



Your guide to home maintenance

Your guide to home maintenance is a series of information leaflets that gives you all the information you need to keep your home in tiptop condition.

Flat Roofs

Flat roofs are often used on house extensions and garages, although in Gateshead you can also find several house types where the main roof is of a flat roof construction.

A flat roof is a roof with a pitch of less than 15 degrees. Most flat roofs consist of a timber decking nailed to the roof joists covered with three layers of roofing felt.

In some cases a layer of proprietary chipping compound, such as limestone, gravel or granite may have been applied on top of the layers of felt to strengthen the surface further. The idea is that a chipping layer on the surface will reflect rather than absorb sunlight, thus helping to protect the felt.

Checking the condition of a felt roof

From inside

- Look for water staining on the ceiling, as this will indicate dampness getting through. Felt coverings can deteriorate with age and become porous. This can result in the surface becoming uneven, buckling or cracking in areas.
- On a particularly wet day, check for drips of water seeping through the surface. It is useful to inspect the ceiling after a long period of rain, as the source of a leak is easier to trace.
- If stains are found, try tracing the source of the stain as it is not always directly overhead. Water can penetrate the roof surface and travel between the roof and ceiling level before finding its way through the ceiling.

Checking the condition of a felt roof

Outside at ground level

- Outside, check the roof by inspecting at ground level.
- Check the apron, which is the area where the edge of the front of the roof does not meet a wall. Here strips of felt are secured over fascia boards, sealing the edges of the roof. If there is a change to the colour of a section, it could be newly exposed and unweathered.
- If the roof is too high to allow you comfortable access by ladder for a closer inspection, use binoculars to scan the surface as carefully as possible, from all angles - front, back and sides where applicable.

Outside at the roof level

- If you are using a ladder, always make sure it is set up correctly and long enough - at least 3 rungs above the gutter. Always work with someone standing near by when you are working at a height.
- Once at the roof level, only access the surface of the roof if you are sure that the structure is safe. If there are signs of dips in the roof or puddles, it could be due to the deck or the structural joists having deteriorated or perished.
- If you have no confidence in the strength of the roof taking your weight, use scaffold boards across the roof in order to spread the load when you walk across it. Ladders and scaffold boards can be hired.

Common problems

- cracks or splits with no bubbling of roof surface
- cracks and signs of bubbling
- No cracking, no bubbling, but signs of dampness

Repairing minor problems

You will need:

- ✓ ladders
- ✓ Bituminous mastic gun or self adhesive tape
- ✓ Gravel chippings if required
- ✓ Protective gloves, overalls, goggles and knee pads
- ✓ Brush

For small cracks or splits where the surface still appears flat:

Using a bituminous mastic:

- You must make sure that the surface is thoroughly clear of debris and cleaned carefully before application of the mastic so that the seal between the spread and the surface is good.
- Once the bituminous mastic is smoothly in position, apply more compound to the surface to seal completely and cover with some gravel chipping to match the rest of the surface.
- The chipping compound, such as limestone, gravel or granite on top of the layers of felt, strengthens the surface further.

Self-adhesive repair tapes are also available for this type of repair



Repairing minor problems

You will need:

- ✓ Ladders
- ✓ Bituminous mastic gun or self adhesive tape
- ✓ Gravel chippings if required
- ✓ Protective gloves, overalls, goggles and knee pads
- ✓ Brush
- ✓ Craft knife
- ✓ Galvanised clout nails where required
- ✓ Clout hammer

Small cracks and signs of bubbling

If cracks also show signs of bubbling, then water can seep through the surface. The bubble indicates that moisture has already penetrated under the felt. When the roof has warmed in the sun the felt swells in the heat causing blistering on the surface.

- You should make a cross shaped cut in the centre of each bubble and open up to allow the area to dry out completely.
- When dry, use a cold bitumastic compound to bed the felt back into position. If necessary, the area can also be nailed back into position with galvanised clout nails.
- When the felt is back in position, apply more compound to the surface to seal completely and cover with some gravel chipping to match the rest of the surface.

