## BAUDER

## Hot Melt System

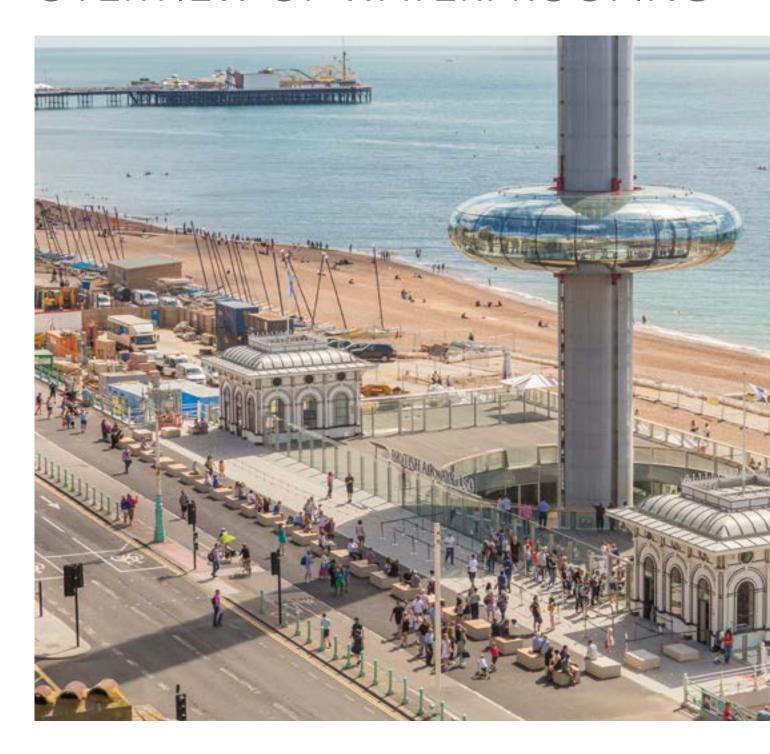


Our Hot Melt Waterproofing is a monolithic installation designed to last the lifetime of the roof structure.

The system is robust, flexible, can be installed on decks with zero degree falls and with its method of application, it is an extremely cost effective waterproofing system.

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## OVERVIEW OF WATERPROOFING



## **SYSTEM**



Our Hot Melt System provides a monolithic, fully bonded waterproofing membrane that is tough, flexible and self healing to minor punctures for use on most protected roofs such as inverted, paved, ballasted, terraces, car parks, podiums and plazas or green roof applications.

The system has formulation modifications that promote adhesion and improve low temperature flexibility to ensure technical performance.

The BBA certificate relating to this system states that when fully protected and subjected to normal service conditions, it will provide an effective barrier to water and water vapour for the design life of the roof in which it is incorporated.

#### **Key Features**

- Seamless application provides monolithic waterproofing.
- BBA stated life expectancy to match the design life of the roof.
- Can be installed on zero falls.
- Bridges minor cracks.
- Infills minor irregularities.
- Full adhesion to deck restricts lateral water movement.
- BBA Certificate 06/4350.
- Fire performance is deemed to be 'unrestricted' under national requirements and suitable for use anywhere on a roof because is protected by the roof finish.
- Guaranteed system.

#### When to Specify

Our Hot Melt Structural Waterproofing System is designed to last the lifespan of the roof and ideally suited as a waterproofing system beneath paved or ballasted surfacing, car parks, podiums, plazas, green roofs and substructures.

This waterproofing solution can also be specified with the BauderBLUE Roof System or the Bauder BioSOLAR green roof PV system.











## ENVIRONMENTAL CREDENTIALS



#### British 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.

#### **Product ratings**

- 'D' generic rating, element number 812530039 when used with in-situ reinforced concrete, polymer modified polyester reinforced bitumen roofing membranes, insulation, paving slabs.
- 'D' generic rating, element number 812530040 when used with in-situ reinforced concrete, polymer modified polyester reinforced bitumen roofing membranes, insulation, rounded pebbles.
- 'D' generic rating, element number 812530073 when used with precast pre-stressed concrete hollow slab with screed, polymer modified polyester reinforced bitumen roofing membranes, insulation, paving slabs.
- 'C' generic rating, element number 812530074 when used with precast pre-stressed concrete hollow slab with screed, polymer modified polyester reinforced bitumen roofing membranes, insulation, rounded pebbles.
- D' generic rating, element number 812530049 when used with in situ reinforced concrete with 50% GGBS and 20% recycled coarse aggregate, polymer modified reinforced bitumen roofing membranes, insulation, paving slabs.
- 'C' generic rating, element number 812530050 when used with in situ reinforced concrete with 50% GGBS and 20% recycled coarse aggregate, polymer modified reinforced bitumen roofing membranes, insulation, rounded pebbles.
- 'D' generic rating, element number 812530062 profiled metal "deep" decking with in situ concrete, polymer modified polyester reinforced bitumen roofing membranes, paving slabs.
- 'C' generic rating, element number 812530063 profiled metal "deep" decking with in situ concrete, polymer modified polyester reinforced bitumen roofing membranes, rounded pebbles
- B' generic rating, element number 812530002 structural steel trusses, galvanised steel purlins and deck, plywood (temperate EN 636-2), polymer modified polyester reinforced bitumen roofing membranes, insulation, paving slabs.
- 'A' generic rating, element number 812530026 structural steel trusses, galvanised steel purlins and deck, plywood (temperate EN 636-2), polymer modified polyester reinforced bitumen roofing membranes, insulation, rounded pebbles

#### Our Products in Practice

We are committed to reducing the impact our products have on the environment through a reduction of energy usage and the addition of recyclate in the composition of our waterproofing and system components.

