

# 7

## Cold Applied Liquid Systems

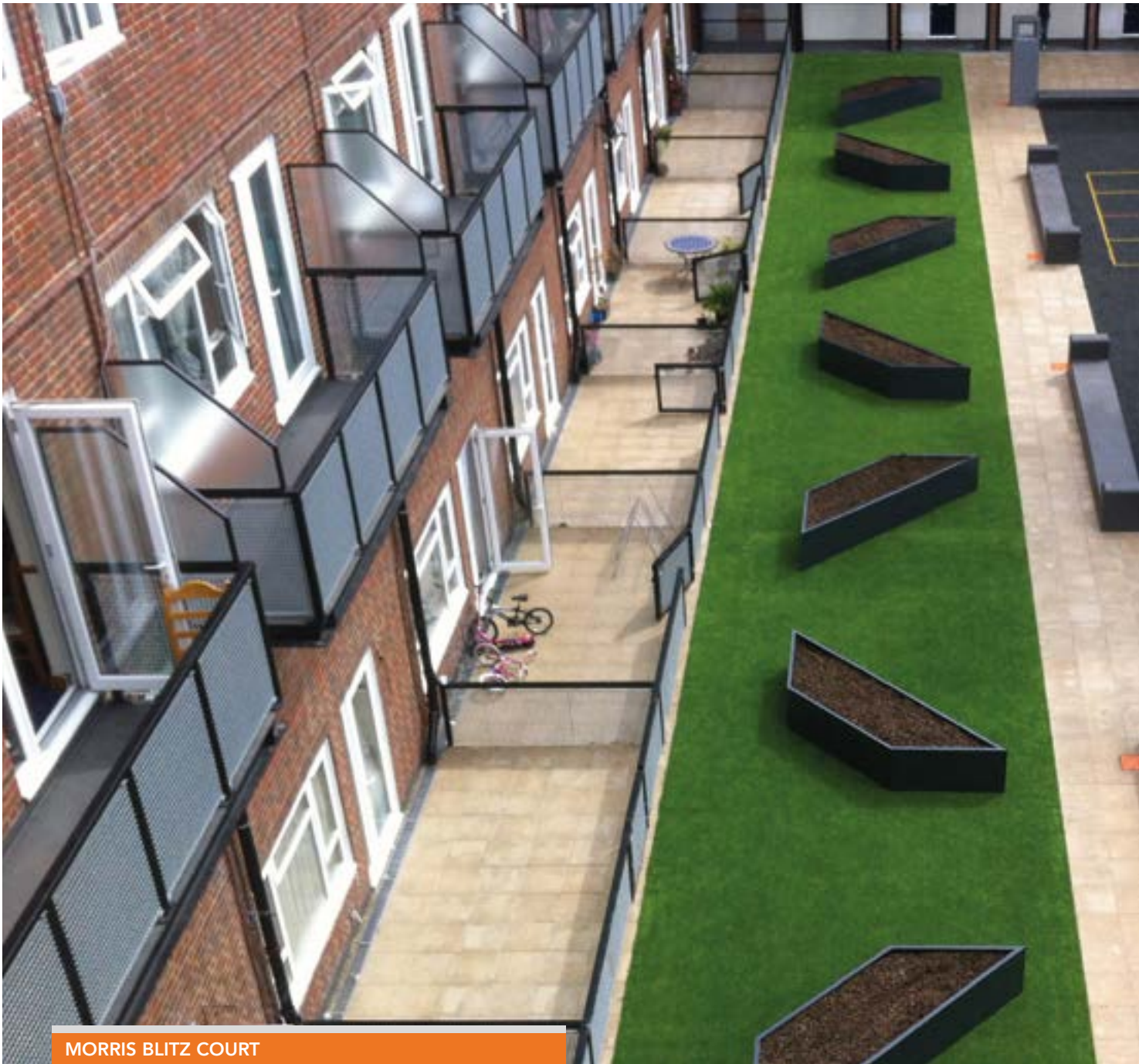


Our range of cold applied liquid systems provide lightweight, seamless waterproofing for roofs and balconies and walkways.