You will need:

- ✓ Ladders
- ✓ Flashing strip
- ✓ Protective gloves, overalls, goggles and knee pads
- ✓ Old paint brush
- ✓ Trowel
- ✓ Ready mixed mortar

No cracking, no bubbling, but signs of dampness

Where there is no cracking or bubbling, yet there are signs of dampness on the ceiling below, check the flashing. The flashing strip should be set against the wall and be totally watertight. This area can sometimes come away from the wall allowing water to trickle below the surface of felt.

- Take the flashing strip off by prising it away from the wall.
- Clean the area by raking out old debris and mortar. Use a ready mixed mortar if only a small amount is required.
- Brush away any dust or grit and dampen the joists with an old paintbrush. This will stop the mortar drying too quickly and cracking.
- Use the mortar to fix the flashing strip into position and re-point the joist.

Tackling Major Repairs

You will need:

- ✓ Ladders
- ✓ Protective gloves, overalls, goggles and knee pads
- ✓ Flat faced spade or shovel
- ✓ Claw hammer

Removing felt from the flat roof

- Strip off the top two layers by damaging the bonded surface to allow the removal of sections. Use a tool with a sharp blade, such as a wallpaper scraper or garden implement like a spade.
- The lowest level of felt is normally nailed to the surface of the timber roof. You will therefore need a claw hammer to remove all the roofing nails before this layer of felt can be removed.
- Remove all the felt material and brush the surface of the wooden deck, removing any odd nails left.
- Check the condition of the decking for any defects. If any boards are found to be in a poor condition or rotten, remove and replace with new boards.
- The new boards should be coated with preservative before fitting into their positions. It is important to use a preservative other than creosote on the timber if you intend to recover the roof with felt. This is because creosote will not work well with the bitumen material used with a felt roof.

Replacing the felt on a flat roof

First layer of felt

- Make sure the decking is in a good condition before starting to cover with felt.
- Use galvanised clout nails with large heads, nail the first layer of felt onto the decking. Use 20mm (0.75inch) nails and space them about every 150mm (6inches) along the planks.
- Start at the centre of the sheet; smooth and nail the felt to the surface in the direction of the edge of the roof.
- When you start using the second sheets of felt, it is important to allow an overlap of 50mm (2inches) and use bitumen mastic along the seams to aid waterproofing.

Second layer of felt

- Work on the first nailed layer of felt a section at a time. Paint bitumen mastic onto the surface, a length at a time.
- Take half a sheet of felt and place it flat on top of the first layer.
- Use a soft broom to help you remove any pockets of air between the two layers of felt or press the surface into place.
- If the surface is strong enough, walking over the second layer can help remove air pockets and help the two layers bond together.
- Repeat this process along the surface of the first layer of felt, remembering to allow an overlap of 50mm (2inches) when joining second layer felt to other second level pieces and use bitumen mastic along the seams to aid waterproofing.

You will need:

- ✓ Ladders
- ✓ Protective gloves, overalls, goggles and knee pads
- ✓ Galvanised clout nails
- ✓ Clout hammer

Top layer of felt

- Before laying this surface, cover the roof edges with welshed aprons - strips of felt which cover the timbers at the edge of the roof.
- Then use the same method as securing the second layer of felt.
- When the roof is completed covered with a third layer of felt, apply a coat of mastic or chipping compound to the whole surface. (Note most modern felts will come with this layer already attached).
- It is advisable to apply it in workable lengths along the surface, starting furthest from your ladder or point of exit.
- Finish the surface by applying extra loose chipping to the surface by scattering over the completed surface. Using a layer of proprietary chipping compound, such as limestone, gravel or granite on top of the layers of felt, strengthens the surface further. The idea is for the surface to reflect rather than absorb sunlight, thus helping to protect the felt



