AQUAGARD©
ROOFING SYSTEMS

THE SIMPLEST INSTALLATION GUIDE

For the Mechanically Fixed System

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DISCLAIMER

This information is given as a guide only. If your roof has a lot of detail (ie) multiple projections through the roof etc, we do not recommend this as a DIY project.

Permaroof (UK) Ltd. Cannot accept liability for incorrect installation of a DIY kit.

Unfortunately we can not give verbal advice on fitting a DIY installation.

AQUAGARD EPDM FLAT ROOFING SYSTEMS

INSTALLATION GUIDE
FOR THE MECHANICALLY FIXED SYSTEM

It is recommended that this guide is read and fully understood before any installation is undertaken. The diagram sketches are provided to clarify and highlight points of detail.

The following guide covers the technique for the mechanically fixed system. This system is best employed when an 'overlay' is favoured, i.e. the existing waterproofing is left in situ and overlaid with the EPDM membrane.

Tools & Components

Before any installation is undertaken, the following tools will be required:-

- Sharp Scissors
- Cordless Drill/Driver
- Paint/Gluebrush
- Seam Roller
- Tin Snips (secateur type are best)
- Measuring Tape

Glossary of Components

- EPDM rubber membrane – The waterproofing membrane.
- Geotextile Underlay – Affords protection from sharps and abrasion.
- Prefabricated external and internal corners – Simplifies detailing.
- Adhesive & Membrane Cleaner – For gluing EPDM to EPDM & substrate.
- Sealant Mastic – Used when mechanically fixing trims, also as lap sealant.
- Aluminium Trim – Fixed along the edges.
- Reinforced securingstrip – Used to secure the membrane to the roof.
- Fixing Plate – to fix the securing strip to the roof.
- Formflash EPDM – Self curing EPDM strip used with the adhesive - adaptable to irregular shapes and designed to flash the system details where the membrane has to be cut.

Sequence

1.) The roof should initially be checked for damaged decking (replace as necessary).

2.) If the deck is sound, the existing felt may be left in place; however all felt flashings to up-stands, edges, welted drips into gutters should be stripped back.

3.) All loose chippings and debris should be swept clear. The Geotextile Underlay is then laid over the roof. This may be tacked down to stop it blowing about during the installation.

4.) The EPDM membrane is then unfolded and positioned over the roof. This must be left to relax for about thirty minutes to allow any heavy creases to ease out of the rubber. Sufficient membrane must be left overhanging all edges. This will be trapped under the aluminium trim when it is fixed.

5.) If the membrane is to be adhered to an up-stand or under copings or tiles, adequate material must be left for this purpose before any surplus rubber is cut from the sheet. Any surplus material can be trimmed off later.

6.) The edge trims are fixed and the installation is complete

Fixing Guide

1.) Fixing the Securing Strip

After the underlay has been laid, the securing strip is unrolled and placed around the perimeter of the roof about 50mm (2”) in from the edge. The fixing plates are then spaced at about 300 – 400mm centres along the securing strip and fixed through to the decking.

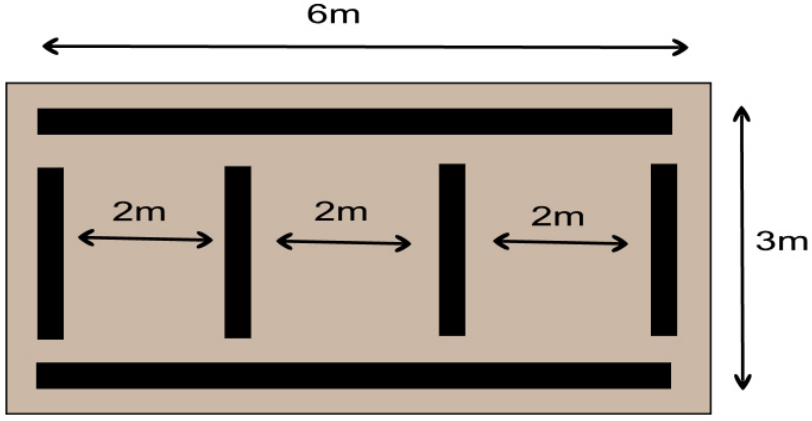
N.B. It is important that the fixings have sufficient pull out resistance to secure the installed membrane against possible wind uplift. Substrates such as Chipboard do not provide sufficient pull-out resistance. Therefore the fixing must be made into the timber joists by means of a longer screw.

The position of the joists can usually be located by identifying the nail heads around the fascia.

If the roof is Concrete or Asphalt then the fixings must be made by drilling and plugging the substrate.