#### Life cycle costings

The durability of the hot melt waterproofing is such that there is no need to replace the product during the roof's expected life, the life cycle costing of the system is therefore excellent.

#### Insulation

The Bauder inverted insulation options are HCFC and CFC free with zero ozone depletion potential (ODP) and low Global Warming Potential (GWP).

The expanded polystyrene (EPS) scrap from the manufacturing process is reintroduced back into making our EPS insulation boards to keep waste to a minimum. When it is not used to make more EPS, foam scrap can be turned into a variety of products such as clothes hangers, park benches, flower pots, toys, rulers and seedling containers.

## TECHNICAL CREDENTIALS



#### **BBA Certification**

Our Hot Melt Waterproofing has been tested by the British Board of Agrément (BBA) and carries certificate number 06/4350.

The BBA certificate relating to this system states that when fully protected and subjected to normal service conditions, it will provide an effective barrier to water and water vapour for the design life of the roof in which it is incorporated.

#### Fire Performance

When our Hot Melt Waterproofing System is used in protected or inverted roof specifications and covered with an inorganic finish it can be considered to be 'unrestricted' under national requirements and suitable for use anywhere on a roof.

In roofs that incorporate non-combustible surface finishes as set out in European Commission Directive 2000/553/EC such as min 50mm thickness of stone ballast or min 40mm thick stone or concrete paving slabs that fully cover the roof, these are deemed to fully satisfy the regulations with no testing.

#### Root Resistance for Green Roofs

The Bauder Hot Melt System for a green roof uses our AP2 root resistant protection sheet that has been tested and certified under FLL (Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau) guidelines, which is the benchmark test for root resistance in Europe.

#### **Product and Installation Technology**

The nature of the hot melt product is to remain 'live' throughout its lifespan so that any minor punctures during service will self-heal and therefore should not require any remedial action.

The technology of the primer and the excellent adhesion properties of the hot melt mean that the membrane is fully bonded to the deck and gives a tough yet flexible waterproofing.

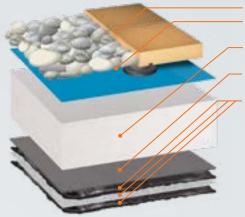


## HOT MELT WATERPROOFING

Example System Configurations

#### **HOT MELT INVERTED SYSTEM WITH PAVING**





#### Paving on Supports Bauder XPS WFRL

increases the thermal capacity of the insulation. **Bauder Insulation** 

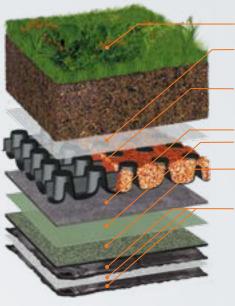
thickness to suit U-value required. (see chapter 7)

Bauder AP1 Access Protection Sheet
fully bonded into the hot melt liquid.

Hot Melt with Polyester Reinforcement

first 3mm layer of hot melt infills and fully bonds to all minor deviations and the deck. The polyester reinforcement strengthens the system and the second 3mm layer of hot melt bleeds through the reinforcement to create a 6mm monolithic waterproofing membrane. The deck is primed with Bauder Polymer Primer to create a 50% increase in bond strength.

#### **HOT MELT PODIUM GREEN ROOF**



#### **Vegetation and Substrate**

lightweight Bauder intensive growing medium. **Bauder Filter Fleece** 

is a filtration layer that prevents substrate fines from washing into the drainage or water storage layer.

DSE60 or DSE40

water storage and drainage layer infilled with Bauder mineral drain to provide multi-directional drainage. FSM 600 Protection Mat

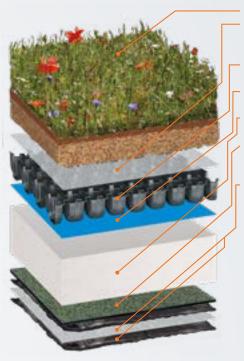
**Bauder PE Foil** 

polyethylene foil separation and slip layer. **Bauder Root Barrier AP2** 

fully bonded into the hot melt liquid, this protection layer is root resistant and meets FLL guidelines.

Hot Melt liquid with Polyester Reinforcement first 3mm layer of hot melt infills and fully bonds to all minor deviations and the deck. The polyester reinforcement strengthens the system and the second 3mm layer of hot melt bleeds through the reinforcement to create a 6mm monolithic waterproofing membrane. The deck is primed with Bauder Polymer Primer to create a 50% increase in bond strength.