Suitable for refurbishment and new build applications, they are simple to install and can easily be formed around complex details.

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# OVERVIEW OF WATERPROOFING



**MORRIS BLITZ COURT**

Location: **Hackney**

*“Bauder delivered a comprehensive waterproofing solution of the highest quality; providing expert technical support throughout the project. They have successfully transformed this housing estate in terms of appearance and functionality.”*

**Harsha Amin, Project Manager from Hackney Homes**

# SYSTEMS



Cold applied liquid systems provide seamless waterproofing over the whole roof area and are completely cold applied, making them ideal for areas where hot works would be a risk.

Our LiquiTOP systems are based on polyurethane (PU) and our LiquiTEC systems on poly methyl methacrylate (PMMA) technologies. They provide proven performance in flat roofing and balcony/walkway applications and are supported by BBA certification.

Our cold applied liquid portfolio consists of:

## Bauder LiquiTOP Systems

Based on single-component, moisture triggered polyurethane that incorporates a glass fibre mat reinforcement. This long-lasting, durable and seamless waterproofing is suitable for refurbishment and new build projects. Our LiquiTOP System is applied as two coats with a three coat option for increased durability (LiquiTOP 3COAT System).

The BBA certificates state a durability of at least 20 years for the LiquiTOP System and in excess of 25 years for the LiquiTOP 3COAT System.

## Bauder LiquiTEC and Roof Terrace System

This polyester reinforced system is intended for both new build or refurbishment projects and can be applied to a wide variety of substrates including concrete and timber decks, as well as most existing waterproofing membranes such as asphalt, bitumen membranes, and even synthetic single ply, subject to condition and suitability. The system is covered by our guarantee.

The BBA certificate relating to this system states that under normal service conditions it will have a service life in excess of 25 years.

**Bauder LiquiTEC Balcony and Walkway Systems**  
Systems developed to provide the optimum combination of aesthetic and functional requirements; designed to resist slipping and hard wearing they can also be used for stairs and stairwells.

Cold application and exceptionally fast cure times are a distinct advantage when carrying out work on areas continuously in use by the building's occupants, inconvenience is kept to a minimum.

The BBA certificate states that under normal service conditions it will have a service life of at least 15 years.

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## Specification Support



**Specification downloads:**  
[www.bauder.co.uk/technical-centre](http://www.bauder.co.uk/technical-centre)



**Telephone helpline:**  
0845 271 8800



# ENVIRONMENTAL CREDENTIALS



## Building Research Establishment (BRE) Green Guide

The BRE Green Guide to Specification gives our products and systems various generic ratings, depending on the type of deck construction and the support structure used.

### Generic Product Ratings

- 'A+' generic rating, element number 1212530006 when used with warm roof insulation on a profiled steel deck with steel supports.
- 'C' generic rating, element number 1212530060 when used with pre-cast concrete hollow slab with screed, inverted insulation with pebble ballast.



## Environmental Product Declarations (EPD)

The Eco Platform accreditation is recognised by the BRE as valid and transferable environmental documentation towards obtaining BREEAM credits within their assessment process for BREEAM UK New Construction 2018.

Within our cold applied systems we have the following EPD certification.

- **LiquiTEC Products**  
EPD-DBC-20190116-IBE1-EN
- **LiquiTOP Products**  
EPD-FEI-20180092-IBG1-EN
- **PU Insulation - Aluminium Facing**  
EPD-IVP-20140207-IBE1-EN

↓ All certificates can be downloaded from our website [bauder.co.uk/technical-centre](http://bauder.co.uk/technical-centre)

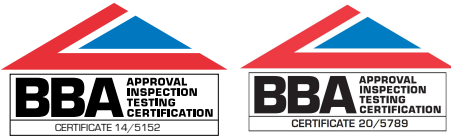
## Insulation within a Warm Roof Construction

The BauderPIR insulation used within the warm roof construction of a cold applied waterproofing system has extremely high thermal efficiency, is CFC and HCFC free, and has zero ODP. As part of our PIR insulation manufacturing process, offcuts and waste are readily recycled and used in the production of hand cleansers and decking materials.

