THE HOUSEHOLDER'S GUIDE TO FLAT ROOFING

LRWA
Liquid Roofing and Waterproofing Association

NFRC
THE NATIONAL FEDERATION OF ROOFING CONTRACTORS LIMITED

SPRA
Single Ply Roofing Association

CONTENTS

INTRODUCTION

This guide has been produced by the Industry for Householder's with minimal roofing knowledge. By providing information on the design, materials, construction and maintenance of successful flat roofs; we hope it will assist to a satisfactory roof renewal.

Traditionally, domestic flat roofs use two or more built up layers of bituminous felt as their weather proofing. Liquid applied systems such as glass fibre were introduced and are now quite widely used. Single Ply membranes are also used but are particularly suitable for larger roofs. Bitumen membranes are still the most used system and are of much higher quality than those used in previous decades and are now known as Reinforced Bitumen Membranes (RBM).

Mastic asphalt is occasionally used but, because of its weight, has to have a much stronger roof construction. Sadly there are still some inexperienced contractors producing poor results in residential roofing. However, given good quality materials, installation by reputable contractors with trained certificated operatives, and simple maintenance, the householder can be assured of a dependable and long-lasting roof.

BASIC DESIGN

In a flat roof, the waterproofing is always supported by a structural roof deck. This is usually a timber boarding of some type, which in turn is supported on joists. The ceiling, if any, is usually fixed directly to the underside of the joists.

Garages may be un-insulated, but most roofs above the habitable part of the house will be insulated to comply with Building Regulations. In houses the insulation is sometimes placed immediately above the ceiling. Preferably, it may be placed above the deck before the application of the waterproofing (see below, and the note under 'Re-Roofing – the options' on page 6).

Some specialised insulations can also be placed above the waterproofing, but this sort of construction is normally confined to commercial and industrial buildings and has very seldom been used on domestic buildings. In almost all cases where RBM has been installed, the surface of the waterproofing will need protection, both from ultraviolet light and from fire from external sources. The Building Regulations lay down the degree of protection required in the case of fire. This can be achieved by adding a layer of mineral chippings bedded in compound to the surface of the roof, or alternatively by using a mineral surfaced layer of RBM as the top layer, or 'Capsheet'. Liquid applied and Single layer systems have this protection built in and do not require additional protection.

WARM AND COLD ROOFS

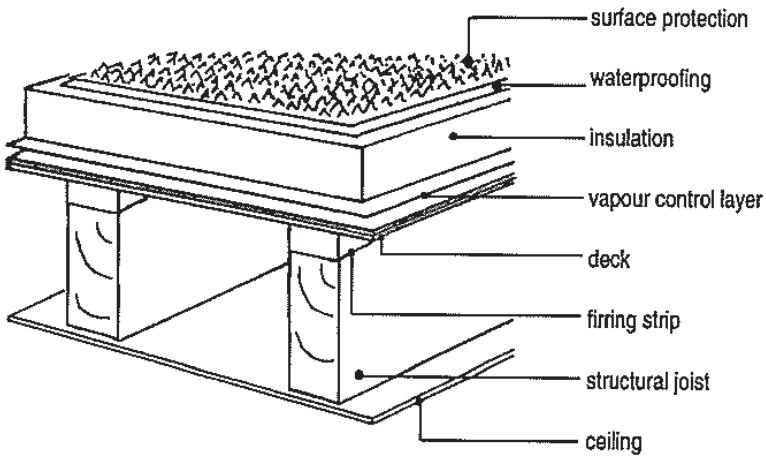
The construction of the roof deck and ceiling has an important effect on the behaviour of the waterproofing material on top. The building industry uses the terms WARM ROOF and COLD ROOF to describe the two different types.

In Britain as a whole, the WARM ROOF is **strongly recommended**.

WARM ROOF

This type of construction has the insulation above the roof deck, thus keeping the deck 'WARM'. This is usually the most satisfactory construction for domestic properties as it avoids the need for ventilation of the roof structure. The membrane is then attached to the insulation. A typical warm roof is shown in the sketch below.

