 Mechanically fastened system in the joint

This technique is applicable to the Leadax mechanically fixed roof system, whereby according to a calculated wind load in the seam joint of 120 mm (4,72 in) wide, the Leadax Roov is mechanically fastened to the substrate by means of approved plates/tules and fasteners.

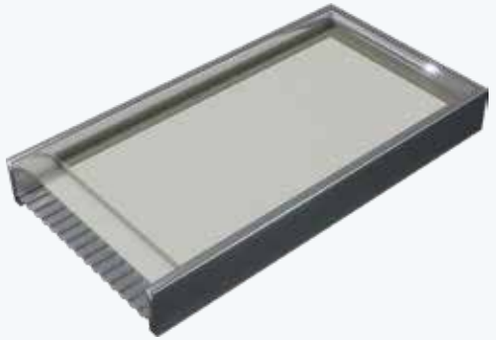


These fasteners are placed between the joint connection which is bonded with Leadax Roov Bio bind (environmentally friendly welding liquid).

- Please note: No pipes may be laid on the substructure (check before starting work). If pipes are included in a sloped layer, no mechanically fastened roofing system can be used.

- Please refer to the wind load calculations and the installation of the mechanical fasteners to determine the correct wind zones (zones with higher loads such as corner and edge zones, at the base of a higher section, etc.) to determine the correct location of the LRS strips.

- When working on a steel base, the LRS strips must be placed as perpendicular as possible to the cannelures in order to prevent local overloading of the substructure.



In the higher wind load zones such as edge and corner zones, Leadax Roov can be mechanically fastened with one or more membranes, applied parallel to the membranes already in place.

- Make sure that Leadax Roov lies flat and without creases before starting the joining. Leadax Roov is bonded to the LRS strips as set out in the next chapter.

- In case of a mechanically fixed system, a mechanical fixing (LRS) of the perimeter fixation (transition between roof surface and upstand) and at penetrations is mandatory.

Leadax

3. LEADAX ROOV PROCESSING

Processing table of contents:

General

In this section, seams, joints and all related joining techniques that are used for the various Leadax Roov systems will be discussed in more detail.

Seam joints in the Leadax Roov roofing system are made with Leadax Roov Bio bind.

3.1 Seam jointing mechanism

- The quality of the seam connection is mainly determined by the quality of the contact between the Leadax Roov and Leadax Roov Bio bind.
- When Leadax Roov is treated with Leadax Bio bind, the surface structure of the Leadax Roov changes to such an extent that it becomes suitable for the bonding. The high alcohol percentage in Leadax Roov Bio bind ensures that the active molecules are evenly distributed along the surface and then soften the two layers of Leadax Roov, causing them to bond.

Processing

- The use of alcoholic products is very user-friendly for the processor. Regardless of the normal daily weather or working conditions or the person making the joint, a reliable joint is always obtained.
- The standard processing guidelines for seam joints also apply to all details where Leadax Roov is applied to Leadax Roov and Leadax Roov Bio bind. This applies, for example, to the application of Leadax LRS strips, the use of inner and outer corners and the incorporation of HWA outlets with Leadax Roov Bio bind, etc. Every contact surface that is applied with

Leadax Roov Bio bind must be made as dry as possible and free from contamination. In case of heavy contamination, it may be advisable to clean with water and a steel brush before applying Leadax Roov Bio bind.

- It takes a number of hours for the joint to withstand all the forces that may occur.

Notes

- The transparent blue colour of the Leadax Bio bind disappears fairly quickly through contact with UV and/or water. This is only meant to be able to check whether sufficient and enough Leadax Bio bind is applied.

- Other cleaning products such as household products should not be used as they can be contaminated with substances that interfere with Leadax Roov. Any product that is used for the execution of joints (Leadax LRS, HWAs, etc.) has its own conditions of use. For more information on the correct application of these products, please refer to the Technical Documents. Store all Leadax products in their original, unopened packaging and ensure a good rotation of the stock so that products with an expiry date are used before they expire.

- In hot weather conditions, special attention should be paid to the handling of Leadax Roov Bio bind as it may evaporate faster. This can be prevented by avoiding direct sunlight and heat as much as possible, and by storing the products in the shade.

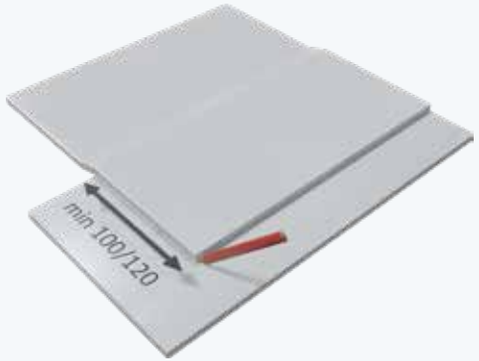
- At temperatures below 7 °C, the roofing membranes may need to be preheated with warm air for easier processing. The overlap width should be 100/120 mm (3,94/4,72 in) and the roofing membranes must be dry and clean at the point of welding. When liquid welding, the Leadax Roov Bio bind is applied to the seam overlap in the longitudinal direction using a fleece roller. Both sides should be moistened at the same time. The top sheet is pressed by hand with light pressure directly onto the underlying sheet and then rolled using the pressure roller.

- **Check the joint:** The welded joint must be checked by means of a suitable inspection pen, which is passed horizontally along the seam side. Check the pen regularly for wear and tear. Spots that are welded less well can easily be repaired with Leadax Roov Bio bind.

Processing guidelines

Step 1: Placement and marking of Leadax Roov roofing membranes

- When both membranes are in place and relaxed, check the overlap to ensure it is 100 mm (3,94 in).

