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August 2009

Alumasc

# Structural Waterproofing Systems

Hydrotech





# Maintaining a Flow of Information

[www.alumascwaterproofing.co.uk](http://www.alumascwaterproofing.co.uk)

The Alumasc waterproofing website provides a wealth of information on all aspects of Flat Roofing, Waterproofing and Green Roof systems and compatible products. Also included are FAQs, file downloads for NBS specification clauses, COSHH information, a CAD library, and much more.



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## Alumasc waterproofing systems

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**Waterproofing & Green Roof Systems**

Alumasc is a specialist provider of world class waterproofing and green roof systems. Included in the range are Derigum flat roofing membranes, Hydrotech structural waterproofing systems and ZinCo Extensive, Biodiverse, Semi-intensive and Intensive green roofs. With BSA certified systems, technical expertise and full warranty packages, Alumasc ensures engineered waterproofing solutions available for projects of any scale.

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## Technical Support

Alumasc Waterproofing Systems are backed up by comprehensive technical literature and by hands-on project support starting with technical and design advice, and extending through site installation to recommendation of appropriate maintenance regimes. Implementation is led by the Alumasc Waterproofing Manager appointed to the project.



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# Alumasc - An Introduction

Alumasc Exterior Building Products is part of the Alumasc Group plc. The Group has over 900 employees, generating turnover of around £126 million. The aim is to focus on high quality, environmentally responsible building products within the construction arena in order to deliver first class customer service, long-term solutions and lasting relationships.

## About Alumasc

Alumasc Exterior Building Products (Alumasc) is a leading supplier of premium products and systems for specification, generating an annual turnover in excess of £30 million. The Company has been a major force in the UK construction industry for over 30 years, during which time Alumasc products and systems have been used on some of Europe's most prestigious buildings.

Alumasc ensures a high quality of product specification and installation, delivering risk-free, zero-defect solutions. The Company's commitment to making ongoing improvements is demonstrated through its accreditation to the ISO 14001: 2004 Environmental Management Standard.

By pursuing sustainable building products, systems and manufacturing processes, Alumasc aims to offer specifiers a wide choice of design alternatives, with long-term peace of mind. Recognised brands such as Harmer, Apex, Derbigum, ZinCo, Hydrotech, Armaseam and M.R., together with Alumasc's well-known architectural rainwater range have, in the main, been independently certified, and in some cases have a lifespan of up to 60 years or for the life of the building. Alumasc brands are divided into distinct but interrelated groups:

- Rainwater
- Drainage
- Waterproofing
- Metal Roofing
- Façades

## Services and Support

Alumasc leads the way in the field of construction product and system manufacture and the delivery of proven solutions. This success is founded on four key areas:

### Premium Products

A constantly evolving range of quality proven, world class products and systems, fully accredited to UK and European Standards.

### Technical Support

Comprehensive data for specification and use of all products and systems is available in published form, and on the company website. This is backed up by pro-active support on a project basis, led by specialist area managers and using the latest CAD and calculation technology.

### Approved Contractors

A rigorously trained and monitored Installation network for each specialist system to ensure correct specification and application on site.

### Warranties

A comprehensive choice of Alumasc warranties, available across all applicable brands giving protection for up to 25 years, ensuring long-term peace of mind.





# Quality and Sustainability

In addition to complying with environmental legislation, Alumasc is committed to developing its own measures to limit the adverse effects of its activities on the environment. To this end, Alumasc operates an environmental policy that fully integrates all aspects of company activities.



## Quality

Alumasc operates a quality assurance management system which is independently audited to BS EN ISO 9001: 2000. Alumasc extends this quality management to its network of approved installers, for single source accountability and peace of mind.

Individual products and systems are certified by the British Board of Agrément.



## ISO 9001: 2000

The ISO 9001 framework governs the management of many aspects of Alumasc support services, manufacturing and transport operations.

Alumasc is committed to continual development and, along with the ISO 14001: 2004 Environmental Management Standard, ISO 9001 provides the tools to monitor and feed back information from all areas of the business to ensure a first class service is maintained.

## Sustainability

Alumasc actively pursues sustainability in the full range of products and systems the company offers through its accreditation to the ISO 14001: 2004 Environmental Management Standard. Alumasc, its partners and its suppliers are committed to putting consideration for the built and wider environment at the core of all aspects of their current business and future development.

### ISO 14001: 2004

Alumasc's manufacturing sites at St Helens and Burton Latimer are audited against the ISO 14001: 2004 Environmental Management Standard.

Alumasc is committed to achieving improvements, not only as a good neighbour to the surroundings of their manufacturing plants, but in the responsible sourcing of raw materials and monitoring of the impact on the environment as a whole.



### Development

Alumasc has within its portfolio a bedrock of environmentally sound products.

Development of existing sound products and practices is central to the success of Alumasc and key to the way in which it provides its proven solutions. Equally, the basis for any new and innovative development is grounded in the knowledge and experience Alumasc has of its core manufacturing materials.

### Hydrotech MM6125EV

The evolution of Hydrotech systems includes the EV initiative which utilises recycled and recyclable materials, and the increased inclusion of post consumer recycled raw materials from sustainable sources. These developments build on the long established Hydrotech programmes for reduction of solvent content and production waste and energy in manufacture, application and service.



### BRE Green Guide to Specification

Ratings for building materials given in the BRE Green Guide to Specification allows designers to choose those products or construction methods with the least environmental impact.

Hydrotech MM6125, in common with all waterproofing laid on insitu reinforced concrete currently carries a generic 'C' to 'E' summary rating in the Green Guide to Specification. Insulations used as part of the Hydrotech system, carry an 'A' summary rating and both have Zero Ozone Depletion Potential (ODP) and a Global Warming Potential (GWP) of less than 5. Hydrotech MM6125 also attains certified status for its high level of recycled content under the North American Leadership in Energy and Environmental Design (LEED) rating system.



# Hydrotech Structural Waterproofing Systems

Hydrotech is the leading structural waterproofing system, successfully used for over 45 years by architects and specifiers on some of the world's most prestigious buildings and structures.

A unique formulation of modified bitumens, synthetic rubbers and antioxidants, combined with reinforcement ensures Hydrotech is a tough yet flexible, self-healing monolithic membrane with guaranteed 100% bond to a properly prepared concrete substrate.

## Hydrotech System Summary

Hydrotech is a 6mm thick, hot melt liquid applied solution with integral reinforcement and a fully bonded protection sheet.

The system consists of two coats of Hydrotech Monolithic Membrane 6125 (hot melt rubberised bitumen) incorporating Flex Flash F polyester reinforcement fabric between both layers, and Hydrogard protection sheet.

Flex Flash UN, an uncured neoprene rubber sheet, is used to provide added reinforcement and movement capability at cracks, construction joints, control joints at changes of plane, expansion joints, drains, and in exposed conditions such as flashing parapets, walls and curbs.

## Application

Hydrotech's high performance bituminous rubber blend allows fast and simple installation over complex roof details and around penetrations. Specifications for a wide range of project types are available, for use in the following typical areas of application:

- Protected roofs
- Plaza decks or podiums
- Substructures
- Green roofs
- Water features
- Access Roadways

Hydrotech is the first choice for zero falls waterproofing on inverted green roofs and hard landscaped podium structures in new build applications.

## Approvals

Hydrotech's durability and performance is fully warranted and is approved as follows:

- BBA Certificate 90/2431
- BBA Certificate 90/2432
- European Technical Approval 05/0152



Tate Modern





# Hydrotech Structural Waterproofing Systems

## 1 Alumasc Bitumen Primer

A specially formulated, spray applied, bituminous primer that increases the adhesion of Hydrotech Monolithic Membrane 6125 to concrete surfaces.