Sketch 1



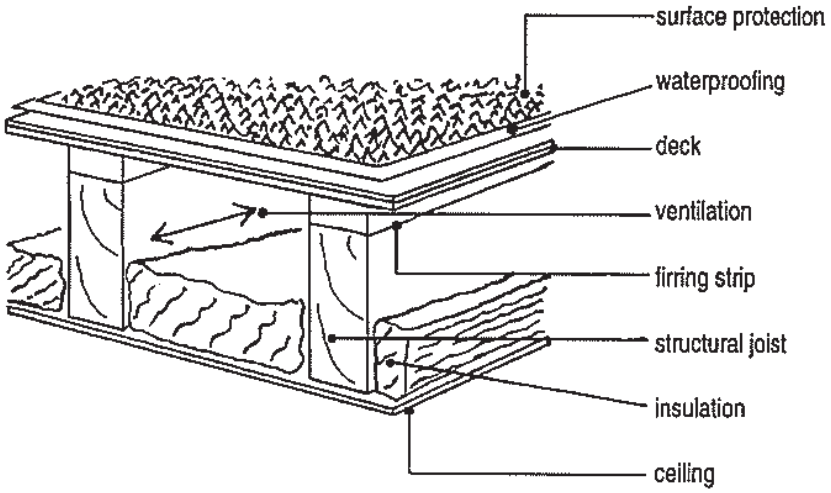
COLD ROOF

Many residential flat roofs have the waterproofing laid directly onto the deck, and any insulation placed above the ceiling. This arrangement allows the deck to become 'COLD'.

In cold weather, such roofs are inherently prone to condensation, which can cause materials to decay and distort. To reduce this risk, through-ventilation has to be provided to each and every space above the insulation but this is often difficult to achieve, for example if the roof abuts the wall of a house.

Cold roofs should not be endorsed for the climatic conditions in Scotland, according to the Building Standards (Scotland) Regulations. Although the Regulations do not prevent the use of cold roof constructions, warm roof constructions are recommended.

Sketch 2



If you have an existing cold roof in need of refurbishment, it should be converted to a warm roof (*see Sketch 1*) to meet part L of the Building Regulations.

ESSENTIALS FOR A SUCCESSFUL FLAT ROOF

Like any part of a building's exterior, flat roofs should be constructed to withstand natural and human forces with the minimum of attention. The following general guidance can be confirmed by the specific membrane manufacturer.

Protection from Rain and Snow

- The finished roof should have a slope of at least 1 in 80. To achieve this, a design fall of 1 in 40 or 1 in 60 is advised.
- It is best to drain the roof to one or two edges.
- Conventional gutters are better than internal outlets.
- Internal outlets should be adequately sized to deal with storm conditions and be fitted with leaf and gravel guards.
- The waterproofing should extend up adjacent walls at least 150mm (6in) from the roof surface in all situations.
- The top edge of the waterproofing system should be protected by a cover flashing appropriate to the membrane.

Protection from Sun and Frost

- It pays to insulate: heating bills are lower throughout the year and rooms are cooler in the summer.
- Insulation of new flat roofs must satisfy Part L of the Building Regulations. Since April 2006, this also applies to refurbishment of flat roofs.
- Bitumen membranes should be protected from the sun (*see Surface Protection section*).

Protection from Condensation

- It is essential that cold roofs include adequate through-ventilation of all joist voids etc.
- Warm roofs always require a robust vapour control layer (VCL), bonded directly to the deck.

Protection from the Wind

- All roofs, including insulation and membrane, should be constructed to resist wind forces.
- An experienced contractor will be able to advise. Seek his advice if your roof is particularly exposed.

Protection from People

- Materials should be selected to suit roof usage. If regular foot traffic is expected a surface protection must be provided.
- If the use is changed, e.g. to a roof terrace, the structure may have to be strengthened.

Protection from Fire

- Consult your local authority if you are planning a new flat roof.
- Most flat roof systems will meet the Regulations, but check with your contractor.

MAINTENANCE

All parts of a building benefit from care and regular checks:

We Recommend

- Limited access unless the roof is designed for it. If occasional access is required, e.g. for window cleaning, make sure that temporary boards are used unless the roof surface is designed to accept it.
- Inspection twice a year, in March and November. Try to do one inspection soon after rain, to see how well the water is draining away.