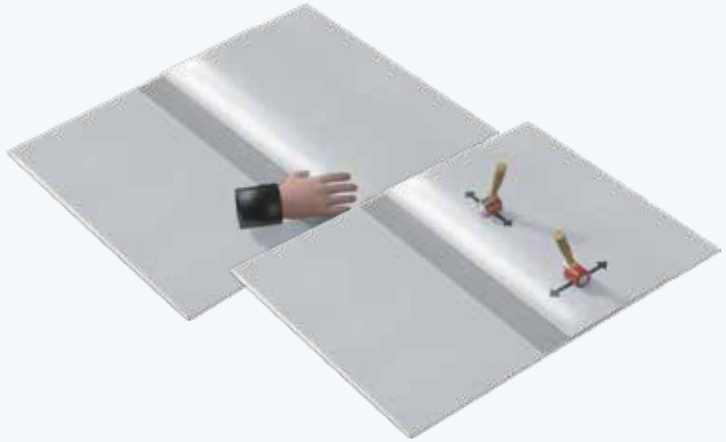


Step 2: Application of Leadax Roov Bio bind between the seam overlap

Remove excess dust and dirt from the Leadax Roov. Fold the Leadax Roov back a little bit and dip the Leadax roller/sponge into the Leadax Roov Bio bind and let it drip off. Now roll the (wet) roller between the two layers of Leadax Roov and make sure that it overlaps at least 10 mm (0,39 in) more than the width of the seam (min. 110 mm 4,33 in). Roll back and forth and ensure that there is always enough Leadax Roov Bio bind in the seam so that the upper and lower parts of Leadax Roov are moist. In case of using too much Leadax Roov Bio bind, roll it out thoroughly.

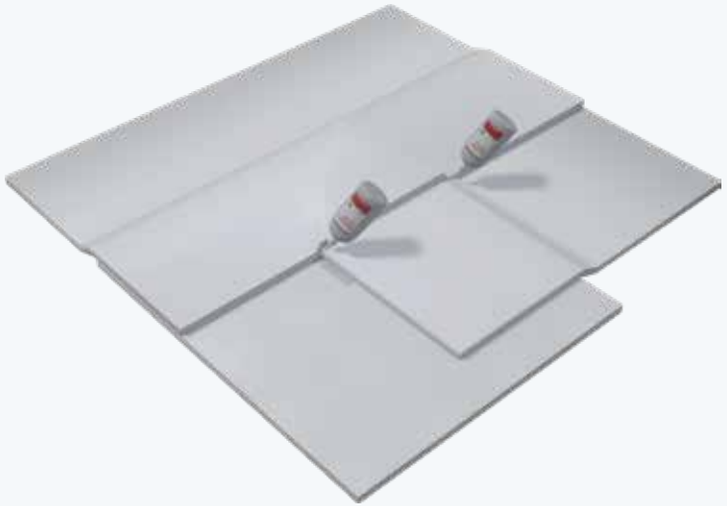
Step 3: Pressing the joint

Press the joint with your hand in order to remove any excess Leadax Roov Bio bind. Then immediately roll the joint with the Leadax 40 mm (1,57 in) wide rubber hand roller or the Leadax steel roller. Press down firmly on the seam to remove any air bubbles and possible Leadax Roov Bio bind accumulation between the membranes. Pressing the seam by hand alone is not sufficient as it does not provide uniform pressure.



Step 4: Checking the critical points

Check all the T-joints and angular changes (in the perimeter) in the seam connection. When in doubt, always add the Leadax Roov Liquid PVB to the joint by sealing in and along the seam with the special nozzle. Any joint that has been made must be checked with the Leadax control pen. When in doubt, add the Leadax Roov Liquid PVB.



3.2 T-junction

Two types of T-junctions are possible, depending on whether the transverse seam lies on top of the longitudinal seam or vice versa. In both cases, it is mandatory to cut Leadax Roov in a round/tilted manner. When the transverse seam is on top, the Leadax Roov is cut in such a way that the latter is flush with the edge of the membrane. The surplus membrane on the inside of the transverse seam is cut off in a round way or at an angle of 45°. After making the seam connection, an additional Leadax Roov Liquid PVB bead is applied above and against the seam.

Please note: The same specific processing guidelines as described above apply to T-joints and overlaps of Leadax Roov and Leadax Flashing.

3.2.1 Bonding with Leadax LRS strips

Application

The Leadax LRS strip is developed to mechanically fix the membrane in the LRS system in both the area and the perimeter fixation without penetrating the Leadax Roov layer.

Processing guidelines

Step 1: Placement and fixing of Leadax LRS strips

The Leadax LRS strips are mechanically attached to the substrate according to the requirements of the wind load calculation. Only approved plates/tules or fastening strips may be used for the attachment. The Leadax Roov membranes are laid freely over the Leadax LRS strips in accordance with the most suitable installation plan.

Please note: Do not overtighten the fastening strips. Make sure they are flat. It is important that the LRS strips are kept as flat as possible.

Step 2: Placement of Leadax Roov membranes

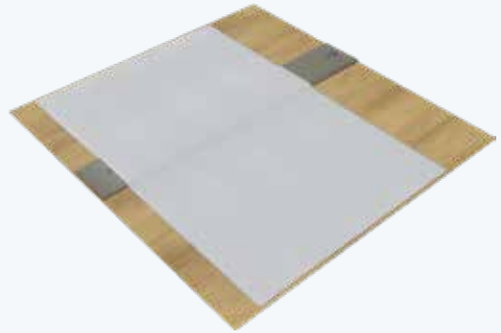
Fold back the Leadax Roov membrane so that the Leadax LRS strips become visible.