## 2 Hydrotech Monolithic Membrane 6125

A nominal 3mm thick first coat.

## 3 Flex Flash F

A spun-bond polyester fabric, used as a reinforcement embedded into the Hydrotech membrane, for laying over general areas and normal conditions.

## 4 Flex Flash UN

An uncured neoprene rubber sheet, is used to provide added reinforcement and movement capability at cracks, construction joints, control joints at changes of plane, expansion joints, drains, and in exposed conditions such as flashing parapets, walls and curbs as directed by Alumasc.

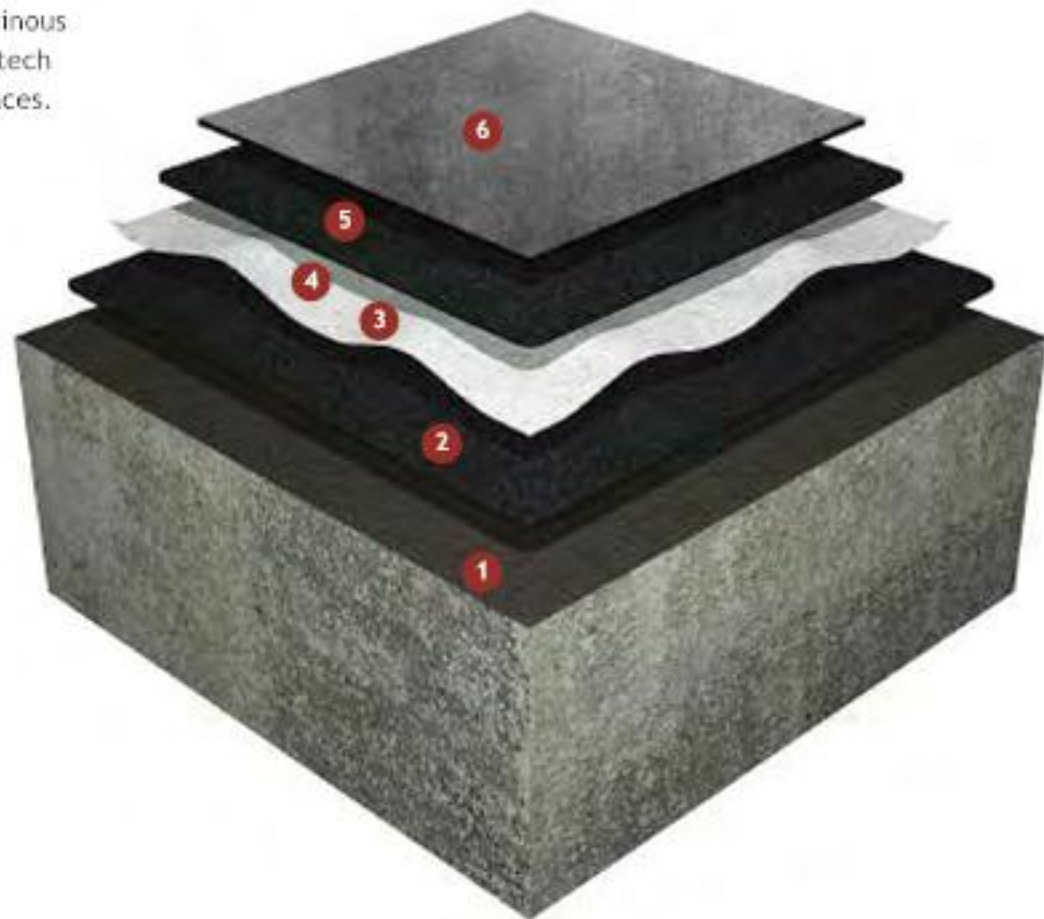
## 5 Hydrotech Monolithic Membrane 6125

A nominal 3mm thick second coat, fully encapsulating the Flex Flash reinforcement.

## 6 Hydrogard

A range of protection layers in different grades for use in protecting the Hydrotech membrane following installation.

Hydrogard 40-AR Root Barrier is available to protect Hydrotech in green roofing applications.



1 Spraying Alumasc Bitumen Primer



3 Laying Flex Flash F



5 Spreading Hydrotech Monolithic Membrane 6125 (Second coat)



2 Spreading Hydrotech Monolithic Membrane 6125 (First coat)



4 Flex Flash UN



6 Laying Hydrogard Protection Sheet



## Key Benefits

Hydrotech is BBA accredited, fully warranted and is designed to last for the life of the building. The system fully bonds to the structure avoiding any chance of water tracking, with no possibility of lap failure.

### Lifetime Performance

Hydrotech, the original hot-melt, rubberised bitumen membrane, is designed to last for the lifetime of the building or structure to which it is applied, which means long-term waterproofing integrity and no future replacement costs.

### Low Lifecycle Cost

The Hydrotech System's proven longevity, durability, unique formulation and method of application make it the most cost effective, long-term waterproofing solution.

### British Board of Agrément Approved

Hydrotech is approved by the British Board of Agrément, who state "...when fully protected and subjected to normal service conditions, Hydrotech will provide an effective barrier to the transmission of liquid water and water vapour for the design life of the structure/roof in which it is incorporated".

### European Technical Approval

Hydrotech is the only 6mm hot melt rubberised bitumen waterproofing system to hold European Technical Approval, which confirms compliance with the EC Construction Products Directive.

### Fully Bonded Monolithic Application

Applied in a liquid state to the deck (with a polyester reinforcement), the bond of Hydrotech Monolithic Membrane 6125 is 100% absolute. There is no risk whatsoever of water tracking below the membrane and, because it is monolithic, no possibility of lap failure.

### No Fall Required

Cost savings will be made by the omission of screeds to falls and on the reduction of weight and curing time involved. The Hydrotech system is unaffected by standing water, dilute acids and fertilizers, and does not leach.

### Recycled Content

Hydrotech is a hot applied, rubberised bitumen. Specially formulated from refined bitumen, synthetic rubber and inert clay filler, Hydrotech contains up to 25% post-consumer recycled content.

### Acid/Alkali Resistance

Hydrotech is highly resistant to fertilisers, building washes and acid rain due to its inert clay content, unlike most other rubberised bitumen products which use various forms of inferior calcium carbonate filler.





## Key Benefits

Hydrotech's unique formulation of modified bitumen, synthetic rubbers and antioxidants, combined with reinforcement, guarantees lifetime performance whether it is used for protected roofs, plaza decks, green roofs, water features or access roadways.

### 100% Solids

Hydrotech Monolithic Membrane 6125 contains no solvents. There is no two part system to mix and therefore no on-site curing requirements and associated limitations of use.

### Self Healing

Hydrotech Monolithic Membrane 6125 will self heal minor damage whilst clean, dry and warm with limited pressure.

### Waterproofing Details Can Be Completed First

Because Hydrotech is a monolithic liquid applied system, plinths and upstands can be completed first so that other specialist subcontractors can proceed quickly, shortening construction times. With the main deck area remaining free of waterproofing, there is no need to provide expensive protection. Once clear of site traffic, the deck areas are waterproofed and the Hydrotech Monolithic Membrane 6125 is blended into the plinth and upstand details, forming a monolithic layer.

The use of Flex Flash UN sheet reinforcement encapsulated between two coats of Hydrotech Monolithic Membrane 6125 provides triple protection for flashings at upstands, plinths and minor movement joints.

### Low Temperature Flexibility

Hydrotech Monolithic Membrane 6125 exhibits excellent low-temperature flexibility and adhesion characteristics. It can be readily applied in temperatures down to  $-18^{\circ}\text{C}$  on a clean, dry, frost-free surface, and enables work to proceed during winter months, minimising lost construction time.