Before attempting any inspection, please ensure that access is safe, and that if a ladder is necessary it is well secured. If you are unsure use a Competent Person. If you are unsure of the condition of the deck, do not step onto the roof.

INSPECTION CHECKLIST

Some of the these items can be rectified by the Householder, for example;

- Check gutter and outlets are free from debris

Others may need checking such as:

- Puddles and blisters - the householder will need to record the size and position to assess whether they are getting larger.
- Check upstand and adjacent details for problems.

Some will need to be checked and reported to the contractor if there are any signs of failure:

- Protective finish (remedy bare patches as necessary)
- Upstands and flashing (check condition)
- Joints (check condition)
- Edge Trims (check condition)
- Sagging of decks and/or joists (check condition)

It is important that any failure of these details is reported to the contractor to avoid any subsequent water ingress and the temptation to do-it-yourself as this may invalidate any guarantee on the roof.

WILL A REPAIR BE SUFFICIENT?

If the roof is out of guarantee then patch repair compounds are useful because they give the householder time to organise re-roofing for a competitive price at the right time of year, however, always ensure that the compound is compatible with the membrane. But in general, such repairs are only short term and worthwhile if they are cheaper than the effective cost per year of a new roof covering. If it is still covered by a guarantee, contact your roofing contractor or you may invalidate the guarantee.

Other factors to consider in deciding whether to re-roof are:

- **The type and age of the present covering** (if you are a recent purchaser, try to find out from the vendor).
- **The history of the roof** - if all past repairs have been in the same place, complete re-roofing may not be necessary.
- **If you wish to improve the insulation performance of the roof** - lower heating bills will reduce the annual cost.
- If a re-roof is required, it must now include thermal insulation under Part L of the Building Regulations.

If inspection reveals the following, re-roofing is probably inevitable:

- **Roof sagging between joists** (or puddles getting larger) - this is a sign of condensation or roofing overloading.
- **Membrane split in the line of deck boards** - another sign of movement in the deck due to condensation or structural problems.
- **Membrane split round perimeter** - excessive movement between walls and roof.
- **Roof blisters getting bigger and more widespread** - a sign of leakage and/or condensation.
- **Widespread slippage of upstands** - materials and attachment may be inadequate to cope with movement.
- **Cable clips puncturing membrane** - use bonded bases to hold cables, after repairing the damaged membrane.

RE-ROOFING – THE OPTIONS

Renewal of the roof covering may be necessary due to normal ageing, bad design, inadequate materials or poor workmanship: whatever the cause it is an ideal opportunity to consider improving its performance.

PLEASE NOTE: Refurbishment of a flat roof is likely to be reportable to the Local Authority Building Control (LABC) and approval must be sought unless the contractor is a member of CompetentRoofer (*see page 13*). Part L of the Building Regulations may require additional thermal insulation to all re-roofing projects where the roof underneath is heated e.g. a kitchen or bathroom. The required 'U'-value is 0.18W/m^{2}K. You should discuss converting to a warm-decked roof with your contractor and LABC. Here are some examples:

- **You have a cold roof and want to improve the insulation**

The preferred option is always to **convert to a warm roof** by applying a vapour control layer, rigid board type insulation and new waterproof covering above the deck. Any existing roof ventilation can be closed off.

However, **if there is existing insulation above the ceiling** ideally it should be removed. If it cannot be the contractor should calculate how much new insulation is required above the deck to avoid condensation.

If there is no evidence of condensation, extra insulation could be added above the ceiling by removing part of the deck during the work. The thickness of the insulation will be governed by the depth of the joist and this may not allow sufficient insulation to meet the regulations. **However, through-ventilation must be maintained and the clear space between the top of the insulation and the deck must be at least 50mm (2ins)**. It may be preferable to convert to a warm roof.

■ **You want to reduce or remove ponding on the roof**

Renewal of the waterproofing will not stop puddles forming on the roof. The best way to remove these is to re-fix (or renew as necessary) the deck on tapered timber strips called firings. Alternatively, if the deck cannot be disturbed, tapered insulation is available to create drainage falls on a warm roof.

