ROOFCell

Perfectly formed for the job.

Installation Guide

www.roofcell.co.uk

Perfectly formed for the job.

CONTENTS

You will require...

PPE
Tools
Application tools
Clout nails
Cure It GRP Trims
Cure It Trim adhesive
Cure It 75mm Bandage
Cure It Finishing tissue
Cure It Hardener
Cure It 450g Reinforcement mat
Cure It Acetone
Roof Cell Basecoat
Roof Cell Topcoat

20/10/21

Perfectly formed for the job.

RoofCell is a next-generation, direct-lay, GRP roofing system which uses a proprietary technology to provide exceptional performance on a range of surfaces without the need for additional primer. It is suited to larger areas for new projects as well as refurbishment applications. It carries all of the benefits of GRP with the convenience of direct-lay application.

PLANNING STAGE AND SUITABILITY

Planning Roof Works

Due to the nature of working on a roof, it's deemed high risk and therefore correct planning and safety measures should be put in place. Depending on the size and details of a roof project, the nature of the precautions needed may vary from one job to another.

Good planning and consideration for working at height can significantly reduce the risks involved, always carry out a risk assessment and method statement before starting a job. Simple jobs may not require a great deal of detail, but more complex jobs need to be assessed in much more depth. Roofing work is dangerous, and it is essential that you identify the risks before the works start and that the necessary equipment, appropriate precautions, and systems of work are provided and implemented.

Roof Survey/Inspection

Before works commence it's important to assess the suitability of the existing roof covering and structure. Existing roofs need to be examined prior to deciding if RoofCell is adequate to overlay the existing structure or a new installation is the correct choice.

Assess the suitability and strength of the roof before examining it. If the old roof has been leaking or suffered from neglect then damp may have penetrated to the point where the timbers and decking may be rotten.

Old damp or rotten timber and decking boards will be fragile, therefore can give way easily when extra weight is applied to these areas. If this is the case, you will need to span the weight by laying a suitable working board across the roof. Whilst undertaking any surveys or works on roofs it's important that safe access and egress, safe working platforms, and protection against falls should be provided for all roof installation works. A secure means of entry and exit is essential. A general access scaffold or tower scaffold will provide suitable access and egress along with adequate edge protection to prevent a fall occurring. In some cases, adequate edge protection may not be possible and therefore a properly secured ladder is the minimum requirement.

If additional coatings such as solar reflective paint or repair coatings have been applied to the existing substrate to improve its performance, it's advised that an adhesion test is done to also confirm if RoofCell overlay is a suitable choice.

Discuss with the householder or specifier possible options around edge details and upstand to lanterns and abutting structures. These can either be coated and integrated with RoofCell coating, removed and replaced with standard trims or existing details can be overlayed with GRP overlay trims.

Unforeseen Damage

Upon inspection of the old roof covering, it is hard to determine if there is any underlying structural damage caused by the failed roof covering. In some cases, timber decking boards, joists, firring strips, wall plates and noggins may have deteriorated or rotted overtime. Whenever possible core samples should be taken to confirm condition of the existing roof structure in accordance with BS 5260 guidelines. It is important any damaged areas are replaced at this time ensuring the main structure of the roof will last the longevity of the roof covering. Surfaces must be structurally sound before overlaying an existing roof.

The failed roof may not be serious enough to make the roof structure unstable but in some cases uplifting damaged or problematic areas only to repair and make good, may cause breakage, damage, or even loosen the main roof structure joists, firring strips, wall plates and noggins. It's important that these areas are repaired or replaced at this stage as these defects can lead to further complications or even roof failure.

Old roof structures may require additional structural repairs or alterations to comply with current building control regulations. Consideration to structural roof members, adequate ventilation and improving the thermal performance of the roof structure should be undertaken. However, guidance from a qualified structural engineer or local building control should be obtained. For further guidance consult BS6229 (Code of practice for flat roofs with continuously supported coverings) BS5250:2021 (Management of Moisture in Buildings).

Pooling or Ponding Roof

Existing roof structures may not have correct recommended falls incorporated into the main roof structure. Roofs can deflect overtime and therefore cause areas where rainwater will pond or pool. Areas affected by pooling or ponding water can be identified upon inspection of the old roof structure. Overlaying an existing roof covering will not improve falls or drainage and will still allow for pooling or ponding water to remain.

RoofCell is approved by European Technical Assessment, which tests the water tightness to which the system is more than capable of accommodating pooling or ponding water without it damaging the integrity of the waterproofing system. However, building regulations recommends a fall of 1:40 but requires that all flat roofs should incorporate a 1:80 fall and advise that this is considered in the design or alteration stage, as overlaying an existing substrate will provide no improvements to falls or drainage.