The embodied energy of our rigid polyurethane PIR insulation accounts for as little as 4% of the energy the board can save during its serviceable life. With buildings accounting for 50% of the energy consumption in Europe, the inclusion of insulation when installing new or refurbished roofs plays a significant part in reducing CO<sub>2</sub> emissions.



# TECHNICAL CREDENTIALS



## BBA Certification

Our cold applied liquid systems have been tested and approved by the BBA and carry certificates 14/5152 for LiquiTEC and 20/5789 for LiquiTOP.

## Fire Performance

Our LiquiTEC Warm Roof System and LiquiBALKON system hold EN1187 fire classification BROOF (t4) and are verified by the BBA as 'unrestricted' and suitable for use on any part of a roof or terrace.

An unreinforced balcony system with LiquiPAVE RF has been tested to EN ISO 11925-2 and 9239-1 and satisfied the criteria for Euroclass Bfl-S1 according to EN 13501-1

## Root Resistance for Green Roofs

The Bauder LiquiTEC system meets FLL guidelines, which is the benchmark test for root resistance in Europe.

## Durability

The cold applied liquid waterproofing systems are resistant to ponding water and are fully reinforced to provide increased membrane strength, life expectancy and resistance to cracking.

## Safety Conscious Installation Technology

The Construction, Design and Management Regulations 2015 place specific duties on designers, contractors and building owners to take fire safety into account throughout a building's life cycle, making sure that all people on site are protected if a fire does ever occur.

By utilising Bauder cold applied liquid systems, these flame free solutions not only eliminate any risk of fire from hot works but also mean that in refurbishment situations the building can remain fully operational throughout, with minimal disruption.

## Bonding Superiority

Cold liquid applied systems fully bond to the substrate and deliver superior adhesion to most deck structures or existing waterproofing that requires an overlay solution.



# LIQUITEC ROOF SYSTEM





Our cold applied liquid roof system, LiquiTEC, is an extremely durable PMMA resin with fast curing times, completely cold applied and suitable for use on most structural substrates. The roof area can be accessed within hours of installation and it delivers a UV stable, seamless waterproof membrane of the highest quality.

The system can be configured for cold, warm and inverted roof constructions and is ideal as an exposed roof waterproofing membrane or roof terrace areas when protected with hard landscaping. The tough polyester reinforcement provides increased membrane strength, life expectancy and resistance to cracking. Within the insulated solution, our self-adhesive BauderTEC DBR 06 elastomeric bitumen membrane is used as both an air and vapour control layer and as the carrier membrane on which the LiquiTEC products are applied.

### Key Features

- Totally cold applied.
- BBA life expectancy in excess of 25 years.
- Polyester reinforced.
- >2mm dry film thickness.
- Exceptionally fast curing.
- Compatible with a wide range of substrates.
- Seamless - no joints or fixings.
- Solvent, isocyanate and halogen free.
- Fire classification B<sub>ROOF</sub> (t4) and verified by the BBA as 'unrestricted' and suitable for use on any part of a roof.
- Root resistant.
- Single point guaranteed system.

### When to Specify

Apart from the main benefit of being cold applied, LiquiTEC is particularly suited to areas where membrane systems would be impractical due to a high degree of detailing, or when access to install waterproofing is restricted. The system is appropriate for both new build or refurbishment projects onto most substrates and can be used with extensive and intensive green roofs.

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#### Specification Support



**Specification downloads:**  
[www.bauder.co.uk/technical-centre](http://www.bauder.co.uk/technical-centre)



**Telephone helpline:**  
 0845 271 8800

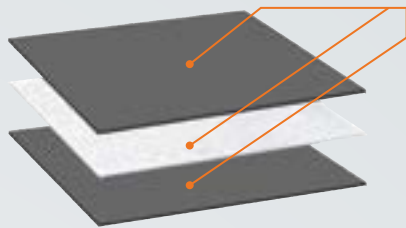


# LIQUITEC ROOF SYSTEM

## Example System Configurations

### COLD ROOF SYSTEM

Used in new build or refurbishment applications in a cold roof construction. It is compatible with most existing waterproofing products, making it suitable for use as an overlay system.