Step 3: Application of Leadax Roov Bio bind

Apply the Leadax Roov Bio bind with the roller/sponge to the inside of the folded Leadax Roov over a width that is greater than the size of the Leadax LRS strip and onto the LRS strip itself. Make sure Leadax Roov Bio bind is applied sufficiently (without puddles) and over a sufficient width. This step is extremely important. Therefore, it is recommended to check this properly.

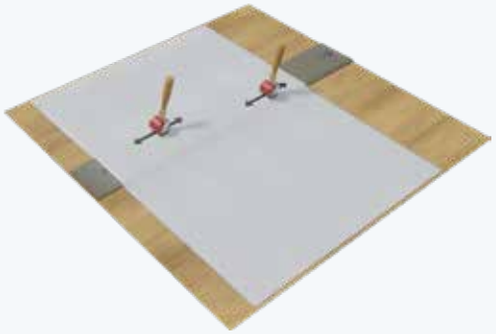
Step 4: Repositioning of the Leadax Roov roofing membrane

After application of the Leadax Roov Bio bind, the Leadax Roov membrane must be placed over the LRS strips as soon as possible and pressed down according to step 5. In warm weather or long lengths, it is advisable to, directly after applying some Leadax Roov Bio bind, place the Leadax Roov back onto the LRS strip during the further application of the Leadax Roov Bio bind.



Step 5: Pressing the joint

Press the joint with your hand in order to remove any excess Leadax Roov Bio bind. Then immediately roll the joint with the Leadax 40 mm (1,57 in) wide rubber hand roller or the Leadax steel roller. Press down firmly on the seam to remove any air bubbles and possible Leadax Roov Bio bind accumulation between the membranes. Pressing the seam by hand alone is not sufficient as it does not provide uniform pressure.



3.3 Perimeter fixation

General

Leadax Roov must be mechanically fixed in every place where the membrane is interrupted or undergoes an angle such as eaves, skylights, internal walls, roof penetrations etc. This mechanical fixation serves to neutralise movements in the subsoil and to avoid stresses in Leadax Roov as a result of processing, production or temperature changes. If the fixation is not sufficient to handle these stresses, this can lead to the pulling away of the membrane from the edge with possible leaks as a result.

By using the underlying LRS strips, the Leadax Roov will not be punctured. This way, seams at upstands and roof penetrations are eliminated. Roof edges and skylights are less sensitive to weather conditions.

The Leadax LRS strip must be anchored with suitable roofing fasteners at intervals of no more than 250 mm (9,84 in).

Fastening systems based on plates/tules can be used in combination with the Leadax LRS strip. When fixed directly to the unreinforced Leadax Roov membrane in a seam, the overlap must be at least 120 mm (4,72 in). Please note that this type of joint will be less strong than the LRS strip method.

The fasteners are positioned so that the heads are in the same plane as the fixing strips or plates/tules.

For more information regarding connections between Leadax Roov and other waterproofing systems please refer to the details in Chapter 3.4 *"Waterproofing of upstands"*.

3.3.1 Perimeter fixation with Leadax LRS strip

The Leadax LRS Strip is designed for the mechanical fixing of the Leadax Roov membrane in all systems at the area, straight upstands, skylights and internal walls. This is the standard method for performing a perimeter fixation. The strip may also be used on the flat area for a mechanical fixing of the roof surface, see chapter 3.2.5.

Processing guidelines

The Leadax LRS strip is unrolled along the upstand and can be fixed in the upstand as well as in the roof area. Vertical or horizontal fastening is determined by the degree of difficulty of the application (nature of the substrate, thickness of the insulation, etc.). If possible, a vertical fastening is preferred.

Position the LRS strip as close as possible to the corner change. Make sure that the strip is flat and has no creases. Leave a maximum of 10 mm (0,39 in) between the strip and the upstand. If this is not possible, please contact the Leadax Technical Department.

Place the fixing strip or plate/tule and fasteners as indicated on the part of the perimeter fixation strip, as flat as possible and 30 mm (1,18 in) from the edge.

3.3.2 Vertical fixing of the parameter fixation strip

Unroll the parameter fixation strip in the roof plane along the entire length of the upstand. Place the parameter fixation strip against the upstand and make sure the strip is laid flat and without creases. The parameter fixation strip has no top or bottom side. Anchor the fixation strip or plates/tules max. 30 mm (1,18 in) from the perimeter against the upstand as illustrated. Everything must be installed as flat as possible. Center to center distance pressure distribution plates/tules 250 mm (9,84 in).

Specific details

At inner and outer corners, the Leadax LRS strips must not overlap. For a horizontal fixing of the LRS strip, this is done as follows.

Connecting LRS strips may not overlap, but rather are laid against each other with a space of approximately 10 mm (0,39 in) in between.

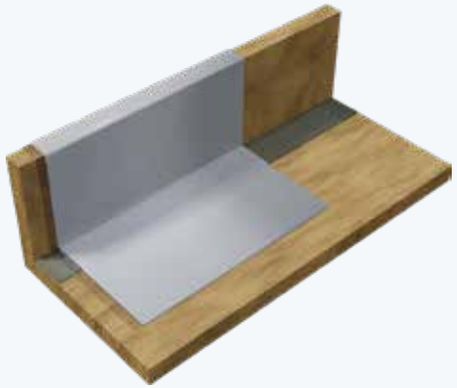
3.4 Waterproofing of upstands

General

The waterproofing of the upstands is derived from the previously described methods of the perimeter fixation, where the Leadax Roov is bonded with Leadax Roov Bio bind on the LRS strip before the upstand is sealed. Either the upstand is sealed watertight directly on the membrane, or with a separate strip of Leadax Roov.