■ **You want to use the roof as a balcony or terrace**

Such a change in use will increase the loadings on the roof and so the structure will have to be checked and improved as necessary. Seek specialist advice before proceeding with this option.

■ **The existing waterproofing is reasonably sound but you wish to renew it in good time**

Provided the roof drains and there is no evidence of condensation or structural movement, it may be possible to prepare the surface and cover (overlay) it with compatible materials without exposing the roof deck to the elements. This may include thermal insulation – *see above*.

CHOOSING THE RIGHT MATERIALS

Flat roofing materials have advanced considerably in recent years and there is now a wider range of choice than ever before. The key to success is the right materials for the particular job. Here are some typical ones:

FOR THE STRUCTURAL DECK

Each waterproofing system will have its own requirements for a structural deck and the relevant manufacturer will provide specific recommendations.

■ **PLYWOOD -** This should be exterior grade per British Standard (BS) 5268-2, WBP (Water & Boil Proof) to BS EN 636-2:1997. A minimum thickness of 18mm is recommended. The contractor should ensure that it is suitable for the particular roof structure.

■ **TIMBER BOARDING (PLANKING) -** This should be tongued and grooved, and preservative treated before delivery. The first layer of bitumen felt is always nailed to timber boarding.

■ **ORIENTED STRAND BOARD (OSB)** - OSB is similar in use and performance to plywood, but is manufactured from wafers of timber, rather than full sheets of veneer. Only OSB/3 or OSB/4 (BS EN 300) should be used in flat roofs. Check that the product has a certificate from the British Board of Agrément (BBA) before agreeing to its use. Thickness: minimum 18mm is recommended.

■ **CHIPBOARD (PARTICLE BOARD)** - Not generally recommended. Although sometimes used in residential flat roofing. In the past its ability to absorb moisture has caused many problems and early roof failure. BS 7916:1998 restricts its use to roofs where the possibility of condensation within the roof has been substantially eliminated, or when the roof has no ceiling, e.g. in a garage.

■ **CONCRETE -** Common in roofs to blocks of flats and some pre-war houses, concrete is a stable and reliable deck material. If it needs repair, provision should be made for drying out fully before the new waterproofing and insulation is laid.

FOR THE VAPOUR CONTROL LAYERS

All warm roofs should have a vapour control layer (VCL) fitted between the deck and the insulation. This may be one, or two layers of bitumen membrane, metal foil-cored felts, loose laid polyethylene or similar.

The contractor should select a vapour control layer to suit the degree of insulation provided and the likely humidity

levels in the rooms below the roof. We recommend a polyester-cored membrane be used as a VCL and that this is extended over drips and up upstands, to form temporary waterproofing over the whole roof area.

FOR THE INSULATION MATERIALS

There are many types of insulation available for warm roofs. The choice depends most upon the rooftop use and the degree of energy saving and carbon reduction required. The more * there are, the less thickness will be needed to achieve energy saving.

The most common materials are:

■ POLY ISOCYANURATE

Insulation rating: ***

A very efficient insulator, PIR is the most commonly used and is light-weighted and available in various sheet sizes and thicknesses. The grade used should be suited to the material used for the waterproofing and it should conform to British Standard 4841 Part 3: 2006.

■ MINERAL WOOL (OR ROCK WOOL)

Insulation rating: ***

A heat and fire resistant material, also available in a range of thicknesses. It should be a board of a sufficiently strong grade to withstand foot traffic on the roof.

■ EXPANDED POLYSTYRENE

Insulation rating: ***

This is also an efficient insulator but it is very heat-sensitive and will require a protective overlay (for example cork or wool-fibre soft-board) if bitumen felt is to be laid over it. It should conform to BS 3837: Part 1.

Only HD (high duty) and EHD (extra high duty) grades are suitable for flat roofs.

■ COMPOSITE BOARDS

Insulation rating: ***

Some products are available which combine the advantages of two materials in a single board (e.g. Cork / Polyurethane (PUR))

■ CORK

Insulation rating: **

A stable and durable material usually supplied in slabs 500mm x 1000mm in a range of thickness. It is a good insulator and is well suited to reinforced bitumen membrane waterproofing.