It is always good practice to incorporate adequate falls to the roof for several reasons. Pooling or ponding water may cause deflection to the main decking structure due to increased loads. This can also lead to a build-up of algae, dirt and leaves which can obstruct drainage points. This will also make the roof look unsightly along with increasing the risk of a slip hazard if used for a balcony or terrace. In cold weather this will be compounded by an increased risk of ice forming. This can also have a detrimental effect on the achieved thermal performance of the roof.

To achieve the desired fall required then a new replacement GRP system should be considered instead of an overlay system. In most cases the main joists will be set level to create a perfectly level ceiling to the interior of the property. Machined tapered shape timbers called Firring strips will then be glued and mechanically fixed using screws or nails along the top of the entire joist. These should be the same width and length of the joist, decreasing in thickness to achieve the required fall options to eliminate or improve pooling or ponding water. All the above considerations should be discussed before works commence to confirm if overlaying the existing roof covering is a suitable choice.

SURFACE PREPARATION AND DIFFERENT SUBSTRATES

Surface Preparation

Before works are started on installing the new roof covering, the old existing roof covering will need to be clean, dry and prepared accordingly (see each different roof covering preparation for specific requirements). Assess the suitability and strength of the roof before working on it. Before works commence to the old roof covering ensure you check the weather forecast for the day (you do not want to remove damaged parts of the old roof covering and leave the interior of the property open to the elements, causing further damage to the fabric of the building). It's also important to note that applying RoofCell during wet conditions or directly to a damp or wet surface will result in wasted materials and failure.

Damp areas or places holding water should be dried. To achieve this, use a wet and dry vac, mops, rags, towels, squeegees, or sponges to remove excess standing water. When surface water has been removed the substrate will still contain moisture and it is advised to check the moisture content before applying RoofCell Basecoat. If the moisture reading is higher than 20% then the surface will need to be dried either naturally or forced dried using heaters or blowers to achieve the correct moisture content. Direct flame drying should be avoided due to the risk of flame.

Roofcell Installation Guide

Felt Roof Preparation

Before works start, ensure that all relevant personal protective equipment (PPE) is used and start by cleaning any moss or stone chipping that is currently on the felt roof covering. These can simply be swept up using a stiff brush and shovelled into builder's rubble sacks. Any embedded chippings should be removed by a mechanical scabbling device or other means necessary.

Badly damaged, decayed, or loose and de-bonded felt areas should be cut with a Stanley knife and removed. These areas should be cleaned and dried before repairing to provide a solid roof covering to be

overlayed. This can be done by installing additional felt to repair these areas or by applying an additional layer of RoofCell Basecoat and 450g Reinforcement Mat complete with Hardener. Fully consolidate the damaged area only ensuring it covers the area plus an additional 100mm all round.

Areas that have moss or have organic growth present should be cleaned and removed accordingly using a stiff brush, and shovel into builder's rubble sacks. The area can then be dry treated with appropriate antifungal spray or fungicidal wash to ensure all spores are destroyed following manufacturers instructions.

Once the roof is cleaned and dry with all materials removed and disposed of accordingly, the next stage is to remove the edge detail. If overlay trims cannot be used edge detail can be removed using a wrecking bar, chisel, or Stanley knife. This should be uplifted and split away from the main roof covering. It's good practice that all removed materials are deposited off the roof into a skip and it is easier to do this as you progress through the strip off rather than having an obstruction on the working platform. Piling materials in a designated area on the ground floor at the time will suffice, however this will then need to be moved again later and is more time consuming.

Ensure that all relevant personal protective equipment (PPE) is used and correct manual handling and lifting techniques are always adhered to. Remember the builder's rubble sacks full of roof debris will need to be removed from the roof, so making the sacks lighter and into more manageable loads will make moving them easier.

Preparation to the existing surface is key to ensure the best result possible, the smoother the surface the neater the overall finish.

Asphalt Roof Preparation

Before works start, ensure that all relevant PPE is used and start by cleaning the roof to remove any dust, debris, and contaminants on to the existing asphalt roof covering. This is best done using a stiff brush and shovelled into builder's rubble sacks and disposed of accordingly.

To achieve a neater finish any undulations to the asphalt surface such as bow holes or blisters should be grinded down flush or level to the finished asphalt surface. Once removed, areas should be clean and dry before applying additional RoofCell Basecoat complete with Hardener over the bow holes or blisters to the asphalt finished surface level. A piece of Reinforcement Mat can be cut to size to bridge over the damaged area including an additional 100mm around the area. More RoofCell Basecoat should be applied on top of the 450g Reinforcement Mat and fully consolidated to provide a levelled off suitable repair.