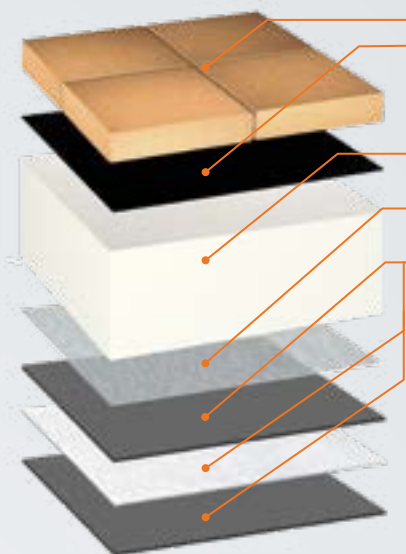


#### Bauder LiquiDEK

cold applied liquid waterproofing, fully reinforced with a tough polyester fabric. The deck is sealed using Bauder LiquiPRIME to improve adhesion.

### INVERTED ROOF SYSTEM

Used in new build or refurbishment applications in an inverted roof construction. It is compatible with most existing waterproofing products, making it suitable for use as an overlay system.



#### Paving/Pebble Ballast

#### BauderJFRI Vapour Permeable Membrane

designed to increase the thermal performance of the insulation whilst preventing fines from working their way beneath.

#### BauderJFRI

inverted insulation to achieve required U - value.

#### Bauder Filter Fleece

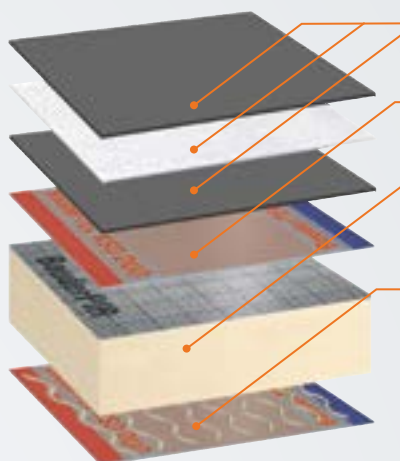
separation and filtration membrane.

#### Bauder LiquiDEK

cold applied liquid waterproofing, fully reinforced with a tough polyester fabric. The deck is sealed using Bauder LiquiPRIME to improve adhesion.

### WARM ROOF SYSTEM

Used in new build or refurbishment applications in a warm roof construction and incorporates BauderPIR FA-TE insulation and self-adhesive bitumen membranes, BauderTEC DBR 06.



#### Bauder LiquiDEK

cold applied liquid waterproofing, fully reinforced with a tough polyester fabric.

#### BauderTEC DBR 06

self-adhesive elastomeric bitumen carrier membrane.

#### BauderPIR FA-TE Insulation

extremely thermally efficient, lightweight, fire resistant and zero ODP rated. The insulation is foil-faced on both sides for increased thermal efficiency. BauderROCK can be used as an alternative insulant.

#### BauderTEC DBR 06

self-adhesive elastomeric bitumen air and vapour control layer the deck is sealed using Bauder Activator-Primer to improve adhesion.

#### System Variations

The standard system colour is blue grey (approx. RAL 7031), although other colours can be achieved by applying an additional finish coat.

Where required, BauderROCK insulation can be used to improve the acoustic performance of the warm roof system.

#### Finish Colours

RAL 7030	RAL 7031	RAL 7043
Stone Grey	Blue Grey	Traffic Grey



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# PROJECTS



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# LIQUITEC BALCONY AND WALKWAY



# SYSTEM



The Bauder LiquiTEC Balcony and Walkway systems were developed to provide the optimum combination of aesthetic and functional requirements; designed to be slip resistant and hard wearing they can also be used for stairs and stairwells.

Cold application and exceptionally fast cure times are a distinct advantage when carrying out work on areas continuously in use by the building's occupants, inconvenience is kept to a minimum.