Check the quality of the substrate and of any existing sealing strips. The substrate must be solid and suitable for a good adhesion. Rough brickwork, profiled steel sheets and some insulation materials must first be covered with a sealing layer as discussed in the previous chapter. Loose parts, mineralised or coated sealing strips and other existing sealing strips with insufficient adhesion are to be removed in such a way that a suitable substrate for adhesive bonding is obtained.

When bonding against metal upstands, the adhesive can only evaporate on one side (the adhesive surface), which will increase the drying time considerably. Please apply the Leadax water-based adhesive double-sided thinner (with a roller) or use the Leadax Roov High Tack Sealant by applying it in the grooves and rolling it flat after applying the Leadax Roov.



When gluing high upstands, it may be necessary to mechanically fix the Leadax Roov in the upstand itself and to repeat this every 300 mm (11,81 in), depending on the height that is to be sealed.

Glue the upstand with Leadax water-based adhesive or with stripes of Leadax Roov High Tack Sealant. Do this simultaneously on both contact surfaces (upstand and membrane) so that there is no difference in drying time. Start against the upstand first, so that no glue is spilled on a part of the membrane that has already been glued. Also make sure that there is no glue on joints that are to be sealed with the Leadax Roov Bio bind.

Next, the membrane is rolled into the glued upstand. Do not let the Leadax water-based adhesive dry completely. It must still be applied slightly wet. In order to avoid folds. It is advisable to start in the middle and work your way out. Roll the Leadax Roov upwards evenly by hand. Then press the surface firmly with a Leadax pressure roller.

Processing

3.4.1 Wateeproofing with individual Leadax Roov membranes

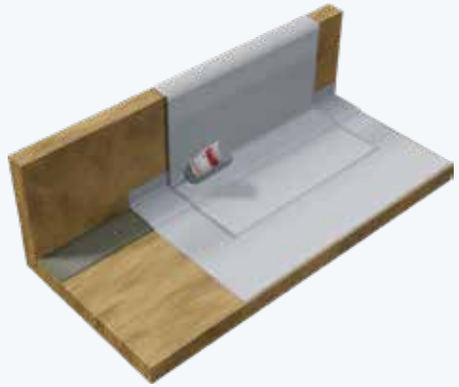
For the correct dimensions of the Leadax Roov membranes, the height that is to be sealed must be taken into account, including at least 100 mm (3,94 in) for the joint connection with the horizontal roofing membrane. The strips can be made as long as is practical for the job. Cutting the strips to the correct size in advance can save a lot of time.

Place the Leadax Roov membrane on the roof foil, +-150 mm (5,91 in) from the edge of the upstand to be installed. Clean the seam zone if necessary and apply Leadax Roov Bio bind over about 150 mm (5,91 in) on both the already installed Leadax Roov membrane and the Leadax Roov membrane that is yet to be installed. Avoid excessive application of the Leadax Roov Bio bind in the change of angle between the roof surface and the upstand. For the application of very long upstands, it can be advisable to apply the Leadax Roov Bio bind only when the separate strips are already glued to the upstand.

Apply Leadax water-based adhesive on the remaining part of the Leadax Roov membrane and against the upstand. Roll the section of the strip glued with water-based adhesive into the upstand by hand, making sure that a nice top edge always forms during the rolling. Apply pressure to the joint with a pressure roller.

Specific details

In case of longer upstands, the necessary seam connections are made according to the standard processing guidelines. Where the joint undergoes a change in angle, an additional sealing in the form of Leadax Roov Liquid PVB is required. The overlap of the two membranes should be in accordance with the previous guidelines for seam joints.



3.5 Corners

3.5.1 Folded inner corner

Application

At inner corners, Leadax Roov can be folded into a triangular flap that is then glued against the upstand. This way, a watertight corner finish can be realised without cutting the membrane. Although this detail can be applied on every type of roof, it should be noted that it is more difficult to apply to higher upstands and can therefore be less aesthetically pleasing. Use the prefabricated Leadax corner pieces.

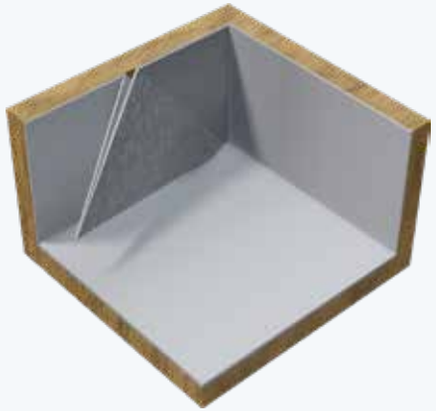
Processing guidelines

The Leadax Roov is glued to the upstand according to the described techniques. The membrane is carefully glued in the corners and against the upstands.

Proceed with the application of the Leadax Roov against the other side in such a way that the surplus of Leadax Roov forms a triangular flap as illustrated. Using Leadax Roov Bio Bind or Leadax Roov High Tack Sealant, close this flap. Work from the bottom up to remove all air.

Application

Apply Leadax Roov Bio bind on the flap and against the upstand for further bonding. Leadax Roov High Tack Sealant can also be used for this purpose.



Work the flap without folds against the upstand, roll and finish the detail with a suitable finish.

3.5.2 Inner corner with Inner corner 90°

Application

In case of higher upstands, the Leadax Roov is cut at the level of the inner corner in such a way that a vertical seam overlap is formed in the corner. Make the vertical joint with the Leadax Roov Bio bind according to the prescribed processing method.