#### **HOT MELT INVERTED BIO-DIVERSE GREEN ROOF**



#### WB Wildflower Blanket and Biodiverse Substrate Bauder Filter Fleece

is a filtration layer that prevents substrate fines from washing into the drainage or water storage layer.

DSE20 or DSE40

water storage and drainage layer. **Bauder WFRL** 

increases the thermal capacity of the insulation.

**Bauder Inverted Insulation** 

thickness to suit U-value required.

**Bauder Root Barrier AP2** 

fully bonded into the hot melt liquid, this protection layer is root resistant and meets FLL guidelines.

Hot Melt liquid with Polyester Reinforcement

first 3mm layer of hot melt infills and fully bonds to all minor deviations and the deck. The polyester reinforcement strengthens the system and the second 3mm layer of hot melt bleeds through the reinforcement to create a 6mm monolithic waterproofing membrane. The deck is primed with Bauder Polymer Primer to create a 50% increase in bond strength

## **PROJECTS**



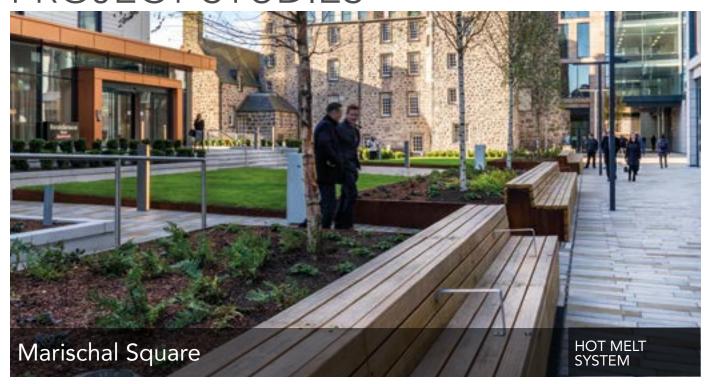








## PROJECT STUDIES





**BUILDING BOARD** 

Project: Marischal Square

Location: Aberdeen

Roof Area: 5,400m²

Client: Muse Development & Morgan Sindall

Approved Contractor: Briggs Amasco

#### **APPLIED PRODUCTS**

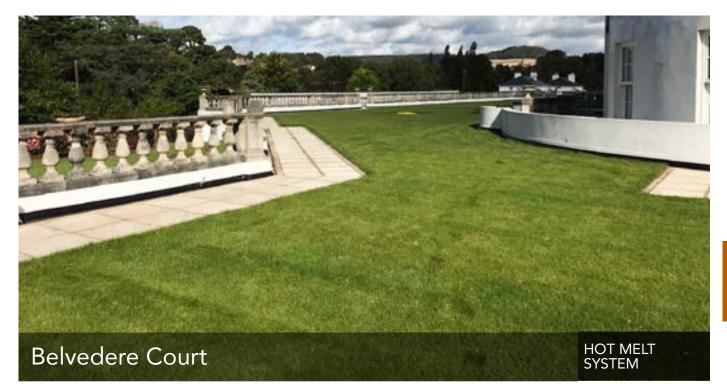
- • Bauder Bakor Hot Melt Waterproofing System with AP1 Access Layer to hard landscaping areas and Bauder AP2 Root Resistant Protection Membrane to green roof areas.
- Bauder JFRI Inverted Insulation
- FSM600
- DSE40
- Filter Fleece
- Bauder Intensive Substrate.

Marischal square is a mixed use complex in the centre of Aberdeen based on the site of the former council headquarters building, St. Nicholas House. In 2011 Muse Developments undertook a £107m redevelopment of the site creating space for two new office buildings, seven restaurants and café bars, a 126-room hotel, a modern civic space and a new public space area in between the new buildings.

One of the key challenges for the project was the fact that Muse Developments and Morgan Sindall, who were working jointly on the development, were looking for a single source waterproofing. Bauder proved to be the perfect fit, covering and delivering all elements of the waterproofing systems.

With large parts of the new roofing areas being accessible terraces and areas which will experience a significant amount of foot traffic, the Bauder Hot Melt Structural System was a natural choice. The system was combined with hard and soft landscaping to provide the different aspects of the various terraces, stairways, podium decks and rooftops.

Approved contractor Briggs Amasco carried out the works on the 5400m² of the separate roof areas, whilst expert Bauder site technicians carried out a total of 26 site visits over the duration of the project to ensure the quality of the installations. Following a final inspection, Bauder was able to issue a 20 year product and workmanship guarantee on the project.



The impressive Belvedere Court 4-storey building, which was converted from a hotel into 16 prestigious residential apartments in 2008, recently underwent further development including extensions for additional accommodation, basement housing, a communal swimming pool, a theatre and an underground car park.