It is not affected by rain, snow or frost immediately after its application.

### Substrates

A good bond will be obtained between Hydrotech Monolithic Membrane 6125 and a range of substrates including precast concrete, concrete block units, WBP plywood, and detail work consisting of metal, plywood or timber boarding.

Note that Hydrotech Monolithic Membrane 6125 is not suitable for use over lightweight structural concrete without prior written approval from Alumasc. In addition, lightweight, insulating concrete is not a suitable substrate.

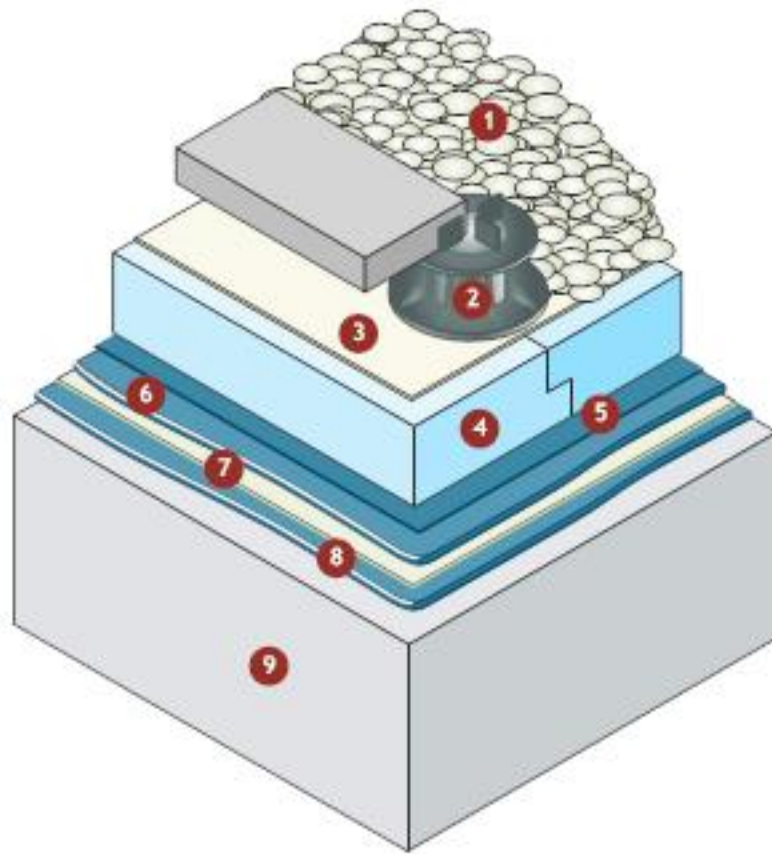
### Phased Construction

Previously applied material softens when reheated to form a completely monolithic bond when lapped with new material, making the Hydrotech System perfect for phased construction.





# Typical Areas of Application



## Protected Roofs (inverted - ballast/paving shown)

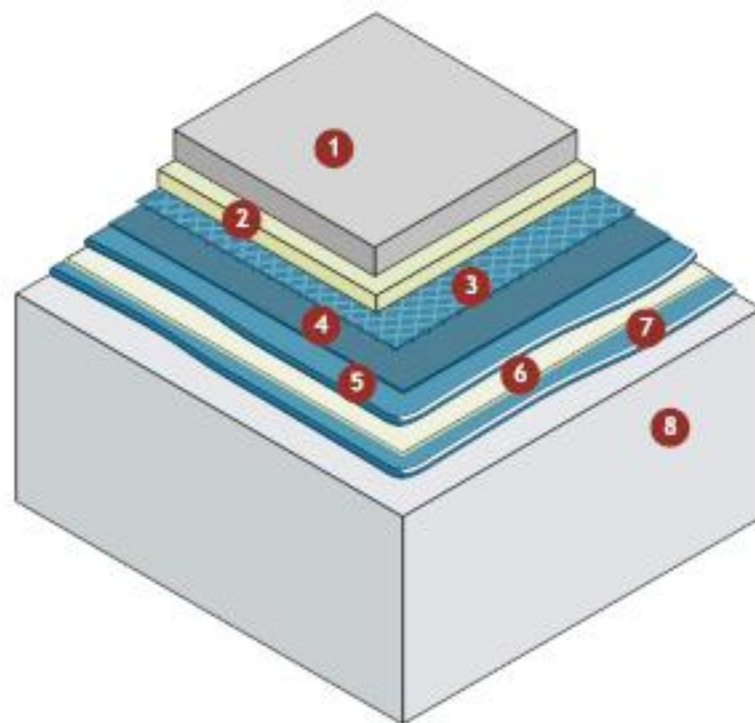
(Inverted roofs, plant rooms, cradle runways, helipads, high impact areas)

- Ballast or paving slabs **1**
- Harmer Modulock paving supports **2**
- MK separator sheet **3**
- Alumasc Roofmate TF extruded polystyrene insulation **4**
- Hydrogard 10 **5**
- Hydrotech Monolithic Membrane 6125 **6**
- Flex Flash F **7**
- Hydrotech Monolithic Membrane 6125 **8**
- Concrete deck, surface conditioned **9**

## Plaza Decks or Podiums

(Pedestrian areas, balconies, walkways, entrance halls, stairways)

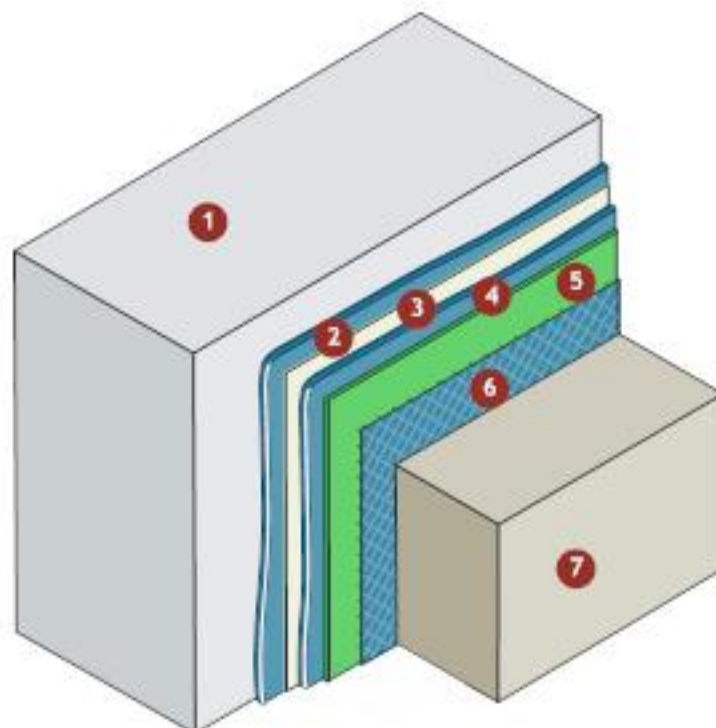
- 1** Paving slabs
- 2** Sand/cement bedding
- 3** Hydrodrain 300
- 4** Hydrogard 20
- 5** Hydrotech Monolithic Membrane 6125
- 6** Flex Flash F
- 7** Hydrotech Monolithic Membrane 6125
- 8** Concrete deck, surface conditioned



## Substructures (tanking shown)

(Tanking, dpms, bund walls, drainage pits, pile caps)

- Concrete wall, surface conditioned **1**
- Hydrotech Monolithic Membrane 6125 **2**
- Flex Flash F **3**
- Hydrotech Monolithic Membrane 6125 **4**
- Hydrogard 40-AR Root Barrier **5**
- Hydrodrain 300 incorporating filter layer **6**
- Earth/backfill **7**