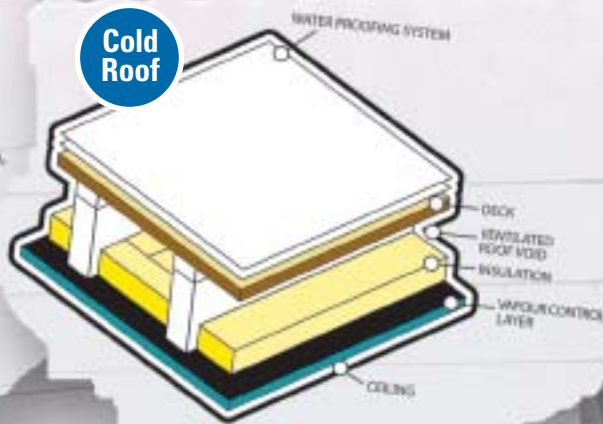
Should a felt roof be replaced?

If patch repairs are regularly necessary, it may be time for the roof to be re-covered. It can be difficult for an amateur to decide whether to attempt a repair or replace the roof.

- If you need advice about the soundness or safety of your roof: contact one or two builders for their opinion, or alternatively,
- pay a surveyor or architect for an unbiased report on its condition.

You should use a contractor, who will guarantee the work when completed, to undertake major roof repairs or replacement of sections.

Warm roof construction gives better insulation than the Cold Roof Construction. If you are renewing the roof including the decking you should consider whether you are able to use the warm roof construction.

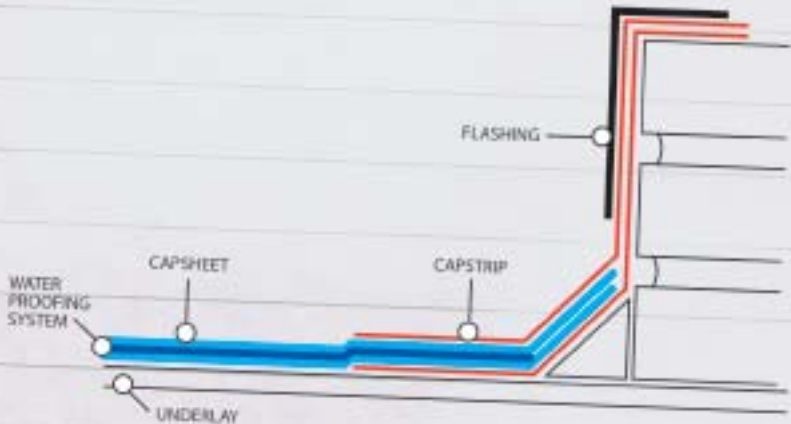


And - If you feel confident that you can tackle the replacement yourself:
Read the DIY maintenance leaflet in the Gateshead Council Maintenance series.

Don't forget the dangers to you and others when you tackle those D-I-Y jobs. In carrying out any repair works there are always risks, make sure you minimise them by taking a few simple precautions. Always use the right protective gear for the job.

Useful tips

- Do not lay felt in wet or very cold conditions.
- Unroll the felt at least 30 minutes before you to use it.
- Do not try to economise by using the wrong nails to secure the first layer - only use extra large headed clout nails ensuring that they do not protrude below the deck.
- When joining lengths of felt allow a 100/150mm (4 to 6 inch) overlap.
- A broom is useful to press down the felt and smooth out air bubbles.
- Ensure that the joins in any layer do not coincide with the joins in the previous layer.
- On upstands, apply adhesive to both the felt and surface of the upstand.
- Do not cut the felt straight onto the roof or already laid felt, always using a cutting board.



If you think that you can do the job yourself, don't forget these safety rules:

- Roofs are often very high up and slippery.
- Make sure that you have proper scaffolding and ladders. You can hire these by the day.
- Wear protective clothing such as goggles, hard hats, gloves and put on warm clothes as it is often much colder on a roof.
- Never work when you are tired as a lapse in concentration can have disastrous consequences.
- Stop regularly for a break.
- Do not use gutters to support roof ladders.
- Make sure your access ladder is tied and secure.

for further advice and guidance on home maintenance contact Gateshead Council's Home Improvement Team on 0191 433 7007

This information is available on request in Braille, audiotape/cd or large print or in a different language. Please contact the Home Improvement Team on 0191 433 7007.