As part of the refurbishment of the site, the failing waterproofing of the green roof on the car park roof deck needed to be removed and replaced. Bauder approved contractor, The Complete Roofing Company (TCRC), initially proceeded to remove the existing pathways and landscaping before removing the failed system and providing remedial repairs to the damaged roof.

With the car park roof also being used as a recreational green roof for the residents of Belvedere Court, the Bauder Hot Melt System was an obvious choice. Installed with the Bauder AP2 root barrier for root resistance the recreational green roof was installed above.

On completion of the waterproofing elements the roof was leak tested to ensure the roof's integrity. TCRC then installed the Bauder green roof components; PE foil, FSM600 protection membrane, DSE40 drainage layer, filter fleece and over 300 tonnes of Bauder intensive substrate. Finally, Rowland Gold turf was then installed with a drip line irrigation system under the turf.

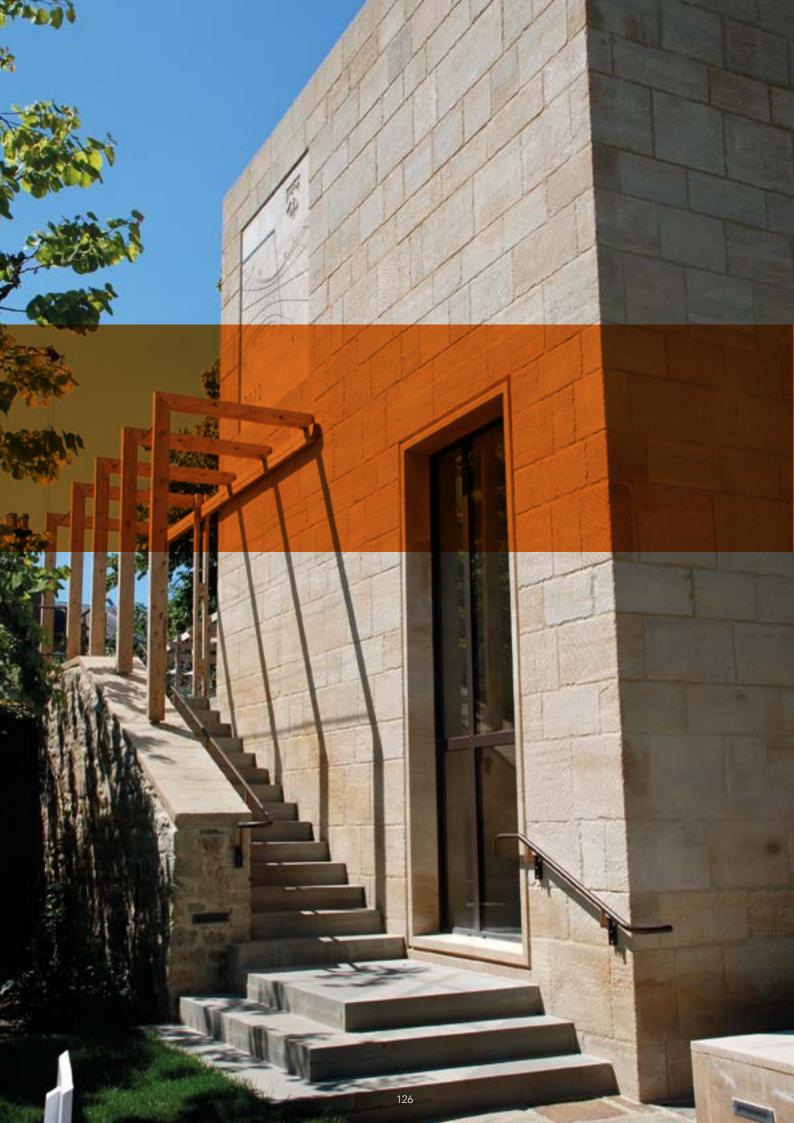


#### **BUILDING BOARD**

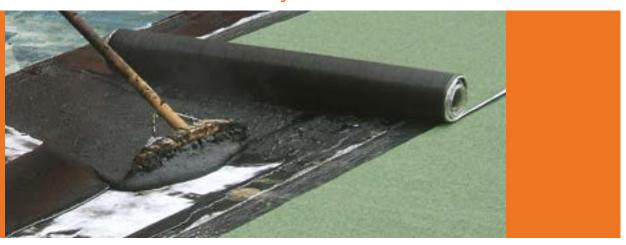
Belvedere Court
Sidmouth, Devon
1,316m²
The Complete Roofing Company Ltd
The Complete Roofing Company Ltd

#### **APPLIED PRODUCTS**

- Bauder Bakor Hot Melt Waterproofing System with AP2 root resistant protection membrane.
- Bauder green roof components:
- FSM600
- DSE40
- Filter Fleece
- Bauder Intensive Substrate.



# TECHNICAL DESIGN Hot Melt System



www.bauder.co.uk/technical-centre

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## PRECONDITIONS AND PREPARATION

#### **Acceptable Deck Substrates**

Not every form of deck substrate construction is suitable to receive our hot melt.