Small cracks to asphalt finish can be filled using additional RoofCell Basecoat before Reinforcement Mat is applied and laminate works completed as the basecoat is also a self-levelling basecoat to account for undulations often found.

Large surface cracks 5mm and above should be grinded down flush or level to the finished asphalt surface. Once removed, areas should be clean and dry before filling the void with Trim Adhesive. Once the void is filled, apply additional RoofCell Basecoat (with the required amount of Hardener) over the crack and apply 75mm Reinforcement Bandage to the basecoat and then apply more basecoat over the top of the bandage before consolidating the area.

Concrete Roof Preparation

Before works start ensure that all relevant personal protective equipment (PPE) is used and start by cleaning the surface removing any dust and debris on the existing concrete surface. This is best done using a stiff brush, shovelled into builder rubble sacks, and disposed of accordingly. Any cracked, damaged or loose concrete will need to be removed and repaired to achieve a clean solid surface by using a suitable repair compound and allowed to fully cure following manufacturer's instructions. Wet or damp areas to the concrete surface will need to be fully dried. Allow surface to dry out naturally or force dry using wet vacs, heaters, or blowers. Smooth concrete surfaces will need to be lightly abraded with a wire brush to achieve the best adhesion (remember to remove any debris). Rough, uneven surface can be scabbled, grind down or screeded over to provide a smoother solid surface. Freshly laid concrete or screed should be allowed to fully cure before overlaying, allow for a minimum of one month or one week for every 25mm of concrete or screed. Before applying RoofCell Basecoat, the concrete surface will need to be treated with Cure It Concrete Primer. Apply a coat of Cure It Primer by using a soft roller at a rate of 0.25kg/m^2. Avoid applying thick coats and allow it to become dry enough to walk on (still slightly tacky), which will take approximately 60-90 minutes (depending on humidity). When dry, RoofCell Basecoat can be applied to the surface

GRP Roof Preparation

Before works start ensure that all relevant personal protective equipment (PPE) is used and start by cleaning the GRP surface to remove any contaminants debris, dirt, algae, or moss present on the grp surface. This is best done using a stiff brush and warm soapy water.

Remove any flaking or loose topcoat with a wire brush and brush up any loose debris from the roof. The topcoat will then need to be heavily abraded using a 40-grit sandpaper this will need to be done to the whole roof including existing GRP trims if in good condition. If trims are damaged or in poor condition use a battery or powered operated grinder and remove edge trims where these join the main roof ready for new GRP edge trims to be installed (see page 5 for application of trims).

Clean the whole roof with acetone by pouring a small amount onto a towel or rag and wipe the entire surface and existing trims (if in good condition). This will remove any dust or debris and provide a clean and fully abraded surface.

Acetone is highly flammable, keep away from heat, hot surfaces sparks, open flames and any other sources of ignition, No smoking. Do not leave acetone in open container, keep contents tightly closed with the lid provided. Wear protective gloves, clothing and safety glass when using acetone.

Cover Flashing

Wherever a roof meets an abutting wall or vertical surface, this will require a cover flashing. This cover flashing is used to provide a seal and prevent water ingress into the property causing further damage to the main roof structure or interior of the property.

To instal the recommended cover flashing you will first need to locate your nearest mortar line considering any alterations with regards to the finished roof height. Once you have identified which mortar line

best suits your roof height, then the next step is to cut out the chase.

It is advised to cut the chase out before you overlay the existing substrate. This is done to ensure that all dust produced from the new chase out is cleared during the preparation stage. The surface should be completely cleaned before application of the main laminate as dust or debris left can lead to poor adhesion during the main laminate stage.

Make sure you use a powered or battery-operated grinder to cut out the chase, with the correct size stone or diamond tipped cutting disc. Remember when using a powered or battery-operated grinder that it will produce a lot of dust and it is important that this is controlled, and correct PPE is used along with correct guides fitted.

When cutting out the mortar chase this should be cut as straight as possible to make installing the cover flashing easier and ensures a neater finish overall.

Once the chase has been cut clean around brickwork use a small brush to remove any excess dust produced.

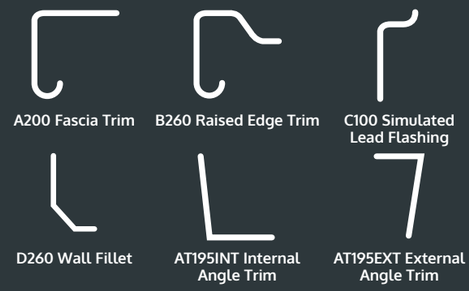
If existing cover flashings are still in good condition these can be left in place. They will need to be lifted if possible and RoofCell applied to existing substrate or trims installed to abutments, to achieve building control recommendations of 150mm upstands.