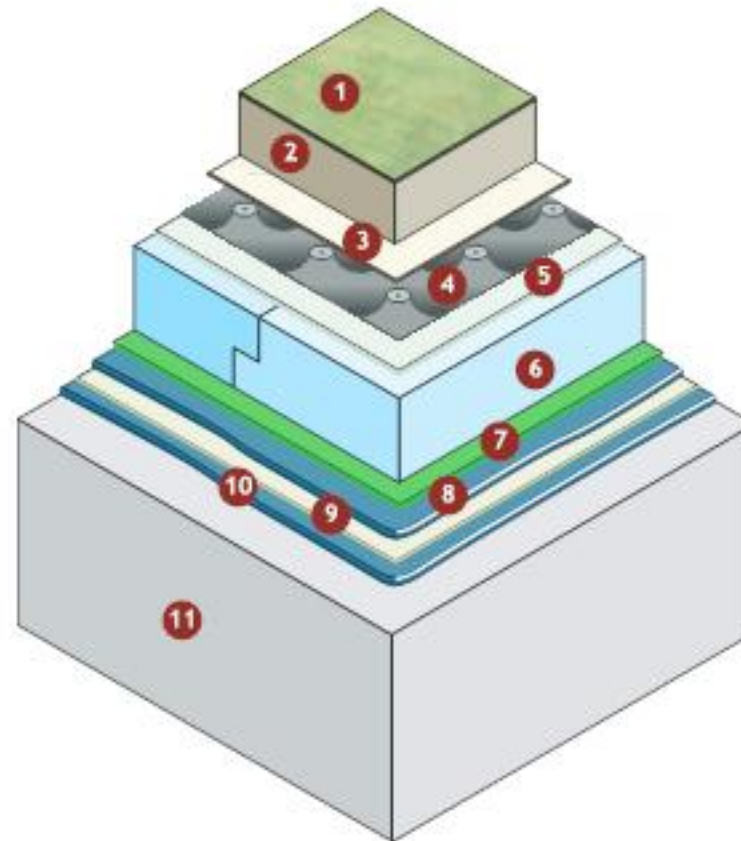


# Typical Areas of Application

## Green Roofs (inverted, intensive shown)

(Lawns, recreation areas, planters, roof gardens, internal garden areas)

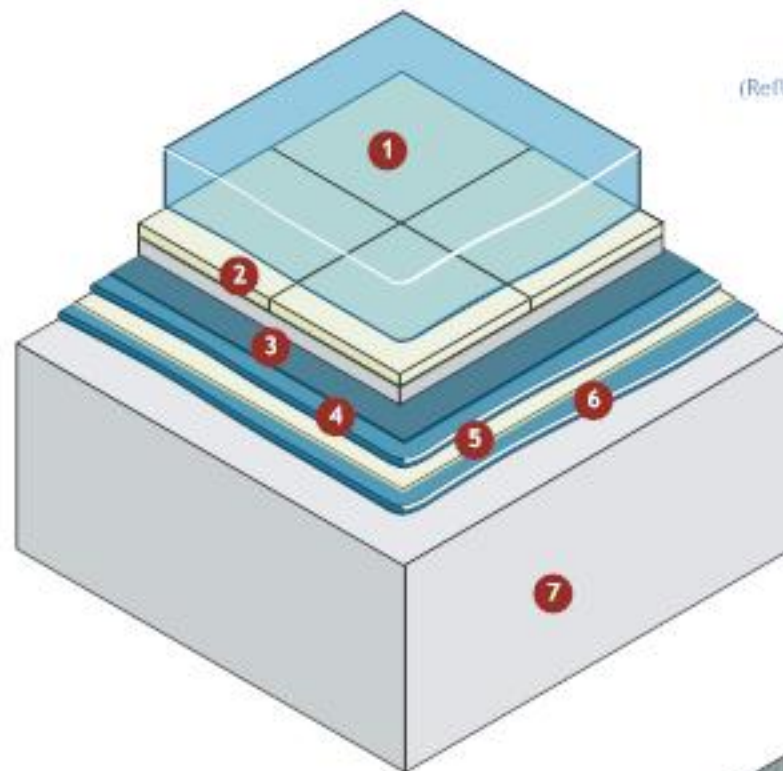
- 1 Turf
- 2 Zincolit Intensive Soil
- 3 Filter sheet SF
- 4 ZinCo Floradrain®
- 5 MK separator sheet
- 6 Alumasc Roofmate TF extruded polystyrene insulation
- 7 Hydrogard 40-AR Root Barrier
- 8 Hydrotech Monolithic Membrane 6125
- 9 Flex Flash F
- 10 Hydrotech Monolithic Membrane 6125
- 11 Concrete deck, surface conditioned



Please refer to Alumasc ZinCo Green Roofing Systems literature for more comprehensive information

## Water Features

(Reflecting pools, cascades, swimming pools, cooling towers, fountains)

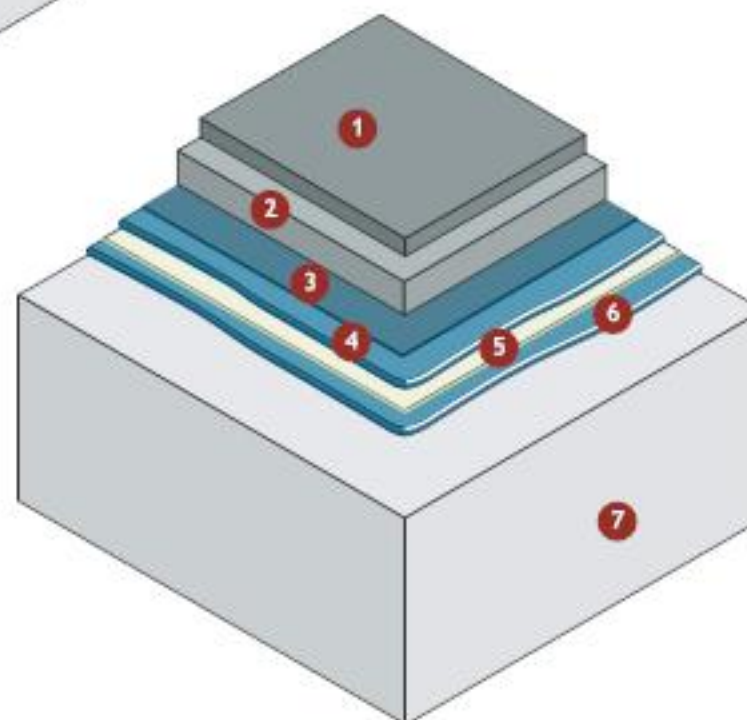


- Water 1
- Tiles in waterproof screed 2
- Hydrogard 20 3
- Hydrotech Monolithic Membrane 6125 4
- Flex Flash F 5
- Hydrotech Monolithic Membrane 6125 6
- Concrete deck, surface conditioned 7

## Access Roadways

(Access ramps, car parks, loading bays, vehicular access, bridges)

- 1 Macadam
- 2 Sub-base
- 3 Hydrogard 30
- 4 Hydrotech Monolithic Membrane 6125
- 5 Flex Flash F
- 6 Hydrotech Monolithic Membrane 6125
- 7 Concrete deck, surface conditioned





# Hydrotech Project Gallery

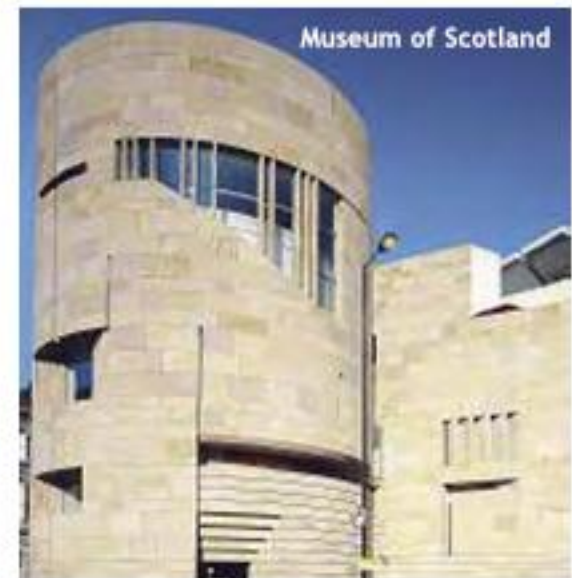
Alumasc's fully warranted Hydrotech system offers fully bonded, seamless structural waterproofing solutions.