Processing guidelines

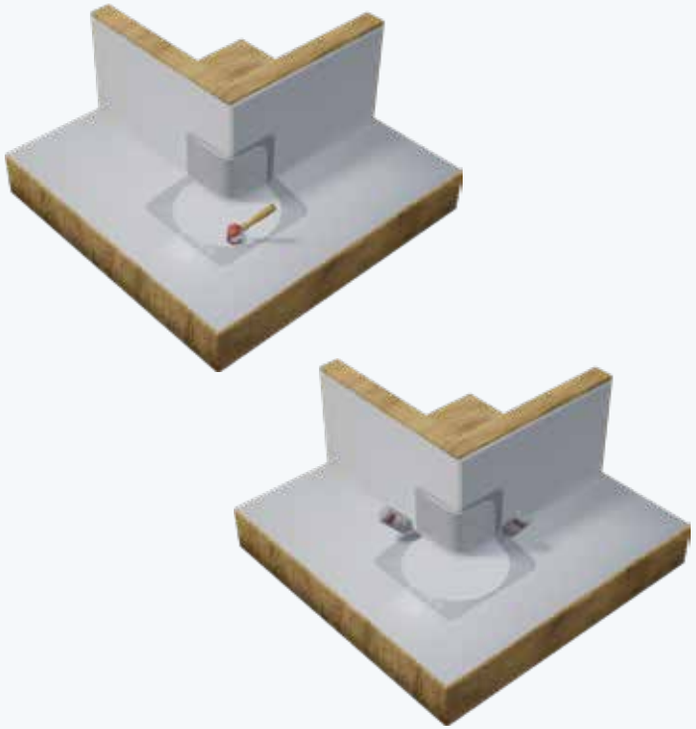
The inner corner detail is executed in two phases. Two identical parts are used for this: inner corner 90° to seal the small opening at the inner corner, and a separate strip for the remaining part. Apply Leadax Roov Bio bind in an area of up to 150 mm (5,91 in) from the opening to be sealed on the horizontal plane and up to 250 mm (9,84 in) on the vertical plane.

The Leadax Roov strip is 300 mm (11,81 in) wide and the required length up to the top of the upstand. Round off all the corners of the cut pieces of Leadax Roov. Apply the Leadax Roov Bio bind and immediately put the Leadax Roov strip on top. All parts must be rolled with a pressure roller to ensure a good fixation. At the location of the corner changes (in the parameter) at the prefabricated inner corner, always apply the Leadax Roov Liquid PVB (liquid Leadax PVB) by sealing with the special nozzle in and along the overlap.

3.5.3 Outer corner 90° or outer corner 45°

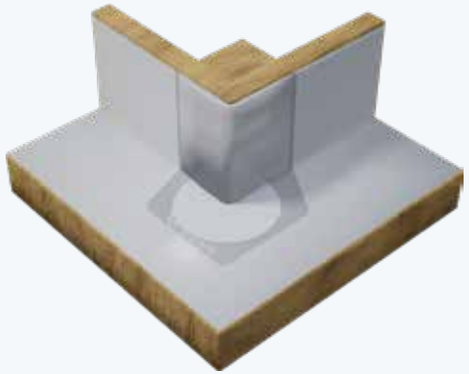
For outer corners such as skylights, Leadax Roov can be applied continuously against the upstands, or consist of several strips of Leadax Roov that are joined together with a seam connection in the corner. In both cases, the small opening created at the base of the corner change is made watertight with a prefabricated outer corner 90° or outer corner 45°.

After the (possible) implementation of the seam connection in the corner, Leadax Roov Bio bind is applied in the corner zone to both Leadax Roov and the corner piece. Apply directly and press with a pressure roller. Please note: in the perimeter area, press firmly with a (copper) Leadax roller.



Processing

Please note: If the successive Leadax Roov membranes are applied with stubbed seams in the corner, the piece of Leadax Roov must be long enough to make the overlap on the roof area (100 mm, 3,94 in) and cover the full height of the upstand plus an extra 100 mm (3,94 in) to cover the top of the upstand if necessary.



3.6 Penetrations

General

This section contains information regarding round roof penetrations and penetrations with irregular shapes. Every roof penetration can be installed by using one of the following techniques:

- Flush-mounted connections with Leadax Roov membrane.
- As loose penetrations can damage the roofing membrane by movement, each penetration must be mechanically fastened to the substrate.
- None of the Leadax products may come into direct contact with steam or surfaces with a temperature higher than 90 °C. In such cases, the conduit wall is insulated so that the connection can be made directly against a cold surface.

Application

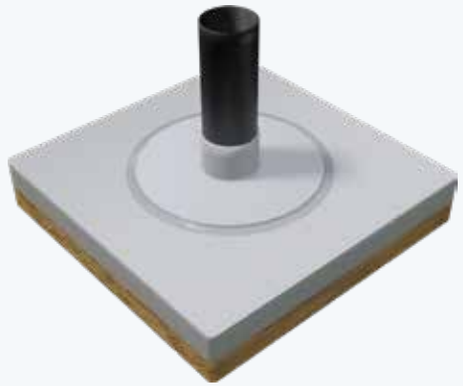
This method is used for connections of circular pipe penetrations and supports that are not accessible from above and for pipe penetrations that are accessible, but whose diameter is larger than 150 mm (5,91 in). This technique is not applicable in the following situations: connection to structural steel elements, group of ducts with limited space in between, ducts that are too close to the wall, flexible penetrations, penetrations with a rough surface, hot pipes, etc.

In many cases the membrane is cut to fit around the penetration. Repair the membrane according to the Leadax guidelines to make the connection around the pipe bushing.