Structural In Situ and Pre Cast Concrete Deck - The concrete deck should be properly cured. The recommended curing time is 28 days. Depending on site conditions and weather, it can be possible to install Bauder Hot Melt monolithic membrane onto a concrete deck after only 14 days curing - provided the membrane has successfully passed a bond strength test.

**Lightweight Structural In Situ and Pre Cast Concrete Deck** - The lightweight concrete should have a wood float finish. The recommended curing time is 28 days. A bond test is carried out to confirm adhesion to the deck.

In Situ Concrete Deck Installed into Vented Profiled Metal Deck - A wood float finish will be required, and may have to cure for up to 60 days before proper adhesion is achieved. A bond check must be carried out to check for the correct adhesion.

**Plywood, OSB or Dens-Deck (gypsum)** - Providing the correct preparation has been carried out i.e. fixings counter-sunk, joints properly taped, and the deck correctly supported to withstand the inverted build up loading weight.

**Cross Laminated Timber (CLT)** - Providing the correct preparation has been carried out i.e. fixings counter-sunk, joints properly taped, and the deck correctly supported to withstand the inverted build up loading weight.

#### **Unacceptable Deck Substrates**

#### Lightweight Insulating Concretes

Concrete made with aggregates such as Perlite, Pumice, Vermiculite will have a very low density and by their very porous make up, will retain a high degree of moisture. This high moisture content can create a problem in achieving a good bond with the deck surface. However, this type of lightweight concrete can be modified with a suitable latex, resin, or polymer treatment to provide an appropriate surface onto which the membrane will adhere satisfactorily.

#### Screeds

Please note that we discourage the specification of screeded surfaces, because although a good adhesion can be obtained once prepared, they will permit water to track and become absorbed beneath the system in the event that the waterproofing is damaged.

#### **Drainage Falls**

Our hot melt waterproofing system is suitable for use at zero falls, as outlined in BS 6229:2018, now specifically defined as a "roof with a fall between nil and 1:80". However, back falls on a roof deck are not acceptable and need correction through either an additional recessed rainwater outlet or localised screed to falls.

A detailed structural analysis performed by a qualified engineer will indicate risk areas and should be followed with a site level-survey by the deck installer to show that no back falls exist before waterproofing commences Surface Applied Curing Compounds

Curing and protection is covered in section 8 of BS EN 13670:2009 (E) and curing compounds are a popular method of controlling the hydration process, due to their ease of application and low material cost.

They come in liquid form and are generally spray applied forming a film on the concrete surface. Below is an indicative list of types of suitable and un-suitable Surface Applied Curing Compounds for use in conjunction with Bauder Hot Melt.

#### Acceptable Compounds

**Sodium Silicate Based Compounds** - These compounds when properly applied do not leave a film or residue on the concrete surface, which would otherwise affect the bond strength of the membrane to the concrete surface.

**Resin Based Compounds** - These form a residue that can take between 45 - 60 days to oxidize and flake off, when exposed to the elements, and must be completely removed prior to the application of the membrane.

#### **Unacceptable Compounds**

Wax Based Curing Compounds - These cease to be an effective curing compound after about 28 days, but take 90 - 100 days to fully dissipate when exposed to the elements. The wax residue will weaken the bond of the monolithic membrane, and is also difficult to remove.

**Acrylic Silicate Based Curing Compounds** - These form a permanent film on the surface of the concrete, and could prevent the monolithic membrane from forming an acceptable bond with the concrete.

The use of any liquid curing compound in conjunction with our Hot Melt Waterproofing must be approved by Bauder Ltd. Please contact our technical department on +44 (0)845 271 8800.

#### Cleaning

Preparing a concrete deck generally consists of thoroughly removing dirt debris and dust by means of sweeping and blow/suction cleaning the deck prior to applying the surface primer. However, the deck can be affected by surface contaminants that are not easily removed by sweeping such as oil or diesel spills, laitance, liquid curing compounds or form release agents. When any of these substances have been spilled, applied or have transferred to a concrete surface; or when laitance occurs, it must be removed prior to the application of our Hot Melt Waterproofing. Below are listed some methods of preparation:

- Chemical cleaning
- Scarification and grinding
- Blast cleaning
- Acid etching

#### **Priming**

The deck surface must be thoroughly primed ideally with Bauder Polymer Primer. This greatly enhances the adhesion between the membrane and the substrate and dries very quickly.

Alternatively, Bauder Quick Dry Bitumen Primer delivers a cost competitive solution.

#### Reinforcement

#### **Bauder Neoprene**

Bauder Neoprene Reinforcement is used where differential movement can be expected between substrates e.g. concrete deck and timber/metal/calcium silicate upstands.

As seen in Junction between Differing Material Upstand example on page 109

#### **Access and Protection Layers**

For all applications the membrane requires an access/ protection layer bedded into it to protect it from trafficking and likely damage from following trades. The protection layer also allows for access for the safe installation of the landscape finish.

The type of protection layer will depend on the proposed build-up and the expected period of time that the system is going to be exposed to following trades.