STAGE 1 - TRIM INSTALLATION

Trims

Check the condition of the existing perimeter upstands and timber on the roof. If they are in good condition RoofCell Overlay Trims should be fitted to all perimeters of the roof including abutting walls, parapets, upstands, step features, adjoining pitched roofs, and other detailed areas if possible. If the

GRP EDGE TRIM - CORE RANGE



OVERLAY TRIM

OL-B300
Raised Edge Trim

For the full range of trims and preformed corners visit www.cureit.com

perimeter or detailed areas are not in good condition they will need to be removed and replaced. If it is not possible to fit trims to any of the listed areas above then RoofCell can be coated to existing details and integrated into the RoofCell coating if required.

Edge trims are manufactured in GRP, one side has a high adhesion finish (mat finish), and the other side has a glossy finish (always bond to the mat finish). All trims are supplied in 3mtr lengths as standard except for the flat flashing (this can be supplied in various lengths). Additional heavy-duty trims are available on selected trims to add reinforcement to areas used for a balcony's walkway or ladder access areas if required.

Various preformed corners are available for both internal and external details. Preformed corners are manufactured to be used to close off detailed areas along with saving labour time on areas that require trims to be mitred or scribed in situ. Preformed edge trims should be lightly abraded and cleaned with acetone prior to installation for best adhesion. See list of preformed corners available.

In addition to the existing trim range a selection of Overlay trims can also be purchased to save on labour times and waste, as these are designed specifically for RoofCell to overlay the existing felt trims and edge details for ease of application.

Fixing Trims

To instal trims around the perimeter, treated timber battens (19mm x 38mm or 25mm x 38mm) should be used to provide adequate spacing for guttering and a solid ground for trims to be secured into position if the existing edge detail is to be removed.

Battens should be secured using screws or nails into timber fascia boards. If UPVC fascia is used, then these should be fixed into main joist locations. Extra care should be taken at this stage to ensure these don't sit higher than the decking.

Battens when secured in place should be fitted to a string line and packed out to suit to ensure trims have a straight true line to sit flush to the roof.

Along the drip edge an extra batten should be installed, to provide enough space for the guttering to fit behind the trim. The outer batten of the two should be positioned 10mm lower than the inner batten to allow the trim to sit flush with the roof.

Areas where no guttering is required only requires one batten, so the GRP trim finishes flush with the fascia board.

Before offering the trims into place over the perimeter battens, a full continuous bead of Trim Adhesive should be applied using a skeleton gun along the face of the support battens. This is to secure the face side of the trim to stop any uplift of wind damaging the trim over time.

Trims should be pressed firmly and rubbed into place to ensure a good bond. Trims should not be nailed through the front of the trim.

Trims should be secured down to the substrate using galvanised clout nails and a hammer or nailed in place with either a gas powered, battery or compressed air roofing nail gun.

Longer clout nails maybe required for felt roofs to ensure they fix through all felt layers and into the timber substrate.

If securing trims down to a concrete substrate, these should be drilled with a power operated or battery powered hammer drill complete with the correct size masonry drill bit. Start drilling until the correct depth is reached and pull the drill bit out of the hole and use either nylon hammer fixings or plastic plugs and screws to secure the trim flat to the substrate.

If securing trims down to an asphalt, timber or GRP substrate, galvanised clout nails will provide the best fixing option.

Hold the trim securely in place so that the face of the trim sits vertical. Drive fixings in at each end first, then the middle and then at every 150mm centres thereafter. Ensure all fixings are close to the edge of the trim no further than 30mm in from the edge of the trim. This is to make sure that all fixings will be covered with bandage and reinforcement mat during the installation process. It's important to ensure the trim sits flat to the existing substrate. If not, then more fixings should be applied to ensure trims sit flush to the deck surface.

Cutting Trims

Edge trims can easily be cut and shaped to size using tin snips or 125mm grinder with a stone or diamond tipped blade. If a powered or battery-operated grinder is used ensure this has correct guides fitted and that correct PPE is used.

Roofcell Installation Guide

When cutting trims in length or mitring to fit to an internal or external corner detail, it is important to take care to ensure that they butt up to each other flush. A gap of a few millimetres is fine, but any larger gaps can be covered over with masking tape prior to bandage being installed. This is to ensure no resin drips through the reinforcement mat leading to pinholes forming in the bandaged areas.

Joining Trims

Edge trims are supplied in 3mtr lengths and may need to be extended to achieve the recommended linear metre length of the overall roof. Trims can be extended by simply overlapping by at least 50mm and joining them both with Trim Adhesive.

Instal the first trim to the existing substrate ensuring Trim Adhesive is used if joining to a slate batten if felt edge detail is removed, or to the existing felt edge detail if overlay trims are to be used.