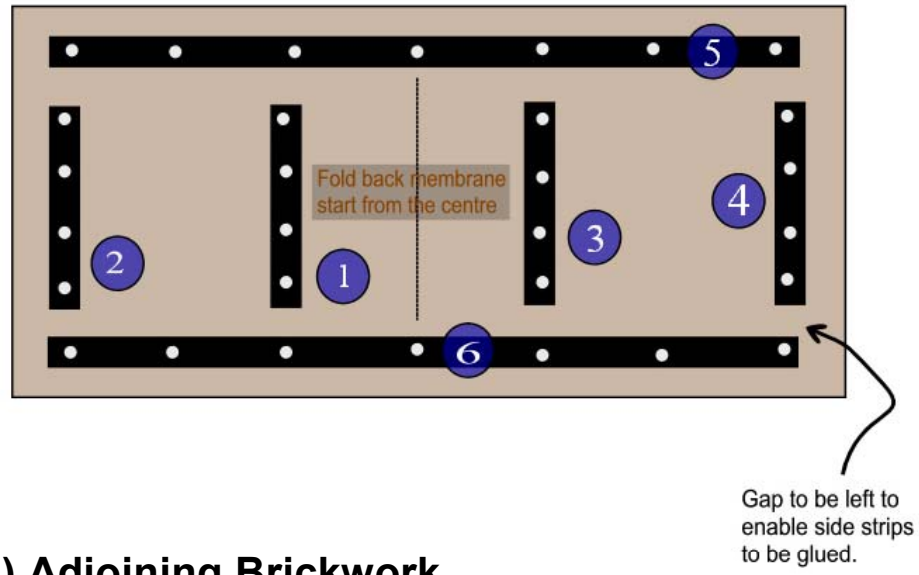
As well as fixing the securing strip around the perimeter, additional strips should be fixed at intervals of approximately 2m across the whole of the roof (see diagram below).

Example Roof



The membrane is positioned over the roof area then folded back half way on itself (thus exposing half of the roof with the securing strip fixed). **Working from the centre** and following the sequence shown in the diagram below, adhesive is applied to the **securing strip** and the **underside of the membrane** where the two will mate. However before the adhesive is applied to the **membrane**, membrane cleaner should be used to wash the rubber clean of surface dirt and talc. It is ***not*** necessary to clean the securing strip.

The adhesive should be brushed on evenly and left to become touch dry before mating. When the first half of the membrane has been mated to the securing strip then the other half is folded back and the process is repeated. Finally the side strips are mated using the same procedure.



2.) Adjoining Brickwork

If the flat roof adjoins the house wall a chase should be cut in the mortar joint between the courses of brick. As a general rule the chase should be at least 6" above the level of the roof and at least 1" deep. Adhesive is then applied to both up-stands and membrane *(see figure 1)* – don't forget to clean the membrane using the membrane cleaner.

Remember the adhesive will grab as soon as contact is made so don't rush this stage of the installation. Also be sure that the chase has been thoroughly brushed out before the adhesive is applied, and the membrane is taken right into the chase. It may then be re-pointed using either mortar or silicon mastic.

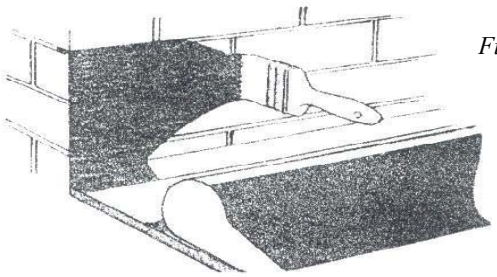


Figure 1

3.) Outside/Inside Corners

Applies if there is a roof light, chimney stack or an L shaped up-stand on your roof. We supply outside/inside corners that have been prefabricated to save time and eradicate fiddly detailing.

When fitting corners the membrane must be glued up first. The corner is then glued over the membrane, ensuring the cleaner is used on both the membrane and underside of the rubber corner-piece. When in place the edges of the rubber corner must be sealed with the rubber sealant mastic.

4.) Under Tiles

If the flat roof adjoins a pitched roof, the membrane must be taken up under the tiles or slates at least 12". The bottom rows of tiles or slates must be removed to allow this. The membrane must be fed under the sarking felt.

If the bottom rows of tiles are on timber lay boards then the membrane should be glued to these lay boards using the adhesive.

On replacing the tiles consideration should be given to protecting the membrane from direct contact with the bottom edge of the tiles. A strip of Geotextile Underlay is ideal for this purpose.