## Key Features

- Suitable for new build and refurbishment.
- BBA stated life expectancy in excess of 15 years.
- Totally cold applied.
- Exceptionally rapid cure times.
- Seamless with no fixings.
- Flexible, anti-skid, thick layer system.
- Fully bonded with excellent interlayer adhesion.
- Resistant to chemicals.
- Tough and durable enough to withstand all types of balcony traffic.
- Choice of two surface finishes.
- Can be installed all year round in the majority of climatic conditions.
- Compatible with almost all substrates.
- Quick and simple to install.
- Can be overlaid or repaired as required at any time in the future.
- Fire classification BROOF (t4) for LiquiBALKON warm roof system and verified by the BBA as 'unrestricted' and suitable for use on roof terraces over occupied areas. An unreinforced balcony system with LiquiPAVE RF has been tested to EN ISO 11925-2 and satisfied the criteria for Euroclass Bfl-S1 according to EN 13501-1.
- Guaranteed system.

## When to Specify

The system is suitable for application over almost all structural substrates commonly used for balcony and walkway construction and in refurbishment can be applied directly to asphalt and most other waterproofing and surfacing products typically found on existing structures. This avoids the unnecessary expense, risk and disruption of removing existing waterproofing and minimises installation time on site.

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### Specification Support



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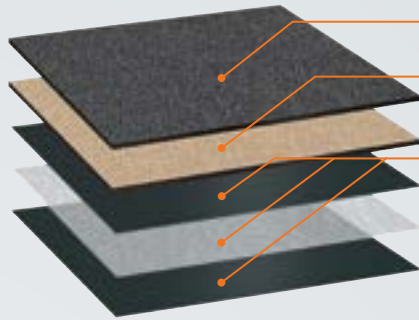


# LIQUITEC BALCONY AND WALKWAY

## Example System Configurations

### REINFORCED SYSTEM

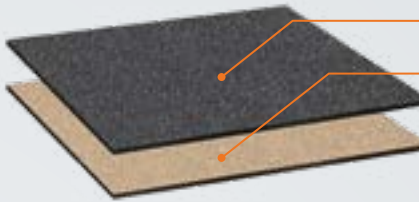
Used wherever there are occupied premises beneath. It is especially suitable for the overlay of failed or worn asphalt, helping to avoid the costs, disruption and risks associated with its removal.



- Bauder LiquiFINISH**  
abrasion resistant system seal coat.
- Bauder LiquiPAVE RF**  
self levelling surface layer hard wearing crystal quartz aggregate.
- Bauder LiquiBALKON**  
certified reinforced waterproofing layer, fully reinforced with Bauder 110g reinforcement fleece, a tough polyester fabric. The substrate is sealed with Bauder LiquiPRIME to improve adhesion.

### UNREINFORCED SYSTEM

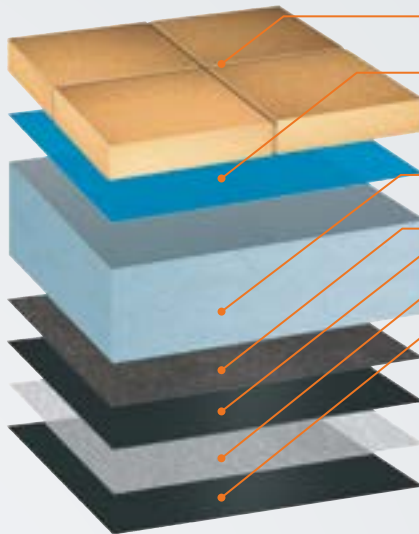
Used over unoccupied premises, such as cantilevered structures. Reinforcement is still used to upstands and details, as structural movement may occur.



- Bauder LiquiFINISH**  
abrasion resistant system seal coat.
- Bauder LiquiPAVE RF**  
self levelling surface layer with large grain, hard wearing crystal quartz aggregate. The substrate is sealed with Bauder LiquiPRIME to improve adhesion.

### BURIED REINFORCED SYSTEM

Paving or timber decking can be used over the reinforced waterproofing layer with the addition of a slip layer and protection layer to prevent the possibility of mechanical damage. This system should also be used when insulation is required as shown in the illustration.