Processing guidelines

The base is embedded with a piece of Leadax Roov cut in a round shape (in case of rectangles, round off the corners). The dimensions of this piece should allow for a Leadax Roov overlap of at least 100 mm (3,94 in) around the pipe. This results in a width of (200+Ø mm, 7,87 in), using the standard jointing techniques. In the middle of the cuff, make a round recess, measuring two-thirds of the pipe diameter.

Apply Leadax Roov Bio bind against the pipe bushing and to the Leadax Roov membrane, depending on the necessary dimensions of the pieces of Leadax Roov. Avoid large puddles of Leadax Roov Bio bind. Attach the piece of Leadax Roov membrane tightly over the pipe inlet as shown in the figures. The connection between the pipe and the sleeve must be sealed with Leadax Roov High Tack Sealant.

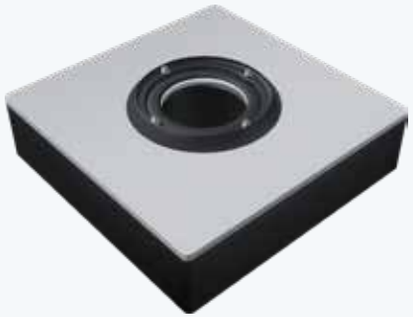


3.7 Rainwater drains (HWA)

3.7.1 HWA with clamping ring

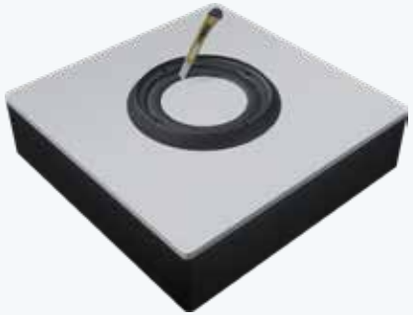
Application

The HWA with a clamping ring is usually used for vertical rainwater drainage.



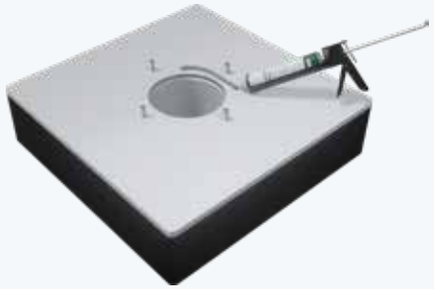
Processing guidelines

In renovation projects, the old roofing material must be removed up to the bottom ring.

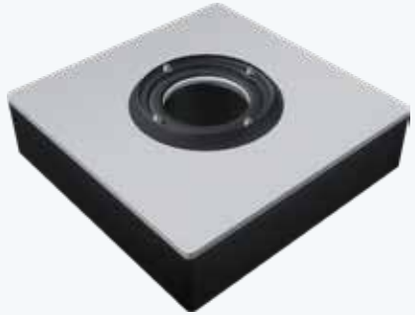


Make sure the Leadax Roov membrane lies flat above the HWA and then cut an opening that is 20 mm (0,79 in) smaller than the internal diameter of the drain. Avoid sharp cuts in the membrane that could cause further tearing in the long term.

The membrane must not be cut through to these holes. Spray some Leadax Roov High Tack Sealant under the roofing membrane at the place where the clamping ring will be located. Use at least half a tube per drain.



Place the clamp ring on the roofing membrane and tighten the clamp bolts so that the whole is placed under an even pressure. Attach any leaf trap and ensure that it is securely fastened.



3.7.2 HWA with adhesive plate

Application

The HWA with adhesive plate is mostly used for drains with little or no recesses and for vertical rainwater runoff in renovation projects.

Processing guidelines

For renovation projects, the existing slabs are removed or cleaned for re-use. The Leadax Roov membrane is applied before the HWA is replaced. Cut a circular opening centrally above the HWA with a diameter equal to the diameter of the drainage pipe. Place the HWA in the opening. Spray a line of Leadax Roov High Tack Sealant around the drain between the membrane and the adhesive plate. Use at least half a tube per HWA. If the adhesive plate consists of a soft material, the flanges should be fixed with plates/tules with a maximum distance of 100 mm (3,94 in) between the fixings.

Apply Leadax Roov Bio bind according to the required dimensions. The strips overlap the roof foil by 100 mm (3,94 in) and the screws by 100 mm (3,94 in) in all directions. Roll over the Leadax Roov membranes with a pressure roller.

3.7.3 Leadax HWA with Leadax Roov piece

Application

The Leadax HWA can in most cases be used for new buildings and renovation projects. This application is preferred and is also covered by the Leadax system warranty.

Processing guidelines

For renovation projects, remove the existing plasterboards/sewers. The Leadax Roov membrane must be applied before the Leadax Roov is installed. Cut a circular

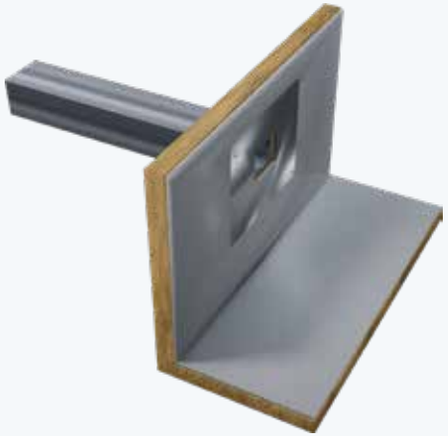
opening centrally above the HWA with a diameter equal to the diameter of the drainpipe. Spray a line of Leadax Roov High Tack Sealant around the drain between the aluminium plate and the substrate and press the Leadax Roov down well. Screw the adhesive plate (in the pre-punched holes) into the substrate in order to mechanically fix the Leadax Roov into place.