We recommend a nominal density of 120kg per cubic metre.

REINFORCED BITUMEN MEMBRANES (RBM)

What is it?
Built-up RBM are the most common material for residential flat roofs, as well as for major roofing contracts and there has been a lot of product development in recent years. Two or three layers of sheet materials are rolled out over the roof and bonded together with hot bitumen. These sheet materials are based on a carrier normally polyester of varying strengths and coated in bitumen so that they fuse together to form a single waterproof layer. The membrane is laid onto insulation when applied over a heated building or part of a building with the insulation bonded to a vapour control layer which in turn is attached to the roof deck. This build up is known as the warm roof and is very successful.

How can you use it?
There are various methods of attaching the membrane to the roof.

- **Pour and roll:** Hot bitumen is poured in front of the RBM as it is unrolled, and thus acts as the adhesive and seals the laps.
- **Torching:** In this method specially designed RBM is heated with a gas torch and no separate bonding bitumen is needed. Best suited to repair work, small areas, or where access to the roof is difficult. The contractor must take precautions against fire. Torching is not suitable over or adjacent to flammable materials.
- **Cold applied:** Here, a cold adhesive is spread onto the roof surface and the RBM unrolled into position. Laps are also sealed with the cold adhesive. Thus no bitumen boiler or gas torches are required, enhancing safety.
- **Self-adhesive:** The undersides of these membranes include a high-tack adhesive and release paper. Once positioned, the release paper is peeled off, and the membrane stuck down to the substrate. They are not suitable for layering over uneven surfaces or in cold conditions. They require rolling, or a soft broom applied over the whole area to assist full adhesion. To achieve a good bond at laps or in cooler months, a hot air gun or hairdryer can be used.

Surface protection
Most RBM roofs need some protection. If the only access onto the roof is for inspection, use either:

- **Stone chippings (12+mm):** these should be bonded to the waterproofing in a gritting compound, not bitumen.
- **Mineral finish:** small slate flakes are bonded to the felt during manufacture. Various colours are available.
- **Reflective paints:** although effective when first applied, these soon wear and discolour and need re-painting every 3 to 4 years.

Please consult your local authority if you require advice on fire protection regulations.

If regular access is required, or the roof is to be used for a terrace / balcony, use either:

- **porous concrete tiles** bedded in an adhesive
- **plastic or bitumen or rubber – based tiles** with a wearing surface
- **fibre cement promenade tiles**
- **concrete slabs laid on pads** – these are very heavy, so the roof must be designed to take the weight

It will also be necessary to ensure that the roof structure is designed to take the weight likely to be placed upon it, especially if this involves a change of use.

Can you upgrade an existing roof?
An existing roof can be upgraded/refurbished but it is first necessary to establish the following:

- Is the existing membrane adhered to the roof?
- Is there any ponding on the roof?
- Is the deck sound or wet?
- Why has it failed?

If the roof is in good condition a single layer attached to the existing will extend the life of the roof.

If it is in poor condition the existing may need stripping off and a new RBM laid with insulation if it is over a heated area of the property. This is required under the Building Regulations.

If the roof is ponding, upgrading or applying a new membrane will not change the falls in the roof. This must be drawn to the attention of your contractor, who depending on the degree of ponding will advise.

Polymer-Modified Materials
All major manufacturers have proprietary RBM systems, which use polymer-modified bitumens, and meet or exceed the British Standards. These products will provide the longest possible service life, possible up to 40 years.

For example, 'Elastomeric', or 'SBS-modified' felts, are particularly well suited to highly-insulated Warm Roofs. Before agreeing to use one, check that the product:

- has a polyester core / base
- has a certificate from the British Board of Agrément
- is suitable for the bonding method.

Model Specification
Most manufacturers will provide a specification for use of their material. They will usually provide a guarantee for the products if they have been properly laid. Specifications for RBM should follow the advice given in the British Standard 8747 for pour and roll and torch-on products.

The specification should not indicate the use of torch-on application close to any flammable deck or detail.