Using Trim Adhesive apply a continuous bead 10mm in from the edge of the trim and down the front face of the trim already installed. Slot the next adjoining trim over the top of the pre-fixed trim, ensuring this overlaps at least 50mm. Rub the joining trims flush together to ensure an adequate bond is achieved between both trims.

Alternatively, trims can be butted flush together to achieve a flat surface. However, this will need a small cleat piece of trim cut approximately 100mm minimum in length. This will need to be placed behind both trims ensuring each trim overlaps the cleat piece approximately 50mm. Each separate joining trim will require a continuous bead of Trim Adhesive to be applied. Rub the joining trims flush to the cleat piece to ensure an adequate bond is achieved.

Even though trims have been overlapped and joined with Trim Adhesive. Joints in the trims should still be sealed and strengthened using 75mm bandage and RoofCell Basecoat mixed with hardener to achieve a watertight joint. This should be completed during the Preparation and Bandage Stage (see stage 3) for advice and guidance for this process.

STAGE 2 - PREPARATION AND BANDAGE APPLICATION

Preparation and Bandaging

Before you start any preparation ensure the roof is cleared of any obstructions and remove all tools, materials and any off cuts produced from the installation stages. Make sure the surface is clean, dry and free from any contaminants. It is also important to check the weather forecast and make sure it is set to be a dry day before starting this stage.

If any water comes into contact with either the reinforcement mat or bandage this will destroy the binder and will no longer be useable. Do not use mat or bandage that has been in contact with water as this will contaminate the resin. This will not cure and will require further remedial works to rectify.

Reinforcement Matting

It is important at this stage to roll out and prepare the entire matting to cover the whole roof area ensuring each subsequent run overlaps the next by a minimum of 50mm. The mat comes with a straight edge and a feathered edge. Always overlap the feathered edge on top of the straight edge to ensure a neater blended edge. It is important at this stage to work out where it is best to start and finish the mat. Bear in mind which way the roof falls and where your access and egress points are for when you complete the laminating process.

It is important to wear correct PPE especially safety gloves whilst handling the reinforcement mat or bandage as you can get fibre splints from the matting. These also provide protection when using a sharp Stanley type knife. The mat is best laid in the direction of the fall of the roof or following existing felt runs. This helps drainage by minimising overlap build ups and reduce potential areas of standing water.

Remove the reinforcement mat from its protective packaging. Start by rolling the mat out, overlapping the trim by at least 50mm but not over the edge of the trim. Cut the mat to the lengths required. Continue to roll out the 1m wide strip overlapping each time by at least 50mm right across the roof. The ends can be cut

off with a sharp Stanley type knife to leave a straight and neat finish. In most cases when finishing the last run, the mat will need to be cut to suit and should overlap on to the trim by at least 50mm to complete this process.

When all matting is pre-cut, these will need to be rolled back up starting from the access and egress point. Roll these up one row at a time and leave the

rolls on the roof where they are to be laid out to avoid any mix up if there is a deviation in size or angle from one length of mat to the other.

It is a good idea to mark the end of each row with a pencil on the trim when rolling the mat up. This will provide a guide when applying RoofCell Basecoat on to the existing substrate, ensuring you wet-out the complete area and apply the correct amount of resin per square metre. This also provides guidelines for each run to ensure the correct overlap is adhered to and that the overlap is no less than 50mm.

Reinforcement Bandage Preparation

It is important at this stage that all reinforcement bandage is prepared and cut to size before installing. Reinforcement bandage will need to be applied to any joins or corners of trims and other details.

75mm Reinforcement Bandage is supplied in a protective packaging, remove it from the packaging and roll out the required lengths to cover over fixings in trims, and cover overlaps where the trim meets the existing substrate.

For detail works, small pieces of 75mm Reinforcement Bandage should be cut to cover joins, corners or details and positioned in place. For larger corners, an off cut of the 450g Reinforcement Mat can be used and cut to size to cover over the whole area.

75mm Reinforcement Bandage can be ripped by hand to provide a feathered edge or alternatively you can cut with a sharp Stanley Knife.

Once all reinforcement mat is prepared and rolled up on the roof and bandage work is all prepared, you can start to mix a small batch of RoofCell Basecoat to install bandage work (see page 10 for hardener addition guidance)

Basecoat Preparation and Mixing

Before you start mixing any materials it is also important that you check the weather forecast and make sure it is set to be a dry day before starting this stage.

If any water comes into contact with the basecoat this will contaminate the materials.

Set up a designated mixing area and ensure the area where mixing will take place is protected in case of any spillages. Any opened cans or mixing buckets should not be carried away from the designated mixing area until hardener has been added. Before opening any items ensure relevant PPE is used especially gloves and safety glasses during this stage.