#### **Bauder AP1**

This is a 1.5mm reinforced modified bitumen membrane for use on horizontal and vertical surfaces to provide access and solar protection.

#### **Bauder AP2**

A 4.2mm reinforced modified mineral surfaced bitumen membrane root barrier for horizontal and vertical surfaces, and solar protection to exposed areas.

#### **Bauder AP3**

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This is a rigid 6mm composite board for horizontal and vertical surfaces. It is used for heavy landscaping, tarmac and areas requiring substantial protection.

#### Testing and Quality Assurance

As part of their own quality control procedures, the installing Bauder approved contractor will mechanically test the membrane as it is installed to ensure that the membrane is at least 6mm thick beneath the protection sheet. Additionally, our site technicians will randomly inspect the work during installation.

To meet the criteria of our system guarantee, we will carry out the final inspection with the approved contractor in attendance to ensure the integrity of the finished roof meets the required standards of installation.

Any issues identified will be logged and reported for immediate rectification. Any remedial work will then be re-tested.

## METHOD OF APPLICATION

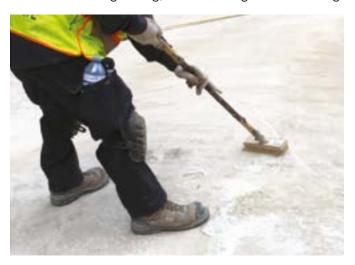
Typically, hot melt monolithic rubberised bitumen systems are installed, by first waterproofing the details of the deck such as upstands and outlets, before applying the membrane to the main field area of the deck.

#### Installation of the Hot Melt

The works are planned to achieve an even monolithic application of the system across the deck.

#### **Deck Preparation**

The dirt, dust and debris are removed prior to applying the deck surface primer. If contaminants are present these must also be removed through chemical cleaning, scarification and grinding, blast cleaning or acid etching.



#### **Peel Bond Test**

A peel bond test is used to establish the cured state of the concrete deck.



#### **Priming the Deck**

Bauder Polymer Primer is applied to a cleaned and prepared deck to give a 50% increase in bond strength.



#### First Layer of Bauder Hot Melt

The hot melt is applied by squeegee to a minimum depth of 3mm.



**Polyester Reinforcement Sheet** 

Polyester Reinforcement is laid in to the still hot first layer of Bakor 790-11 and lightly brushed in.



#### **Second Layer of Hot Melt and Protection Sheet**

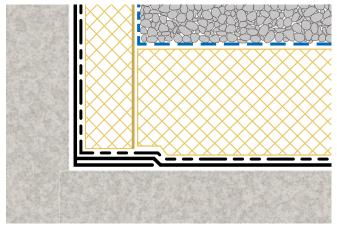
The second layer of membrane is installed on the same day as the first and is also applied to a 3mm depth, creating a combined 6mm depth of hot melt.

As the installation of the second layer progresses, the appropriate access/protection sheet is bedded into the membrane while it is still hot.



AP2 being bedded into the second layer of hot melt.

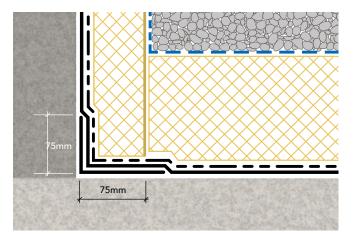
## GENERAL DETAILING



No Movement Expected

### Monolithic Concrete Upstand

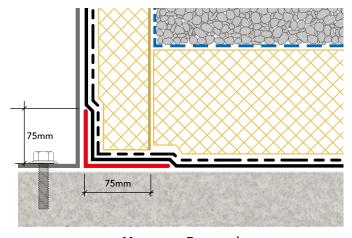
When no movement is expected there is no requirement for additional reinforcement. The statutory Polyester Reinforcement is sufficient. An example of this could be where an in situ concrete upstand and deck are poured at the same time.



Minimal Movement Expected (Brickwork Upstand / Concrete Deck)

#### Junction Between Differing Materials

Where there is the possibility of minimal movement, such as where a concrete deck is in place and similar materials such as brickwork or blockwork are forming the upstands, a second layer of reinforcement is required. This is formed using Polyester Reinforcement, 75mm up the vertical and 75mm onto the horizontal bedded and covered in Bakor 790-11.



**Movement Expected** (Metal-plywood Upstands / Concrete Deck)

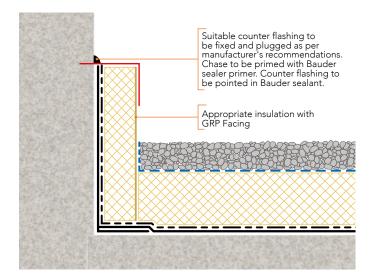
#### Junction Between Differing Materials

Where movement is expected between different materials, such as where a concrete deck is in place and metal, ply, OSB etc are used to form upstands, a flexible second layer of reinforcement is required. This reinforcement is our Neoprene and as previously, it is installed 75mm up the vertical and 75mm onto the horizontal, bedded and covered in 790-11.