SINGLE PLY

What is Single Ply?
Single ply membranes have been in use in the UK roofing for over forty years and provide waterproof protection not only to very large buildings such as airports and supermarkets but also to private houses. They are based on polymers derived from oil that have been formulated for very long term flexibility and resistance to solar radiation. These are formed into large sheets ranging in thickness from 1.2-2.0mm and usually supplied in rolls 1-2m wide and up to 20m long. Some products are supplied in large sheets to fit the roof and delivered folded up.

Single ply works best in a 'warm roof' system (*see Sketch 1*), where it is laid over insulation which is then supported by the structural deck. A 'vapour control layer', laid over the deck and under the insulation is always required, to stop harmful condensation building up in the insulation. Warm roofs do not require ventilation and are very reliable.

How can you use it?
Single ply membranes can be secured against the wind in three ways:

- Mechanical fastening: the sheets are held in place by special plastic 'tube' fasteners with integral short steel screws, which are then driven through the sheet and down to the roof deck. The fasteners are then covered by the edge of the next (adjacent) sheet or by a strip of membrane. The number of fasteners and their layout is dependent upon the single ply membrane product and the wind levels calculated for the particular location. The same method is used to secure the insulation. Mechanical fastening is quick, low cost and of low environmental impact because the components can be separated easily and perhaps recycled at the end of their life.

- Adhesion: special polyurethane adhesives are used to secure the insulation and the single ply membrane. This method is slightly more expensive but is ideal if the roof is complicated or the deck is not suitable for fasteners.

- Ballasting: this method uses the weight of paving, stone ballast or a green roof to hold the membranes and insulation in place. Some fastenings of the components will be necessary to hold them in place during installation. Timber decks can be laid over single ply systems provided the membrane is protected from the bearers, but it will generally not be of sufficient weight to resist wind loading.

How can you upgrade an existing roof?
An existing roof can be refurbished in two ways:

- Overlay single ply membrane to the existing waterproofing: there will be no benefit in terms of reduced heating bills with this option. Unless it is in very poor condition, it is generally possible to retain the existing waterproofing and either adhere or mechanically fasten a new single ply membrane over the top.

- Upgrade with additional insulation and new single ply membrane: depending on how well the roof is already insulated, the cost of installing extra insulation will generally be offset by savings on energy bills well within the lifespan of the new roof.

How long does it last?
UK experience is backed up by independent certification which gives service life estimates in the range of 20-40 years, with most in the 25-30 year range. These are achievable with good products, correct attachments, installation and maintenance.

LIQUID APPLIED SYSTEMS

Types of liquid systems
The most common system in the residential sector is referred to generically as Glass Reinforced Plastic (GRP) utilising a relatively rigid polyester resin with a glassfibre re-enforcement. It is a requirement of all systems classified as GRP that comply with UK building regulations that they are fitted to quality plywood or Oriented Strand Board (OSB) decking only. Other common liquid applied systems include technologies based on polyurethane, acrylic and flexible polyester chemistries, all of which tend to be more flexible than the GRP systems and can be applied to a wider range of substrates.

There are many liquid applied systems on the market. These systems when applied cure and form a completely seamless membrane. They are often used with pre-formed trims for perimeter detailing. Depending on the technology of the product some liquid systems are triggered by catalyst which forms a very fast cure.

- **Fibreglass Reinforced Liquid Applied Membranes:** These contain a liquid resin and glassfibre mat reinforcement. The most common type is GRP.
- **Fleece Reinforced Liquid Applied Membranes:** These are similar to one above, but have a fleece rather than fibreglass reinforcement.

- **Other Liquid Applied Membranes:** these contain resins which may or may not have reinforced fibres mixed within the coating. These products are usually used as either repair systems or will form part of a roof system.

What standards apply to liquid systems?
There are only two accreditations or standards that liquid systems can achieve to demonstrate that they are fit to use in the UK climate and will satisfy building regulations, the British Board of Agrément (BBA) and the European Technical Approval (ETA or CE mark). It is recommended you check the credentials of any system prior to use.