Hydrotech has a proven 45 year track record of meeting requirements for waterproofing performance, life expectancy and budget.





# Hydrotech Project Gallery





# Hydrotech Track Record

Project	Date	Size (m <sup>2</sup> )	Architect	Main Contractor
201 Bishopsgate & Broadgate Tower, London	2008	8,000	Skidmore Owings & Merrill	Bovis Lend Lease
Manchester Hospitals Pfi	2008	25,000	Dyer Associates	Bovis Lend Lease
Downe Hospital, Downpatrick	2008	13,000	Scott Wilson	McLaughlin & Harvey
The Petchey Academy, East London	2008	4,000	Aedas	Norwest Holst
Ontario Tower, New Providence Wharf, London	2007	3,000	Skidmore Owings & Merrill	Ballymore
Victoria Square, Belfast	2007	25,000	BDP Belfast	Farrans & Gilbert Ash
The Heart, Walton-on-Thames	2006	14,000	E P R Architects Ltd	O & H Properties
Freeman Hospital, Newcastle	2006	7,500	Anshen Dyer	Laing O'Rourke
Urban Village Phase 4, London	2005	15,000	RMA Architects	Miller Homes
Woolwich Arsenal - Building 22	2005	5,000	Broadway Malyan	Berkeley Homes Limited
199 Knightsbridge, London	2004	4,500	Squire & Partners	Multiplex
MBNA Building, Phase 7, Chester	2004	5,000	Dyer Associates	MACE
Pfizer Building 530, Kent	2003	3,000	HDR CUH2A	Fluor Daniel
Royal Artillery Quays & Gunnery Fields, London	2003	10,000	RMA Architects	Barratt Homes
Jubilee Gardens/RT3, Canary Wharf, London	2002	22,000	BDP	Canary Wharf Contracts
HQ5 Canary Wharf, London	2002	10,000	Adamsons	Canary Wharf Contracts
Nortel Networks, Harlow	2001	3,500	HOK International	Wilmott Dixon
HSBC HQ, Canary Wharf, London	2000	4,000	Foster & Partners	Canary Wharf Contracts
Mailbox, Birmingham	2000	14,000	Weedon Partnership	Carillion
Prince Regent Gate, London	2000	15,000	CHBC Architects	Barratt Homes
GlaxoSmithKline HQ, London	2000	10,000	RHWL, London	MACE
Tate Modern, London	1999	9,000	Herzog de Meuron	Schal International
C A Computers HQ, Slough	1998	9,000	Blair Eastwick	John Mowlem Construction
British Airways Combined Operations Centre	1996	35,000	RHWL, London	MACE
DTI, London	1995	3,500	GEGW, London	MACE
Terminal 1, Heathrow Airport	1994	20,000	Richard Rogers Partnership	Bovis Construction Management
Barclays Bank HQ, London	1993	3,500	G M W Partnership	Costain
Integra Hotel Arts, Barcelona	1992	30,000	Skidmore, Owings & Merrill	Bovis Construction Management
Lombard Street, London	1991	2,500	G M W Partnership	Costain
Centre West, London	1990	3,250	E P R Architects Ltd	Wimpey
Canary Wharf, London	1989	24,000	Adamson Associates	Bovis Construction Management
Broadgate Development, London	1988	30,000	Skidmore, Owings & Merrill	Bovis Schal
Barbican Fitness Centre, London	1987	1,200	Whinney Mackay-Lewis	Wates





# Installation Procedure

## Substrate Requirements

### Lightweight Structural Concrete

When installing a lightweight structural concrete slab, upon which it is intended to install Hydrotech, it is most important to ensure that the contractor provides a suitable, wood float finish free of laitance and free of all but minor surface defects.

### Screeds

When installing a screed system to provide falls to a flat structural slab, upon which it is intended to install Hydrotech, it is critical for the contractor to ensure that the screed mix is of the correct density and not overly wetted during the course of installation.

When preparing a layout for a screed scheme it is imperative that the falls are fully mitred to all outlets and that there are no steps in the screed surface. All outlets must be set flush with the top surface of the screed.

Hydrotech waterproofing must not be dressed down a vertical screed surface and onto the horizontal concrete slab.

## General Preparation

### Substrate Surfaces

To ensure the successful performance of the Hydrotech system, it is very important to prepare the substrate correctly.

1. Surfaces are cleaned of all contaminants such as un-approved curing compounds, form release agents, oils, dirt, etc.
2. Alumasc Bitumen Primer is spray applied to the cleaned surface and left to thoroughly dry.

### Hydrotech Membrane

Before Hydrotech Monolithic Membrane 6125 can be applied, whether for forming detailed work or applying to the main horizontal roof areas, the material must first be melted. It is then further heated to the required temperature and mixed to develop its full physical properties. The rubber content of the membrane makes it necessary to use indirect heat as obtained with an oil or air type double-jacketed melter.

## The Correct Sequence of Work Stages

Of equal importance are the correct sequence of work stages during the installation of Hydrotech Monolithic Membrane 6125 and other components of the Hydrotech system to ensure a watertight finish.

### ■ Detail Work (Stage 1)

Uprand details are completed first, before the waterproof membrane is applied to the main horizontal roof area. The steps taken to form upstands are shown on page 17 and 18.

Flex Flash UN is used as reinforcement where minor movement in detailed work is anticipated.

### ■ Main Horizontal Areas (Stage 2)

The waterproof membrane complete with integral reinforcement, is then applied to horizontal main roof areas, merging with the previously completed detailed work to form a monolithic watertight barrier. The steps to be taken are shown on page 19 and 20.