Connect the Leadax Roov from the HWA to the Leadax Roov underground using Leadax Roov Bio bind in accordance with the aforementioned method (such as jointing). All parts must be rolled over well with a pressure roller to ensure proper fastening.

3.7.4 Gargoyle/emergency overflow

Application

Gargoyles and emergency overflows are used for horizontal drainage through the upstand.



Processing guidelines

Gargoyles usually consist of a welded whole. However, if the inside of the gargoyle is not welded watertight, this entire inner side must be welded in a watertight manner first. All flange corners must be rounded off. For renovation projects, the existing gargoyles are removed or cleaned for re-use. The Leadax Roov membrane is applied before the drain is replaced. Apply a bead of Leadax Roov High Tack Sealant to the back of the gargoyle flanges and attach the gargoyle to the substrate with fasteners. Determine the dimensions of the Leadax strips in such a way that the flanges of the gargoyle are completely covered and there is an overlap with the membrane and the fasteners of 100 mm (3,94 in). Apply Leadax Roov Bio bind on the flange and all around (at least 110 mm, 4,33 in) and on the strip to be installed in accordance with the aforementioned method (such as jointing). All parts must be rolled over well with a pressure roller to ensure proper fastening.

3.8 Eaves finish systems

Application

An eave detail is to be installed according to the designer's guidelines on all flat roof edges where the membrane ends, and at inner and outer gutters. The details described in this section are generally applicable. Please contact the Leadax technical service when the situation of the roof requires alternative details.

3.9 Upstand finishings

Application

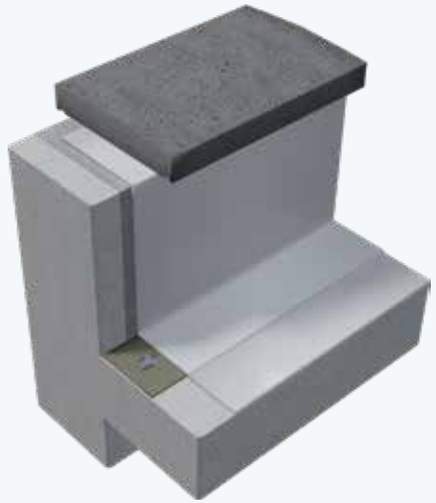
Upstands must be finished according to the designer's instructions and applied where the Leadax Roov ends at the level of walls and upstands. The details described in this section are generally applicable. Please contact the Leadax technical service when the situation of the roof requires alternative details.

Wall copings, metal caps and metal eaves profiles are suitable for upstands that are fully incorporated. Leadax flashing and compression profiles are suitable for upstands that are embedded over their entire height.

Processing guidelines

3.9.1 Wall copings

If necessary, stop the Leadax Roov at a sufficient distance from the edge in order to obtain a good adhesion of the mortar to the wall without jeopardising the watertightness of the detail. The membrane must be fully adhered or mechanically fixed over the entire length of the detail.



3.9.2 Metal cap

Provide a wooden rafter at the top of the wall. Allow the Leadax Roov to extend at least 50 mm (1,97 in) beyond the edge of the wall. Use galvanised nails or stainless-steel screws with a large head (ø 10 mm, 0,39 in) to fix the Leadax Roov at 150 mm (5,91 in) intervals against the vertical side of the rafters. The front side of the cover must be at least 25 mm (0,99 in) longer than the underside of the rafter.

3.9.3 Metal roof edge profile

Fasten the roof edge profile with suitable fasteners at 100 mm (3,94 in) intervals. The flange should be fastened as close as possible to the edge in order to achieve a sufficient overlap of the sealing strip on both sides of the fixing. Copper edge profiles require special care. Copper may be oxidised or pre-treated with a special coating that can make bonding difficult. Therefore, a special technique should be used for the cleaning of copper. Leadax recommends to clean copper with the Leadax Roov Bio bind soaked cotton cloths. Apply the Leadax Roov with Leadax Roov Bio bind over the metal flange. Make sure both sides are equally overlapped. Roll the Leadax Roov with a rubber roller and always finish with Leadax Roov High Tack Sealant to ensure a watertight seal.

In case of a monotrim roof edge profile, the aforementioned reinforcement is not necessary.

3.10 Leadax Flashing | Original

- The required height for the Leadax Roov sealing is determined by local regulations. For upstand finishes where this condition cannot be met, Leadax requires the height of the detail to be higher than the water level in case of a blocked drain.
- If possible, try to execute the following operations before applying the Leadax Roov in order to avoid possible damage and/or soiling of the new roofing membrane.
- If possible, apply the lead/lead replacement to the inner sheet. In an existing situation, a piece of wall must be removed and a piece left in place (alternating). This will ensure that the load-bearing wall cannot sink. For any questions about this, please contact the Leadax technical service. Apply the Leadax Original strip (lead replacement) against the inner sheet, then fix up this part of the wall again and remove the other parts after it has dried.
- If the connection mentioned above is not possible/desirable, and the wall does not face a rainy side, the Leadax Original strip can also be applied to the outer wall. Grind the joint as deep as possible, remove the dust and apply the Leadax Original strip. Clamp the Leadax Original strip with the Leadax fixing clips and seal the joint with the Leadax Jointfix (joint sealant).
- Work with the Leadax Original strip in the same way as you would work with lead.
- Leadax Original lasts in every climate worldwide (-50 °C/+100 °C, -58 °F/+212 °F). Leadax Original can be applied from -20 °C (-4 °F) (cutting, folding and beating). At lower temperatures(< 5 °C, 4 °F), the material becomes somewhat stiff during processing.
- Leadax Original can be applied over long lengths without problems. The maximum length of the roll and a minimum overlap of 60 mm (2,36 in) is sufficient. Optionally, the overlap can be glued with Leadax Roov High Tack Sealant or with hot air. The recommended welding temperature is 350 - 400 °C (662 °F - 752 °F). Use the Leadax roller to press the welding joint.
- Use Leadax Roov High Tack Sealant at overlaps in brickwork (100mm, 3,94 in).
- In places and areas where a lot of wind is to be expected, Leadax Original can be fixed with Leadax Roov High Tack Sealant. Make sure the surface is clean, dry and grease-free.
- Leadax can be fixed in the joint with Leadax fixing clips.
- Use the Leadax roller to dispense the product to the bottom of the roof tile.
- After application, remove the protective film from the top and bottom.
- It is advisable to always try the Leadax Original on the inner sheet (in case of cavity wall).