Unfortunately there are products sold in the GRP category through merchants and online that are untested and some cases clearly not fit for purpose and not tested to UK standards for roofing purposes. To compound the problem such products are commonly installed by the 'jobbing builder' who may not have the full expertise and skills to install systems correctly.

A wide range of liquid products exist that are designed purely for repair purposes. The majority are generically referred to as acrylic compound and incorporate cut glass strands as re-enforcement. Such systems will not comply with any relevant roofing standard and are unlikely to provide a long term solution to roofing problems.

Where are liquid systems used?
Liquid systems can offer long term solutions for both the refurbishment and the new build market. In new build the systems are best in a 'warm roof' system (*see Sketch 1*), where it is laid over insulation which is then supported by the structural deck. A 'vapour control layer' laid over the deck and under the insulation is always required to stop harmful condensation building up in the insulation. Warm roofs do not require ventilation and are very reliable. Some systems can be applied direct to the insulation whilst others, such as those referred to generically as GRP will require a layer of plywood or OSB.

An existing roof can be refurbished in two ways:

- Overlay the existing waterproofing: there will be no benefit in terms of reduced heating bills with this option. Unless it is in very poor condition it is generally possible to retain the existing waterproofing and apply a liquid roofing membrane over the top. Though some liquid systems will perform well when laid direct to an existing waterproof membrane such as felt or concrete, care must be taken to ensure condensation control and insulation requirements are addressed.
- Upgrade with additional insulation and a new liquid applied membrane: depending on how well the roof is already insulated, the cost of installing extra insulation will generally be offset by savings on energy bills well within the lifespan of the new roof.

Can liquid systems be used as balconies?
A media such as a mineral slate, sand or bauxite can be dispersed either by hand or by machine in to the curing top coat to create an anti-slip surface to a balcony or walkway. It is important that the system has been accredited as a balcony finish and is therefore capable of withstanding the increased associated wear.

How long does it last?
UK experience is backed up by independent certification which gives service life estimates in the range of 20 – 40 years, with the most in the 25 – 30 year range. These are achievable with good products, correct attachments, installation and maintenance.

FINDING A CONTRACTOR

Flat roofing is a skilled job requiring training, experience and safety precautions. For best results we recommend contacting:

- The National Federation of Roofing Contractors (NFRC) - the UK's largest roofing trade association, representing over 70% of the roofing industry by value.
- CompetentRoofer - the Government-licenced Competent Person Scheme, that allows self-certification under the Building Regulations of roof refurbishments within England and Wales. Works carried out by CompetentRoofer members automatically receive the Building Compliance Certificate and are warranted for a period of ten years.
- Contractors who are trained and approved applicators of the membrane manufacturer's materials.

If your chosen contractor is not a member of any of the above, you should satisfy yourself that they employ competent operatives who hold Construction Skills Certification Scheme cards (CSCS) for the type of work being carried out.

OBTAINING QUOTATIONS

Unless the job is a minor repair, it is best to get two or three contractors to give you a written Quotation for the same work.

A 'Core Test' should be taken and then re-sealed, to find the exact build-up and help establish the reason(s) for failure.

The Quotation should include:

- the location and area of the job
- the reason the existing roof failed
- checking falls and advising of changes
- proposals for overcoming these faults
- the degree of stripping out that is required
- whether any 'making good', for example of damaged paintwork, is included
- full details of all materials to be used, including product names, standards to which they conform, insulation thickness and the risk of condensation
- details of the bonding method proposed
- how the contractor proposes to form details such as roof edges, abutments to walls and so on
- what surface protection is proposed if necessary
- the quotation and how long it is valid for
- payment terms
- details of any insurance or company-backed labour and materials guarantee that protects against latent defects
- safety precautions such as scaffolding should be costed separately.

If you think some extra work may be necessary, for example to replace rotten timber, ask the contractor to give you a 'Provisional Sum' in writing, which can be confirmed later. This saves arguments about cost when the job is underway.