# Installation Procedure

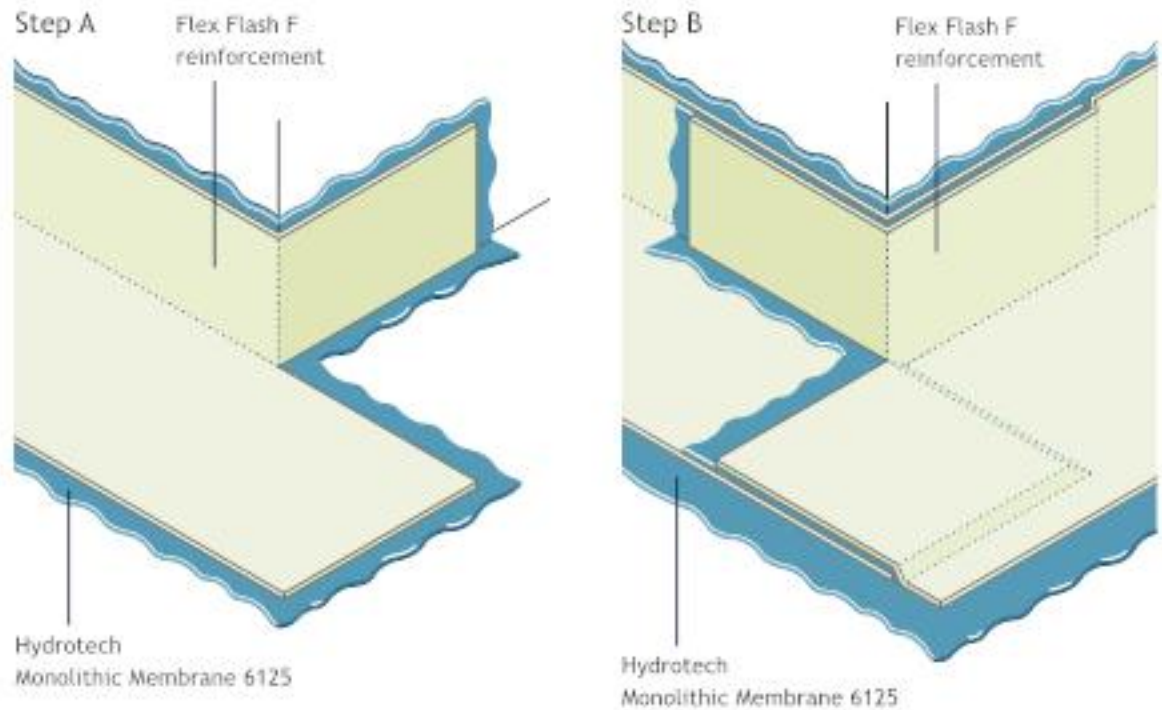
## Flex Flash F Detail Reinforcement

Detailed reinforcement work consists of a sandwich of:

- Hydrotech 6125
- Flex Flash F reinforcement
- Hydrotech 6125
- Hydrogard protection sheet

The steps taken to form reinforced external and internal corners for upstands in Flex Flash F, are illustrated on this page.

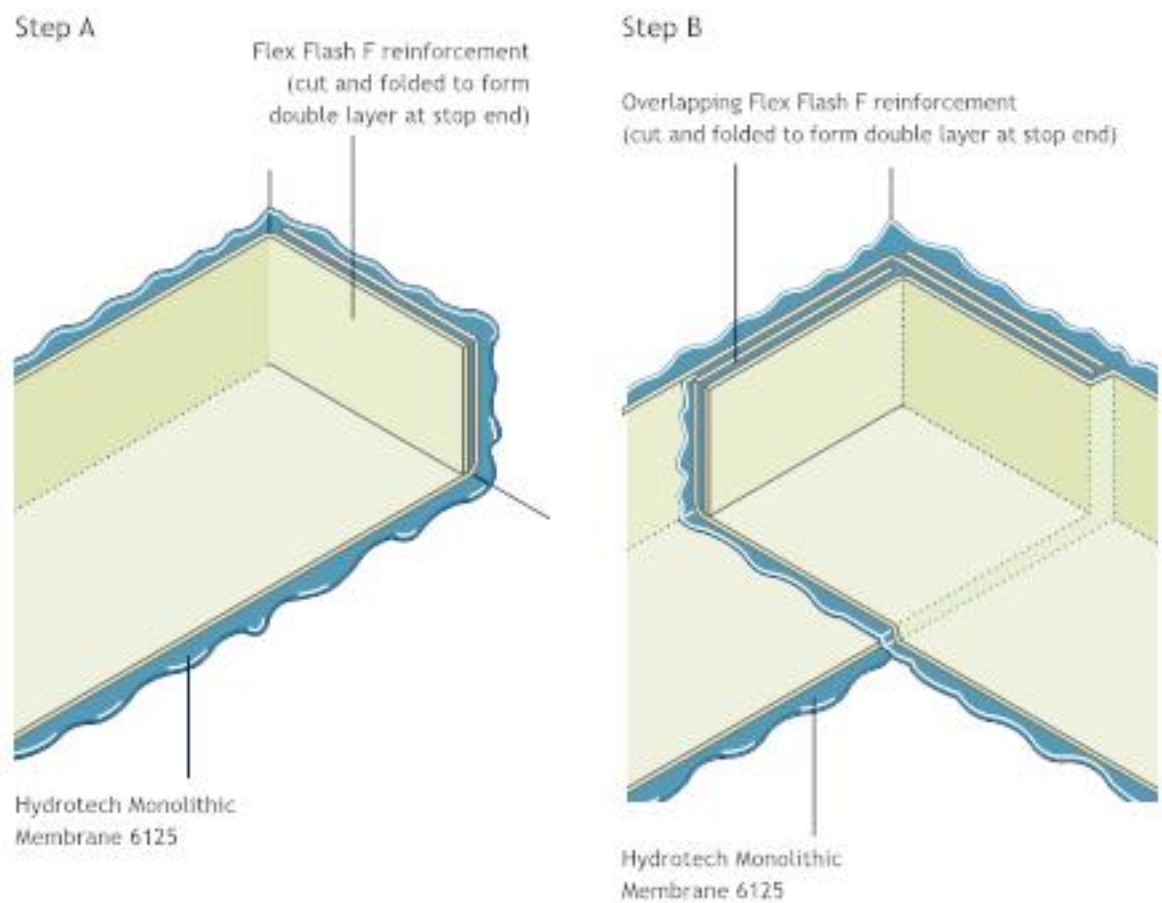
### Reinforcement at External Corner of Upstand



#### Step C

Completely encapsulate exposed reinforcement by applying a top coat of Hydrotech Monolithic Membrane 6125, and finally cover with Hydrogard protection sheet.

### Reinforcement at Internal Corner of Upstand



#### Step C

Completely encapsulate exposed reinforcement by applying a top coat of Hydrotech Monolithic Membrane 6125, and finally cover with Hydrogard protection sheet.



# Installation Procedure

## Flex Flash UN Detail Reinforcement

Where minor movement is anticipated, Flex Flash UN, an uncured neoprene with a peel-off protective outer film, must be employed.

Detailed reinforcement work consists of a sandwich of:

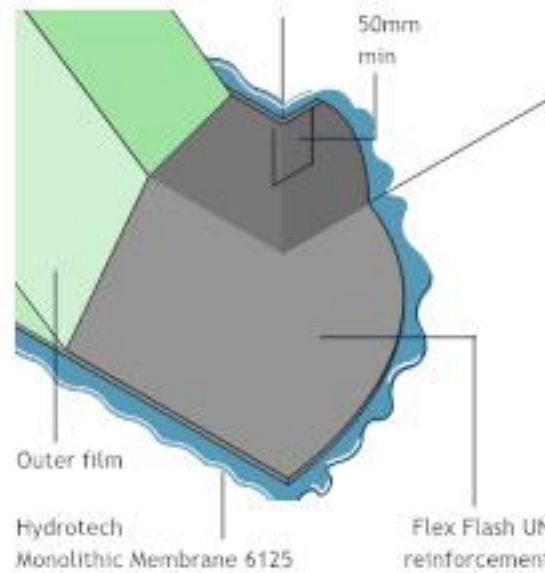
- Hydrotech 6125
- Flex Flash UN reinforcement
- Hydrotech 6125
- Hydrogard protection sheet.

The steps taken to form reinforced external and internal corners for upstands in Flex Flash UN, are illustrated on this page.