Start by opening the lid of the basecoat by bending back all lugs securing the can lid in place. Remove the lid and place in your designated mixing area. Before decanting any materials into your mixing bucket, the basecoat should always be fully stirred in the original container before decanting required amounts into your mixing bucket. Mix well for approximately 60 seconds using a plastic or wood paint stirrer or something similar ensuring it's clean and dry before doing so.

RoofCell Basecoat requires hardener to be added to the resin for it to cure. The time taken for the basecoat to go hard is controlled by the amount of hardener added and temperature of the substrate. To achieve the best working time of approximately 20-40 minutes and adequate walk on times (approximately 1hr-1hr 30mins), use the correct amount of hardener for the required amount of basecoat. Hardener is supplied in both winter and summer grades. It's important to use the right grade for the right time of year and always follow hardener addition guidance on page 10.

Use a Hardener Dispenser for a more accurate gauge of hardener addition. This will help to achieve best working times and minimise wastage. Unscrew the lid from the safety dispenser and carefully pour the contents of the hardener into the dispenser. Once full, screw the measuring lid back on to the dispenser and put the lid back onto the bottle of hardener. Always use the correct PPE when handling hardener and follow the storage instructions.

Hardener Addition

Only start to mix RoofCell Basecoat once all preparation has been completed. Start by mixing a small batch of basecoat (approximately 1-2kg). This is done by pouring the RoofCell Basecoat (in the designated mixing area) into a separate mixing bucket. Add the hardener using the hardener addition guidance for the amount in your mixing bucket and considering the temperature.

Select the amount of hardener required, squeeze your dispenser bottle to fill the measuring cylinder to the correct amount. Pour this into the mixing bucket and stir well for approximately 60 seconds ensuring the basecoat and hardener is fully mixed.

Failure to mix thoroughly could result in patchy uncured basecoat.

Bandage and Detail Work Application

Using the pre-cut 75mm Bandage to cover trim joins, corners and detail work, set these out on to a separate board or on to a discrete area of the roof to prepare.

HARDENER CHART

Deck/Basecoat Temp	22-35°C	18-22°C	12-17°C	5-11°C
% Hardener	1%	2%	3%	4%

TABLE OF PERCENTAGES IN MILLILITRES, PER WEIGHT OF RESIN USED

Basecoat (KILO)	Hardener Used (ML)			
1	10	20	30	40
2	20	40	60	80
3	30	60	90	120
4	40	80	120	160
5	50	100	150	200
6	60	120	180	240
7	70	140	210	280
8	80	160	240	320
9	90	180	270	360
10	100	200	300	400

Uncured excess resin on the existing substrate can cause the surface to be slippery which could result in potential slips, trips and falls.

Apply a roller full of RoofCell Basecoat complete with hardener to the substrate, lay reinforcement bandage on top of the basecoat and a further roller full of basecoat to saturate the bandage. Once wet-out, pick these up instantly and place into position, leaving them to break the matting down for approximately 1-2 minutes before shaping them with a brush to the required area.

Pay additional care to areas on bitumen roofs where the perimeter area has been replaced. Gaps and voids will need to be filled with additional sections of laminated bandage. Tools should be used specifically for these areas only to prevent contamination of bitumen through the rest of the laminate.

In addition to the 75mm Reinforcement Bandage, Finishing Tissue can be used to cover over the bandage to provide a smoother neater finish. This should be cut to the correct size, placed over the wet bandage and smoothed over with a soft roller.

Applying finishing tissue to joins, corners or detail work will result in less sanding and provide a smoother neater seamless finish.

Once joins, corners and detail work are all dressed in place, apply 75mm Reinforcement Bandage to the areas where the trims are fixed to the substrate. This is best achieved by using a soft roller to apply RoofCell Basecoat (with hardener) to half on the trim and half on the existing substrate. Apply the pre-cut Reinforcement Mat on top of the wet-out basecoat area and apply more basecoat on top of the mat, making sure the whole bandage is covered with basecoat.

Leave to saturate the bandage for approximately 1-2 minutes then pass over the bandage 3-4 times with the small paddle roller ensuring the bandage is saturated with basecoat and any trapped air is removed.

STAGE 3 - LAMINATING

Following the same mixing process previously highlighted in the detail and bandage stage on page 9, start by preparing the correct amount of basecoat required following the coverage rate chart on page 15.

Working speeds vary from person to person, start by mixing smaller batches to ensure materials and tools are not wasted. Once materials gel or start to cure, these will need to be discarded and replaced.