- Paving**  
on supports or screed, or timber decking.
- Bauder WFRL**  
designed to increase the thermal performance of the insulation whilst preventing fines from working their way beneath.
- Bauder Inverted Insulation**  
where it is necessary to provide an insulated solution.
- Bauder Filter Fleece**
- Bauder LiquiBALKON**  
cold applied liquid waterproofing layer, fully reinforced with Bauder 110g reinforcement fleece, a tough polyester fabric. The substrate is sealed with Bauder LiquiPRIME to improve adhesion.

A finer quartz grade is also available for projects requiring a smoother surface finish.

### Finish Colours

The following finish colours are available as standard.



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# TECHNICAL DESIGN

## Cold Applied Liquid Systems



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TECHNICAL  
DESIGN

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# INSTALLATION METHODS

## Warm Roof Application Sequence

### MEMBRANE AND INSULATION LAYERS



**No.1:** Air and vapour control layer installed to primed substrate, terminating 100mm past the surface level of the proposed insulation.



**No.2:** Bauder insulation installed with insulation adhesive.



**No.3:** Carrier membrane installed over the insulation, lapping with the AVCL at details by 50mm.

### LIQUID LAYERS



**No.4:** Reinforced LiquiDETAIL is applied to all upstands and details.



**No.5:** LiquiDEK is applied over the carrier membrane and the reinforcement fleece is rolled in..



**No.6:** A further coat of LiquiDEK over the reinforcement fleece wet-on-wet completes the installation.



## Balcony and Walkway Application Sequence

### PRIMING



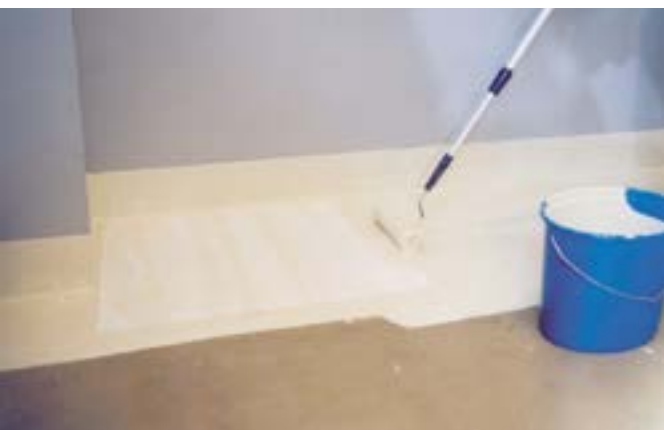
**No.1:** Whenever priming is necessary it is applied to the details first, followed by the main area. Masking tape is used to achieve a neat edge.

### UPSTANDS AND DETAILS



**No.2:** A generous layer of LiquiDETAIL resin is applied to the upstand then the fleece is embedded into the wet resin, making sure that it is fully saturated. The masking tape is removed whilst the material is still wet.

### MAIN AREA WATERPROOFING



**No.3:** The LiquiBALKON is applied to the substrate and the fleece embedded, pressing free any trapped air to ensure the fleece is fully saturated.

Another layer of LiquiBALKON is applied, wet-on-wet to ensure full saturation.

### SURFACING LAYER



**No.4:** LiquiPAVE RF is then applied with a trowel.



**No.5:** The quartz aggregate is quickly embedded whilst the resin is still wet, by broadcasting to excess.



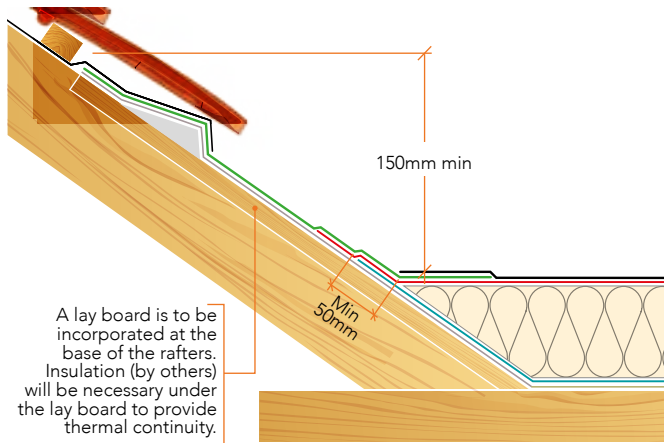
**No.6:** The excess is then swept off once cured.