## Reinforcement at External Corner of Upstand

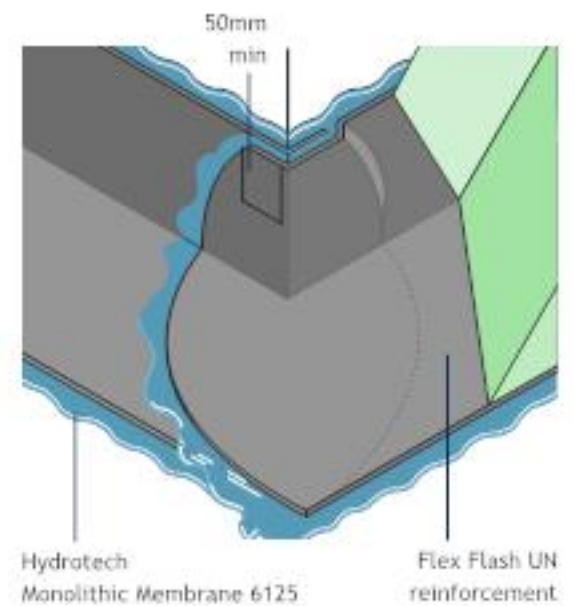
### Step A

Remove outer film at end only. Whilst the membrane is still warm the Flex Flash UN is stretched around the corner and moulded tightly into the angles, leaving no airspaces. The Flex Flash UN will permanently cure into this shape upon cooling.



### Step B

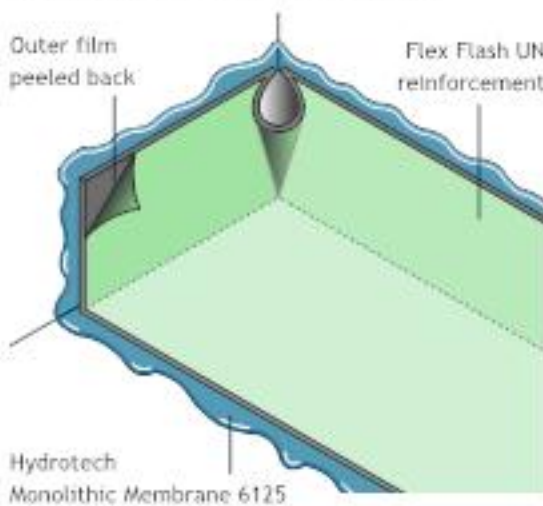
Remove outer film from preceding piece and from end of new piece. The overlapping Flex Flash UN is applied as per step A, with a minimum overlap of 50mm. Remove outer film when cool.



## Reinforcement at Internal Corner of Upstand

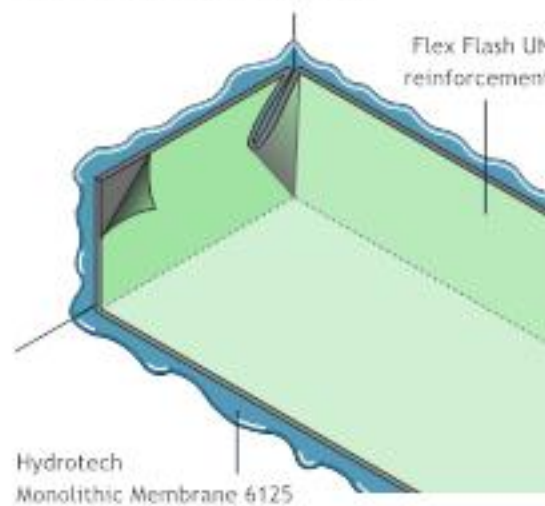
### Step A

Whilst the membrane is still warm, the Flex Flash UN is manoeuvred into the corner with the excess material pinched into the vertical corner.



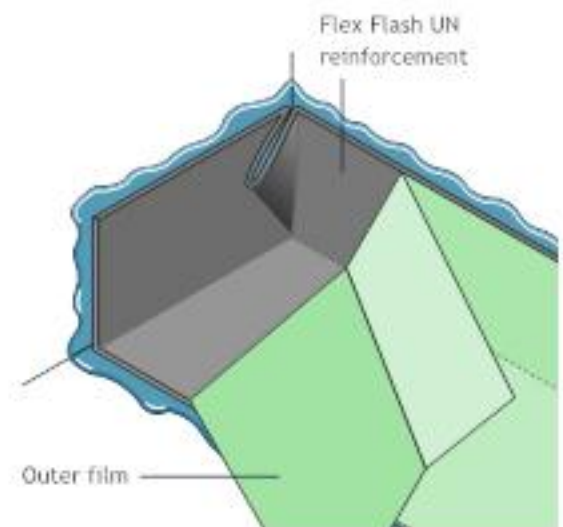
### Step B

A small amount of membrane is applied inside the excess loop, the sides of which will then stick together when pressure is applied.



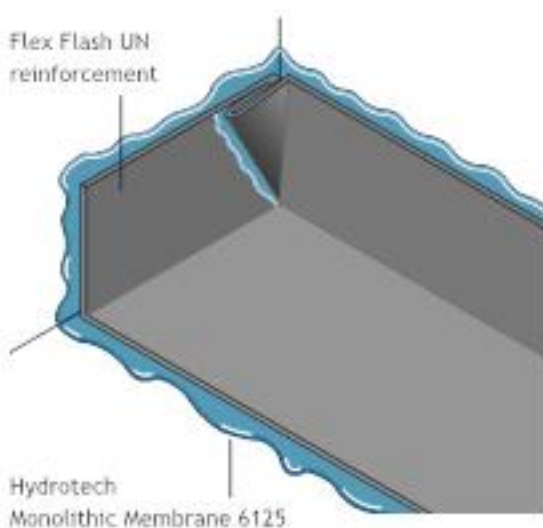
### Step C

Wait for membrane to cool and remove outer film.



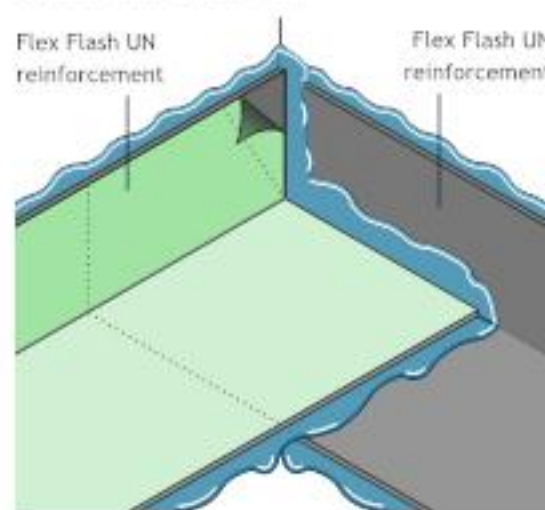
### Step D

The excess material flap is then adhered to one side with a small amount of membrane.



### Step E

The next piece of membrane is dressed into the corner, but not around it. Wait for membrane to cool and remove outer film.



## Notes

- Always pull back 25mm or so from a corner of the peel off separator film prior to installation, for ease of removal after cooling.
- As the final step in the formation of the external and internal upstands, completely encapsulate exposed reinforcement by applying a top coat of Hydrotech Monolithic Membrane 6125, and finally cover with Hydrogard protection sheet.



# Installation Procedure

## Hydrotech Monolithic Membrane 6125 to Main Horizontal Areas

After the details have been completed, Hydrotech Monolithic Membrane 6125 is then applied to the main roof areas using a squeegee.

1. The first coat of Hydrotech Monolithic Membrane 6125 is applied to a nominal thickness of 3mm.
2. Flex Flash F fabric reinforcement is embedded while the Hydrotech is still warm and tacky.
3. A second coat of Hydrotech Monolithic Membrane 6125 is applied also to a nominal thickness of 3mm, fully encapsulating the fabric reinforcement within the membrane.
4. A protecting sheet of Hydrogard is laid over the completed Hydrotech membrane. The grade of Hydrogard is chosen to match the anticipated intensity of subsequent operations. Refer also to Hydrotech System Components and Accessories, page 28.
5. Install the chosen roof finish.

In the diagram on page 19, an inverted roof construction is shown complete with insulation, filter sheet, and paving slabs using Harmer Modulock raised paving supports.