Start with enough to complete $2m^2$ or $3m^2$ then increase or decrease amounts to suit your working speed. (Follow advice and guidance for hardener addition on page 10)

Using a large soft roller and extension pole identify the previous markings for positions of each run of reinforcement mat and start at that point. Using your large roller submerge the whole roller into the basecoat and apply to the substrate. Work in 1m sections at a time. Apply approximately 4 large fully

submerged rollers full of basecoat to cover the whole 1m section.

Some substrates may require more basecoat due to the roughness or porosity. Ensure the whole area is flooded and covered.

Identify the first previously cut strip of reinforcement mat, position matting in place following markings made and start to roll the reinforcement mat out

on top of the basecoat whilst this is still wet. Once rolled out to the area coated, apply a further 4 fully submerged rollers full of basecoat using the same roller to cover the whole reinforcement mat.

There should be no areas without basecoat applied or dry matting visible. Any dry areas or areas with prominent fibres visible will lead to small pinholes and extra basecoat at the time should be applied over these areas.

Leave the matting to soak into the basecoat for approximately 1-2 minutes before paddle rolling. In the meantime, repeat the process for the next 1m section and continue until the complete roll of matting is applied and fully wet-out.

Two people are required for laminating the roof. One to apply the basecoat with a soft roller and another to consolidate with a paddle roller.

Consolidating the Laminate

Before starting to consolidate ensure the whole reinforcement mat is fully wet-out and the matting has been given enough time to soak into the basecoat (approximately 1-2 minutes). Using a large paddle roller and extension pole, one person can start to consolidate by passing over the saturated matting (approximately 3-4 times) to remove any trapped air. This will draw the basecoat through fibres in the matting, resulting in less visible fibres and a smoother pinhole free surface. Continue this process until the entire run is fully consolidated.

Take care when consolidating the mat not to press too hard.

Perform the paddle roller movement in a slow controlled manner to limit the amount of excessive spray produced. Take extra care in windy conditions as the basecoat spray will stick to whatever it lands on.

After the first run of mat has been laminated, start on the next roll repeating the process ensuring each subsequent run overlaps the next by a minimum of 50mm. This should be done by overlapping the feathered edge on top of the straight edge to produce a neater finish.

Whilst completing the next run of matting and after saturating the next 1m section of laminate, it's important to apply a quick wash coat of the basecoat (approximately 1 fully submerged roller full per m^2) over the previously consolidated laminate to complete the first run of matting. Complete this process (basecoat – reinforcement mat – basecoat – consolidate – wash coat every metre^2) until the roof is fully consolidated, and wash coated.

Due to the uneven surfaces that RoofCell will be overlaying, some areas may need consolidating more than others and directional changes with your paddle roller may be required.

STAGE 4 - TOPCOATING

Only attempt to walk on the basecoat when the laminate is fully cured. Do not go back on to the roof while the laminate is still wet. It is ok to walk on the laminate while it is tacky but not wet. The laminate should be cured to walk on after approximately 1hr -1hr 30 minutes dependant on hardener addition and temperatures.

In colder temperatures it may take longer for the laminate to cure, refer to the Hardener Addition Chart for guidance on page 10.

Before starting any application of topcoat or before opening any items ensure relevant PPE is used, especially gloves, safety glasses and protective masks during this stage.

To prepare the laminate for topcoating, lightly sand down the laminate using a coarser or lower grit number sandpaper (preferably 40 grit) to remove any loose fibre with less effort. This is best done using an extension pole and swivel sanding pad. Applying light pressure carefully sand over the entire roof surface to achieve a superior finish.

During sanding look out for areas with insufficient basecoat, voids, prominent fibres or loose stone chippings and repair as necessary. If this is done on the same day, apply more basecoat to cover these areas. If it has been left over 24 hrs sand down and apply more basecoat (complete with hardener) and reinforcement mat to the damaged area and allow to cure before topcoating.

Trim down any loose strands produced from applying bandage or reinforcement mat to corners or trim joints using a sharp Stanley Knife so these finish flush with the trim drip edge and carefully sand over these to form a seamless finish.

During the sanding stage dust will be produced and it is important to remove this dust and debris before topcoating. Applying topcoat to an area with dust and debris can affect the bond between the layers resulting in poor adhesion. Clean the roof surface using Acetone and a rag. Simply open the acetone bottle and pour a small amount onto a clean rag and wipe the surface to evaporate any dust, debris and contaminants. Give the laminate a final check to confirm it's ready for topcoating.

These are flammable products, no smoking, no naked flames, PPE needed and secure lids when not in use.

Before you start mixing any materials it is important to check the weather forecast and make sure it is set to be a dry day before starting this stage. Follow the same mixing procedure previously highlighted in the mixing stage on page 9. Start by preparing the correct amount of topcoat required to complete all trims, corners and edge details first. Mix a small batch of topcoat (complete with hardener) ensuring it's fully mixed for approximately 60 seconds.