5.) Detailing around Vent Pipes

If pipes of any description are projecting through the roof, prefabricated pipe boots can be supplied if required. However, in the majority of cases, detailing is achieved as follows:-

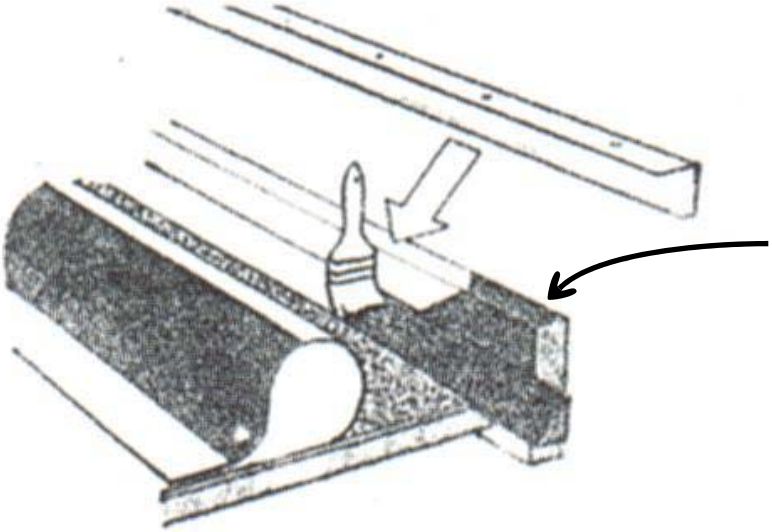
The centre of the pipe is marked on the membrane in the exact location where the pipe will pass through when the membrane is installed. A circular hole is then cut in the membrane half the diameter of the pipe. The membrane is then stretched over the pipe and pushed down around the base. This will form a watertight seal by itself. It is advisable to finish with a strip of rubber glued over. Sealant is then applied over the joints.

6.) Fixing the Perimeter Edge Trim

Before fixing the aluminium perimeter edge trim it is important that the top of the watercheck curb is flat to accommodate the angle of the trim. If the existing curb takes the form of an angle fillet which is fixed above the fascia then it should be removed and replaced with a tilers batten or similar.

Prior to the fixing, the membrane is glued over the edges (*fig 2a)* - don't forget to use the membrane cleaner on the rubber before applying the adhesive. The trim is placed along the roof edge, trapping the EPDM membrane.

Figure 2



Before the trim is fixed, sealant mastic must be applied to the underside of the horizontal trim face where the screw will pass through. This will seal the hole in the membrane made by the screw. It is recommended that the trim is fixed every 400mm and that the screw caps are used to leave a neat finish. *(Figures 2 & 3 illustrate this section).*

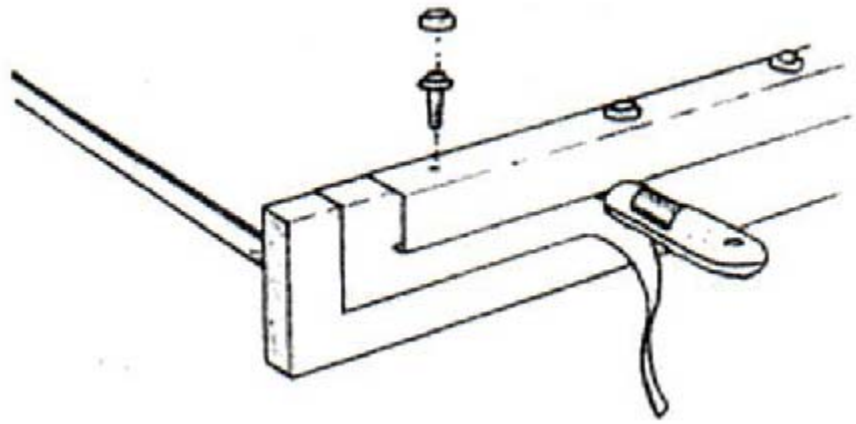
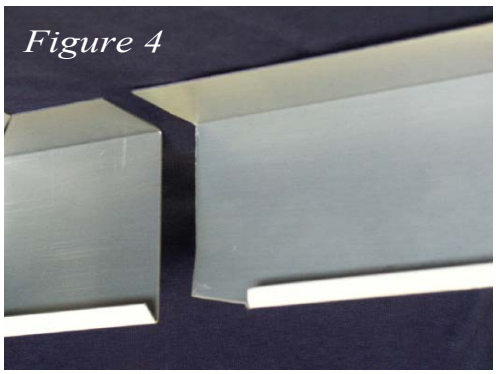


Figure 3

The open ends of the trim can be closed off easily using tin snips and then bending *(see figure 4 on following page)*.

Where it is necessary to join the lengths of a trim, a 1" section of the turned up bottom drip is removed using tin snips and slid into the adjoining length, the trim faces overlapping *(Figures 4 & 5 illustrate this section).*

Photograph shows finished Edge & Gutter Trim



Joining two lengths of Trim

Take out section along bottom edge as shown in illustration and slide into subsequent trim.

Shows internal section

How to make a 90° Bend

Using tin snips, take V sections on top and bottom flanges in line with each other and bend.

7. Fixing the Gutter Trim

Before fixing the Gutter Trim, a Tilers Batten should be fixed to allow the trim to be fixed through the vertical face.

The gutter trim is always fixed through the vertical face, sealant mastic applied to the inside of the trim where the fixings pass through.