**No.7:** Mask the details again and apply a generous layer of LiquiFINISH to the details first, remove the masking tape while the resin is still wet. The deck is then treated by pouring the LiquiFINISH and spreading with a hard rubber squeegee, then back rolling with a dry lambswool roller.

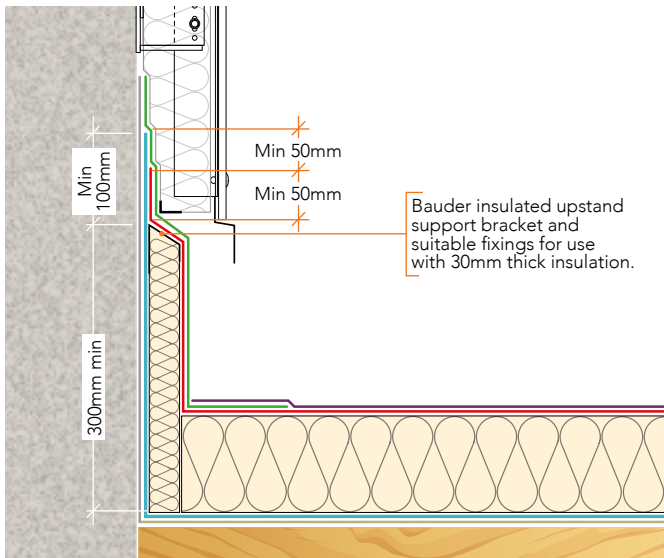
# GENERAL DETAILING

## Cold Applied Liquid Warm Roof



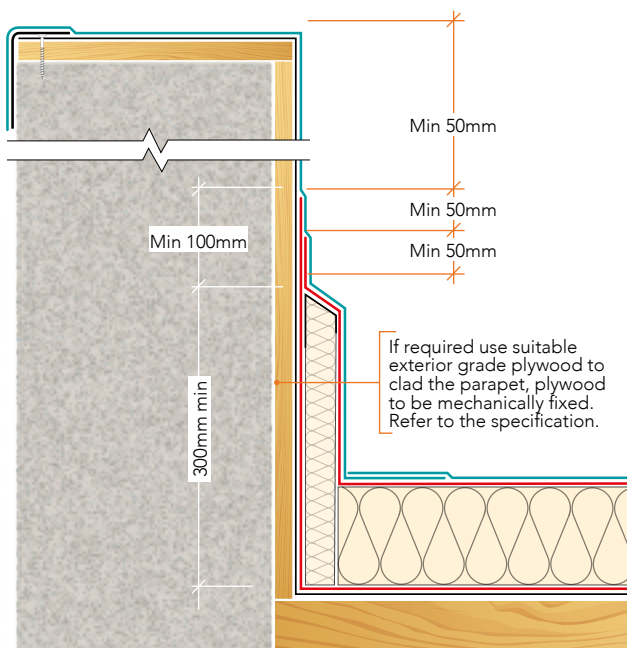
### Upstand to Pitched Roof

This is a common detail where it will be necessary to provide a lay board that allows a vertical upstand height of 150mm above the finished waterproofing level in order to prevent water ingress and to comply with Codes of Practice BS 8217.



### Insulated Upstand to Vertical Cladding

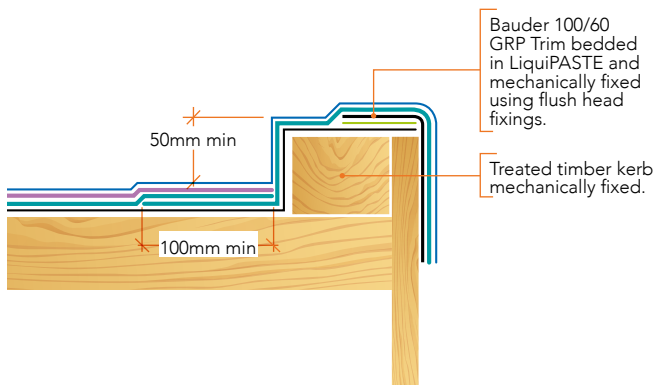
The cladding system should be installed after the roof waterproofing to allow the waterproofing to be detailed correctly. 30mm thick insulation to the upstand prevents thermal bridging from the room beneath, and will be easily held in place by the Bauder insulated upstand support bracket.