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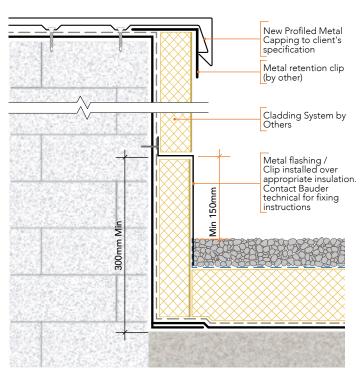
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## GENERAL DETAILING



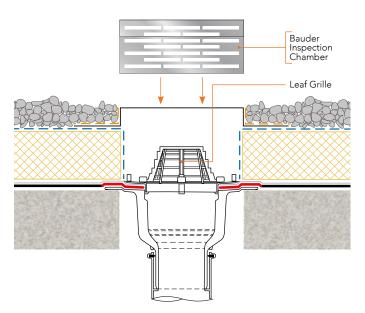
#### Typical Wall

Bauder inverted upstand insulation boards must be wedged in place at deck level by the horizontal inverted insulation and clipped or mechanically fixed at the top edge to hold in place. Intermediate securing may be required depending on upstand height. The protection of a waterproofed upstand requiring insulation would (as shown) be by using inverted insulation with a protective coating. In a non-insulated upstand, protection from solar degradation would be by the incorporation of Bauder AP2 protection sheet.



#### **Typical Parapet**

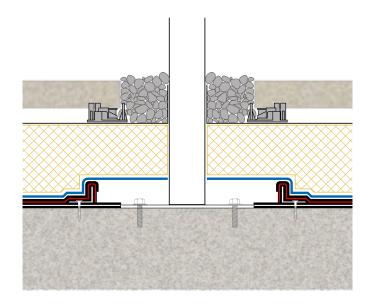
Many types of parapet upstand can be formed using the Bauder Hot Melt Waterproofing system. This example of an insulated upstand has the exposed areas of waterproofing protected from solar degradation by the appropriate vertical insulation board. The flat areas of waterproofing will be protected from solar degradation by the inverted insulation and or ballast can be therefore be installed with an AP1 protection sheet. As can be seen in this example. It is most common practice for the detailing waterproofing to be installed prior to the main roof areas.



#### Rainwater Outlet

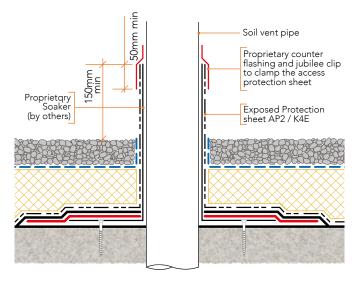
In many applications a proprietary rainwater outlet and/or down pipe will be cast in the concrete at the time of installation. An alternative is for a core to be drilled through the cured concrete structure. Using the Bauder Hot Melt Compact Vertical Outlet, it is relatively easy for the Bauder Hot Melt Waterproofing System to be bonded directly to the outlet.

The outlet must be primed to receive the waterproofing and any bridge between the outlet and concrete structure must be reinforced with the un-cured neoprene flashing.



#### Pitch Pocket Detail

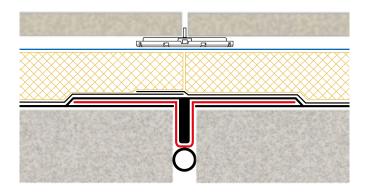
One of the major advantages of the Bauder Hot Melt Waterproofing System is ability to create pitch pocket details around difficult and awkward penetrations on the roof surface. The creation of a pocket using 0.7mm galvanized steel, reinforced at the intersection with the deck structure using un-cured neoprene is a common principal of this type of system. The pocket is filled with the hot melt material which seals effectively around any primed surface. The pocket and hot melt must be covered by the protection sheet of the main system, shown here in blue.



#### Soil Vent Pipe

With a pipe penetration such as a proprietary soaker (by others) is installed with a base flange that can be suitability secured to the deck and primed to receive the Bauder Hot Melt Waterproofing System. The joint between proprietary soaker and concrete deck structure must be reinforced using an un-cured neoprene flashing. The proprietary soaker must be tall enough to ensure a 150mm height above the finished roof.

It is good practice to ensure that the top of the pipe is finished with either a cowl or cap to close off the pipe and protect the waterproofing.



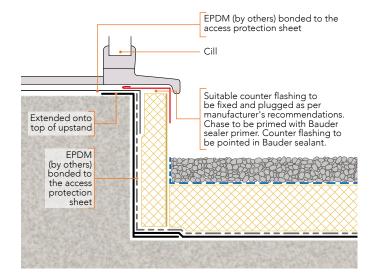
#### **Expansion Joint**

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A simple but effective way of creating an expansion joint within the material is to utilize the un-cured neoprene flashing sheet and a foam rod or tube. This method of detailing allows the creation of the expansion joint without major disruption to the flow of water to the drainage points.