3.11 Wall snap profile

The required height for the Leadax Roov sealing is determined by local regulations. For upstand finishes where this condition cannot be met, Leadax requires that the height of the detail is higher than the water level in case of a blocked drain. The suitable substrates for a wall tightening profile are concrete, smooth stones and brickwork. A wall tightening profile must never be attached to a wooden substrate. Make sure there is a distance of at least 5 mm (0,20 in) between adjacent profiles. The wall-tightening profile must be attached directly to the wall and not to any existing seals, sheet metal, etc. Drill holes in stone, brickwork and concrete, but not in the jointing material. At inner and outer corners, the profile should be interrupted. Do not bend the profile around corners. Pull back the top of the membrane by 20 mm (0,87 in) and apply a bead of Leadax Roov High Tack Sealant between the Leadax Roov and the wall before installing the wall-tightening profile. Fix the profile with a suitable plug system at +-200 mm (7,87 in). An even pressure is required over the entire profile length. The distance between the last attachment and the end of the profile may not exceed 25 mm (0,98 in). Apply a bead of Leadax Roov High Tack Sealant at the top of the profile. In all places where there is a difference in connection height, a vertical jointing profile should be applied that is finished on both sides with Leadax Roov High Tack Sealant.

4. REPAIRS

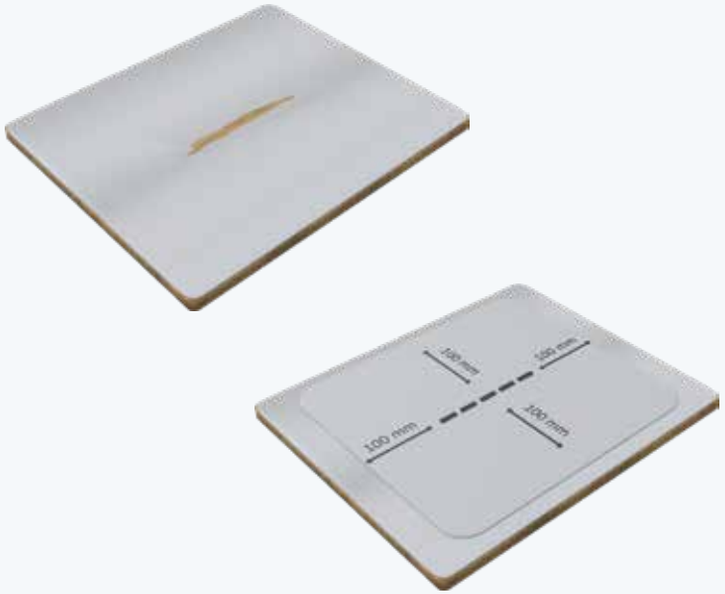
4.1 Repairs

Application

Repairs of cracks or perforations in the Leadax Roov, fouling of the membrane by harmful products or wrinkling in a perimeter of 450 mm (17,72 in) of the seam.

Processing guidelines

Mark the damage with a marker immediately after fixing. The repair must overlap the edges of the damage by at least 100 mm (3,94 in). Round off all corners.



Cuts and tears in the roofing membrane must be repaired with a Leadax Roov membrane. Round off all corners of the membrane piece properly and apply Leadax Roov Bio bind. To repair a Leadax Roov roofing membrane that has been in use for a long time, it is recommended to thoroughly clean the surface before the repair. Clean the surface with a brush and water. Then clean with clear water and dry the surface with a clean cloth.

Additional cleaning may be required for heavily soiled areas. Membranes that have come into contact with chemical products such as fresh bitumen, petroleum products, fats, oils, animal fats or products based on oil, tar and plastic must be checked first. Immediately remove all excess harmful products and clean the membrane with the Leadax Roov Bio bind in the damaged area. If necessary, a new piece of Leadax Roov must be placed onto the damaged section using the Leadax Bio bind method.

Folds within 450 mm (17,72 in) of a seam must be cut out and repaired with a piece of Leadax Roov. Ensure a minimum overlap of the cut of 100 mm (3,94 in) in all directions. Use scissors to remove the creases flush with the roofing membrane. Connect the loose parts with Leadax Roov Bio bind and roll it with a pressure roller. Clean the area around the cut and repair it with a piece of Leadax Roov.

There is too much plastic waste. So much, in fact, that a large proportion is burned or dumped. This is a gigantic problem for life on our planet. Leadax has a solution.

We use recycled PVB as a raw material for our products. PVB is the safety film found in glass, such as car windows. Our roofing material, Leadax Roov, is made from this recycled plastic waste. It is the new standard in flat roofing, focused on the future of our planet. Leadax Roov is not only sustainable and circular, it is designed to make processing easier and more fun.

We know exactly what roofing professionals need and want. That is why Leadax Roov was developed.

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