It's important that the topcoat is mixed fully in its original container before decanting the correct amount required into the mixing bucket.

Using a small soft roller, submerge the roller into the topcoat and apply on to the trims, corners and any areas laminated during the bandage stage first. Complete the rest of the roof following the same mixing guidance to the whole roof area using a large soft roller and extension pole at a rate of 0.4kg per m^2.

Only one coat of topcoat is recommended. Do not apply more than the recommended coverage rates or additional coats on top.

Anti-Slip Finish

Slate granules can be used with RoofCell Topcoat to achieve an anti-slip finish if required. Simply apply the topcoat to the laminate in 1m wide sections at the usual rate of 0.4kg per m^2. After the first metre run is topcoated, grab a handful of slate granules and sprinkle these over the topcoat at a coverage rate of approximately 0.75kg per m^2. Use a soft roller to work the slate granules into the topcoat finish to achieve a coated anti-slip finish.

For a neater finish or if you would like to do a certain designated walkway, topcoat the areas that don't require slate granules (trims, edge details and upstands). When the topcoat has cured mask off the designated areas before applying anti-slip finish.

Cleaning tools and equipment

Buckets can be reused for many jobs as RoofCell Basecoat and Topcoat will not stick to the bucket and can be easily peeled out once materials have cured after approximately 30 minutes, leaving the bucket like new and ready for the next job.

Paint brushes and finned paddle rollers can be cleaned by submerging these into acetone, its important to use a re-sealable container if these are to be used for the next job. Note acetone will only clean residue from tools whilst materials are still workable, gelled or fully cured residue will not be removed by the acetone and will need to be disposed of accordingly.

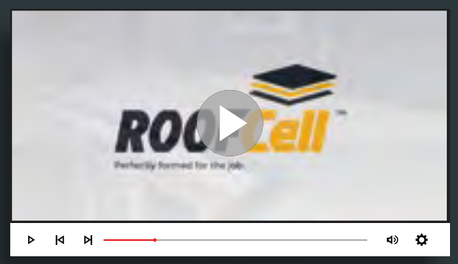
Application rollers can continually be used for several mixes and will only need to be replaced once materials soaked into the roller piles start to cure. Roller sleeves can be easily replaced and removed by sliding the sleeve from the main frame and dispose of accordingly then replacing this with a new sleeve in the same way.

Uncured splashes or drips to window or fascia are best cleaned with builders' wipes, these are also useful for cleaning hands although hand cleaner is available and should always be accessible. Always use protective gloves when handling materials to prevent skin contact and do not clean hands with acetone.

Materials Safety Data Sheets

It is the contractors responsibility to ensure that all relevant materials and safety data sheets are on site at all times. Additional copies of these are available on request from **technical@roofcell.co.uk** or downloadable from **www.roofcell.co.uk**

WATCH THE FULL INSTALLATION VIDEO HERE...



Roofcell Coverage Rate Guidance

	REINFORCEMENT 450 gm	BASECOAT WITH 6" ROLLER FULL	BASECOAT WITH 9" ROLLER FULL
ROUGH FELT	**450gm**	**COVERAGE RATE 2.75 - 3KG per M²**	
		6-7 x - on Base 4 x - on Mat 1 x - Washcoat	4 x - on Base 3 x - on Mat 1 x - Washcoat
SMOOTH FELT	**450gm**	**COVERAGE RATE 2.25 - 2.5KG per M²**	
		4-5 x - on Base 4 x - on Mat 1 x - Washcoat	3 x - on Base 3 x - on Mat 1 x - Washcoat
ASPHALT	**450gm**	**COVERAGE RATE 2.25 - 2.5KG per M²**	
		4-5 x - on Base 4 x - on Mat 1 x - Washcoat	3 x - on Base 3 x - on Mat 1 x - Washcoat
CONCRETE (Requires primer)	**450gm**	**COVERAGE RATE 2.25 - 2.5KG per M²**	
		4-5 x - on Base 4 x - on Mat 1 x - Washcoat	3 x - on Base 3 x - on Mat 1 x - Washcoat
OSB / DECKING	**450gm**	**COVERAGE RATE 2.25 - 2.5KG per M²**	
		4-5 x - on Base 4 x - on Mat 1 x - Washcoat	3 x - on Base 3 x - on Mat 1 x - Washcoat
GRP	**450gm**	**COVERAGE RATE 2 - 2.25KG per M²**	
		3-4 x - on Base 4 x - on Mat 1 x - Washcoat	2 x - on Base 3 x - on Mat 1 x - Washcoat

- Roller full

ROOFCell
Perfectly formed for the job.