However, the design and required performance of any type of expansion joint should be discussed at the design stage of the project to ensure that the specification of the joint movement can be achieved with this method of detailing. Other expansion joint details are available for use with the Bauder Hot Melt Waterproofing System.

## GENERAL DETAILING

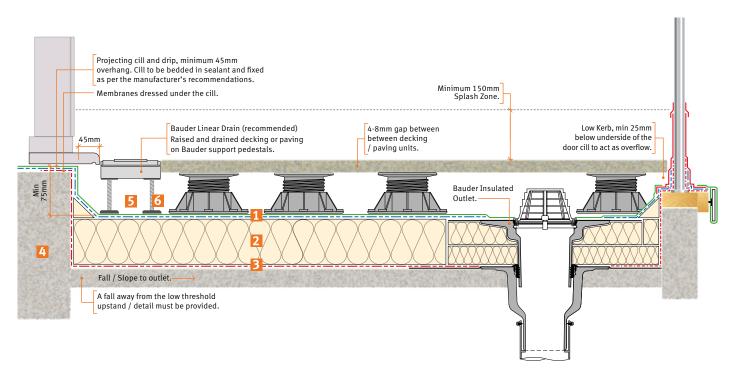


#### Insulated Upstand to Raised Cills

Not all situations require a level threshold. For those situations that do not a minimum upstand of 150mm should be attained.

This example of an insulated upstand to a door / window cill has the exposed areas of waterproofing protected from solar degradation by the vertical GRP faced insulation. The flat areas of waterproofing will be protected from solar degradation by the inverted insulation and ballast. Both vertical and horizontal can be protected with an AP1 Access Sheet.

Upstand detailing is generally installed first.



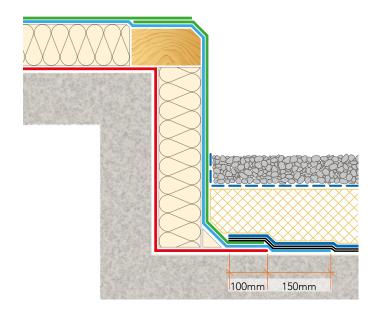
- Waterproofing layers (Bauder bitumen membrane illustrated)
- Insulation with angle fillet to eradicate 90° internal change of direction to vertical.
- Bauder AVCL
- 4.75mm upstand height under an overhanging (minimum 45mm) door sill.
- **5.** Bauder recommend a linear drain be included in the design.
- **6.** Minimum 10mm gap between decking/paving and perimeter upstands/thresholds.

#### **Upstand Detail Linear Drain**

Many threshold details to balconies and terraces may need to comply with Building Regulations Part M. They may also need to be required to comply with NHBC Chapter 7.1.

Bauder Hot Melt is installed to all horizontal and vertical surfaces and reinforced using either polyester or un-cured neoprene reinforcement depending on the substrate.

Bauder Hot Melt Waterproofing should be installed prior to the door / window frames being installed. An EPDM flashing attached to the door / window frame should be bonded to the waterproofing.

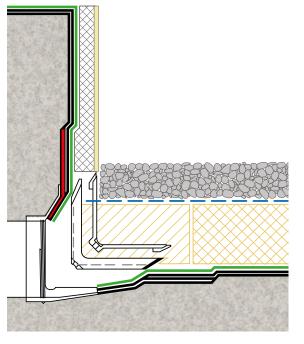


#### Lift Well Upstand (Lift Over-Run)

In insulated lift over-run details this detail can easily be dealt with by marrying our Bauder Hot Melt and Bauder Warm Roof Waterproofing Systems.

The Bauder warm roof will be installed to the liftrun initially comprising air and vapour control layer / insulation / underlay and cap sheet. The Bauder Hot Melt Waterproofing System will then be bonded to the warm roof (see diagram).

Inverted insulation and landscape finish will be installed to complete the detail.



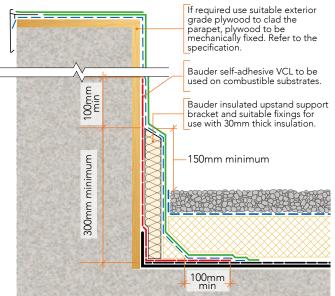
#### Two Way Outlet

A proprietary two way outlet (by others) will generally be cast into the concrete deck at time of installation.

The clamped grill is removed to enable the Bauder Hot Melt Waterproofing to be installed.

The two way outlet must be primed to receive the Bauder Hot Melt Waterproofing and the bridge between the outlet and concrete structure must be reinforced with un-cured neoprene.

The clamping is then replaced.



#### PIR Insulated Upstand to Parapet

On a partially insulated upstand to parapet, this can be dealt with by marrying our Bauder Hot Melt and Bauder Warm Roof Waterproofing Systems.

The Bauder warm roof will be installed to the minimum of 300mm from the deck surface comprising air and vapour control layer / insulation / underlay and cap sheet. The Upstand above this will be completed using a suitable Bauder underlay and cap sheet that does not require to be insulated. Inverted insulation and landscape finish will be installed onto Bauder Hot Melt Waterproofing System to complete the detail.