BEFORE THE WORK STARTS

Health and Safety

- You are employing a specialist to renew your roof, who should be conversant with the usual risks. However, you must inform him of any specific hazards known to you:-

- Ask about safety precautions (access, storage, fire). If it doesn't appear safe to you, or is not as agreed in the quotation, do not allow work to proceed.
- Check that the contractor has valid public liability insurance.
- For roofs above 2 metres high, it is essential that a safety guard-rail be erected around the perimeter of the roof, prior to commencement.
- All ladders should be fixed to the guard-rail and secured at the foot to prevent slipping.

Other factors

- Jointly inspect the area of the job to agree the existing condition of paths, decorations and so on.
- The contractor should confirm start and completion dates.

DURING THE WORK

If possible try to be at home during the work, so that decisions can be made easily without delaying progress. Alternatively, give the contractor a contact number to reach you. Agree the cost of any additional work before the work proceeds.

WHEN THE WORK IS FINISHED

Provided the work is completed to your satisfaction, the contractor is entitled to payment within the terms of the quotation, having allowed appropriate adjustments of any extras or savings. The contractor should then issue any agreed guarantee.

If you are dissatisfied with the work, we advise that you contact the contractor immediately. Should you not get a satisfactory response then contact the Trade Association of which they are a member.

GUARANTEES

Most contractors will say that the work is guaranteed and some will state it on their invoices. However, such guarantees are impossible to enforce unless the contractor is inclined to honour their word.

Similarly, some clients have been known to delay or fail to pay for works completed. For this reason, most guarantees are only issued / valid on receipt of full payment for the works.

Most manufacturers will give guarantees on their materials if they have been used properly, and where an approved contractor has applied the material they may extend the guarantee to cover workmanship. Guarantees may be delayed until a full Quality Control inspection has been carried out.

Contractors who are members of reputable trade associations can also offer latent defect insurance, providing additional security for the Client or Householder. Here, the insurance company or broker deals directly with the enquiry.

Before placing their order, the Householder should be quite clear what kind of guarantee they are expecting and how it works.

FURTHER INFORMATION

CONTRACTOR ORGANISATIONS

National Federation of Roofing Contractors (NFRC)
Roofing House,
31 Worship Street,
London
EC2A 2DY

Tel: 020 7638 7663
Email: info@nfrc.co.uk
Web: www.nfrc.co.uk

CompetentRoofer
Roofing House,
31 Worship Street,
London
EC2A 2DY

Tel: 020 7448 3189
Email: info@competentroofer.co.uk
Web: www.competentroofer.co.uk

MATERIALS TRADE ASSOCIATIONS

Mastic Asphalt Council (MAC)
P.O. Box 77,
Hastings,
East Sussex
TN35 4WL

Tel: 01424 814400
Email: masphaltco@aol.com
Web: www.masticasphaltcouncil.co.uk

Single Ply Roofing Association (SPRA)
Roofing House,
31 Worship Street,
London
EC2A 2DY

Tel: 0115 914 4445
Email: sp@spra.co.uk
Web: www.spra.co.uk

Liquid Roofing & Waterproofing Association (LRWA)
Roofing House,
31 Worship Street
London
EC2A 2DY

Tel: 0845 474 2346
Email: technical@lrwa.org.uk
Web: www.lrwa.org.uk

Copper Development Association
5 Grovelands Business Centre,
Boundary Way,
Hemel Hempstead,
Herts
HP2 7TE

Tel: 01442 275705
Email: cda@copperalliance.org.uk
Web: www.cda.org.uk

Lead Sheet Association
Unit 10 Archers Park,
Branbridges Road,
East Peckham,
Tonbridge,
Kent
TN12 5HP

Tel: 01622 872432
Web: www.leadsheetassociation.org.uk

Galvanizers Association
Wrens Court,
56 Victoria Road,
Sutton Coldfield,
West Midlands
B72 1SY

Tel: 0121 355 8838
Email: ga@hdg.org.uk
Web: www.zincinfocentre.org.uk

MATERIALS TESTING ORGANISATION

British Board of Agrément
Bucknalls Lane,
Watford,
Herts
WD25 9BA

Tel: 01923 665300
Email: clientservices@bba.star.co.uk
Web: www.bbacerts.co.uk

Published by the National Federation of Roofing Contractors
Roofing House, 31 Worship Street, London EC2A 2DY

www.nfrc.co.uk

June 2015