### Insulated Parapet

Taking the waterproofing up and over the parapet and terminating onto a trim, or under a capping or coping stone totally encompasses the detail, ensuring that water cannot find its way through the inside or top of the wall and behind the Bauder system.

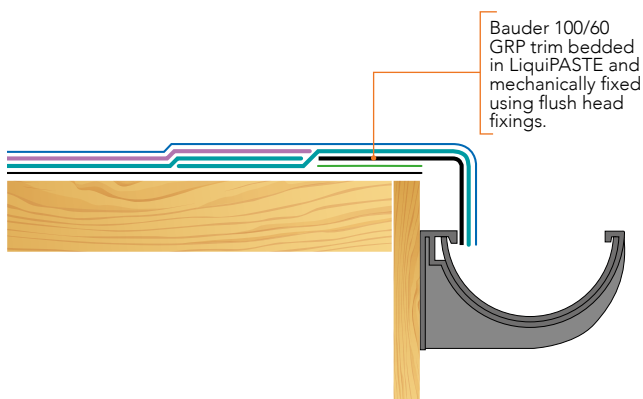
## LiquiBALKON Reinforced Balcony and Walkway



### Perimeter Kerb

The reinforced LiquiDETAIL system is dressed over the trim to its full extent and past the edge of the downward facing edge.

Once cured, the excess is trimmed off to a neat finish.

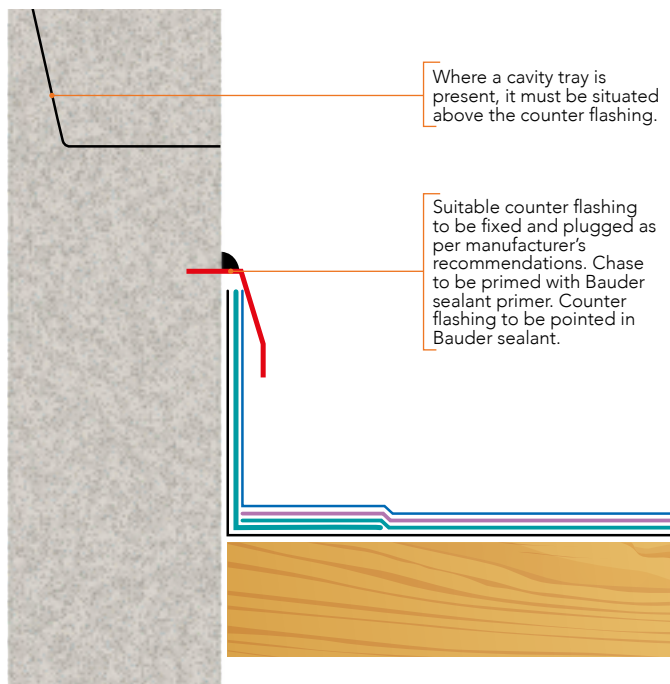


### External Gutter

Trim should be bedded in LiquiPASTE to take out any irregularities in the underlying substrate and facilitate alignment of adjacent sections.

The reinforced LiquiDETAIL system is dressed over the trim to its full extent and past the edge of the downward facing edge.

Once cured, the excess is trimmed off to a neat finish



### Uninsulated Upstand to Brickwork

It is essential to provide some protection to the top leading edge on brickwork upstands (although LiquiDETAIL can be self-terminating in certain circumstances). Ideally a chased counterflashing or the liquid waterproofing itself inserted into a chase will provide a protected termination. Where a chase cannot be cut, a surface mounted termination bar may be used, bedded in Bauder Sealant.