1. Applying the first coat of Hydrotech Monolithic Membrane 6125 with a squeegee



3. Applying the second coat of Hydrotech Monolithic Membrane 6125



2. Laying Flex Flash F reinforcement



4. Laying the Hydrogard protection layer over second coat of Hydrotech Monolithic Membrane 6125

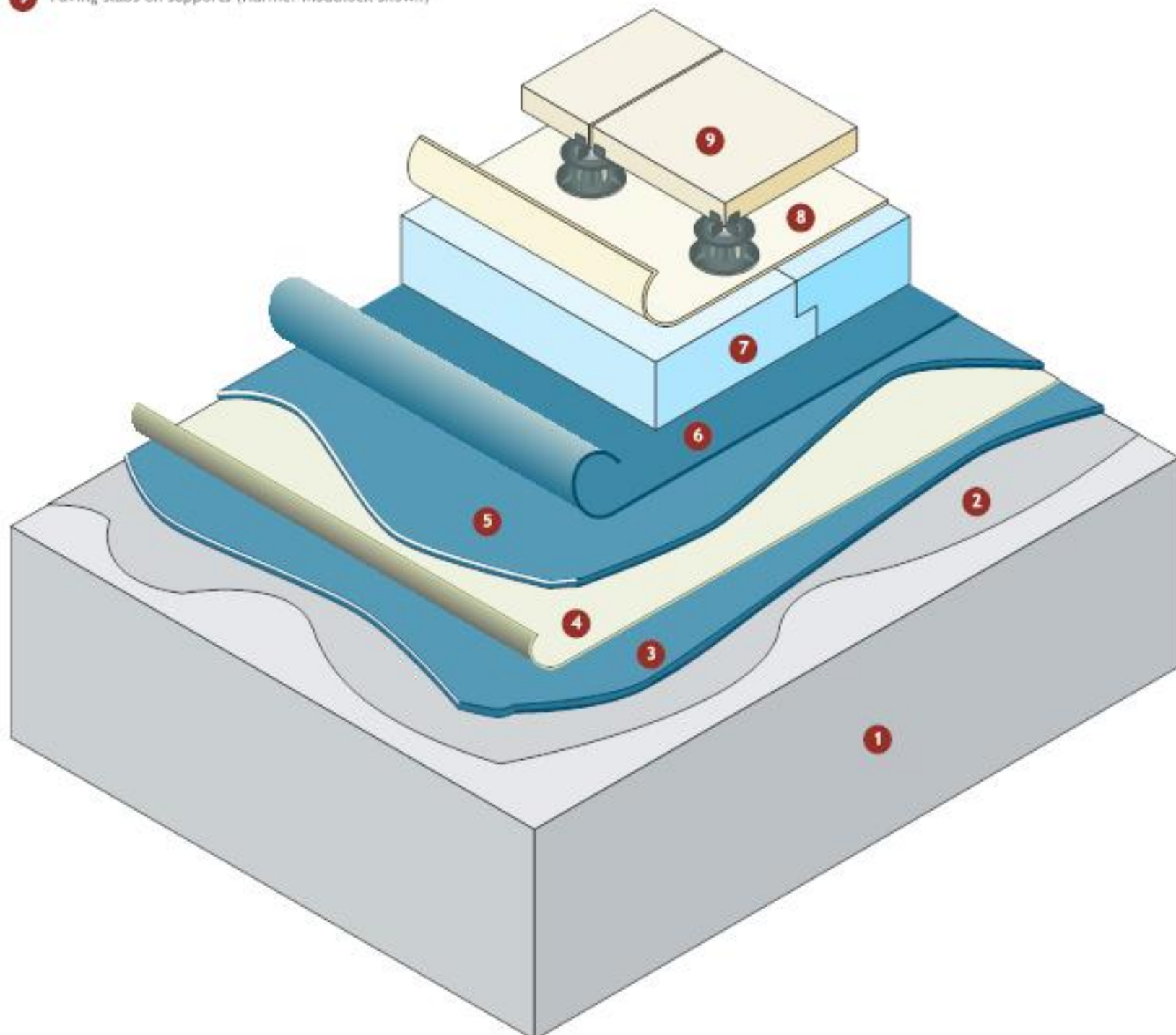


# Installation Procedure

## Hydrotech Monolithic Membrane 6125 to Main Horizontal Areas

### Main Roof Areas

- 1 Substrate
- 2 Alumasc Bitumen Primer
- 3 First coat of Hydrotech Monolithic Membrane 6125
- 4 Flex Flash F reinforcement
- 5 Second coat of Hydrotech Monolithic Membrane 6125
- 6 Hydrogard protection sheet
- 7 Extruded polystyrene insulation
- 8 MK separator sheet
- 9 Paving slabs on supports (Harmer Modulock shown)





# Specification - Protected Roofs (inverted - ballast or paving)

## Inverted Roofs, Plant Rooms, Cradle Runways, Helipads, and High Impact Areas on a Concrete Deck

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 10 brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with 75mm laps.

### Detailing

Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, overlap to Flex Flash F, 75mm.

All detail work to be a minimum of 150mm from finished roof, including surfacing.

Please note that entry of water over any detail work of less than 150mm in height, (above the finished roof surface, including paving/ballast etc.) would not be covered under the terms and conditions of the warranty.

### Thermal Insulation

Supply and lay on to the completed roof waterproofing, Alumasc Roofmate TF extruded polystyrene insulation of sufficient thickness to meet the "U" value requirement for the structure. Install MK separator sheet and either ballast, comprising 20-40mm river washed ballast, or paving slabs on Harmer Deck Modulock adjustable paving supports, the loading to be sufficient to prevent wind uplift and flotation.

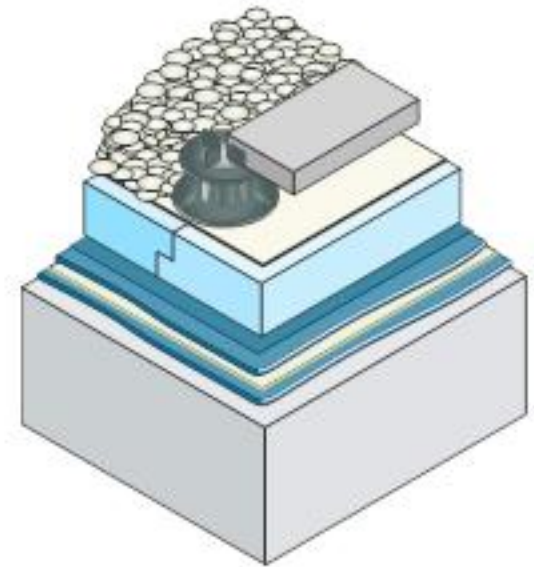
### General Notes

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

On completion the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

It is assumed that the building owner or his advisors have satisfied themselves that the roof structure and deck are suitable to receive the dead load both during construction and on completion of the works.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Specification - Plaza Decks or Podiums

## Pedestrian Areas, Balconies, Walkways, Entrance Halls, and Stairways

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 10 brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with 75mm laps.

### Detailing

Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, overlap to Flex Flash F, 75mm.

All detail work to be a minimum of 150mm from finished roof, including surfacing.

Please note that entry of water over any detail work of less than 150mm in height, (above the finished roof surface, including paving/ballast etc.) would not be covered under the terms and conditions of the warranty.

### Thermal Insulation

Supply and lay on to the completed roof waterproofing, Alumasc Roofmate TF extruded polystyrene insulation of sufficient thickness to meet the "U" value requirement for the structure. Install MK separator sheet and either ballast, comprising 20-40mm river washed ballast, or paving slabs on Harmer Deck Modulock adjustable paving supports, the loading to be sufficient to prevent wind uplift and flotation.

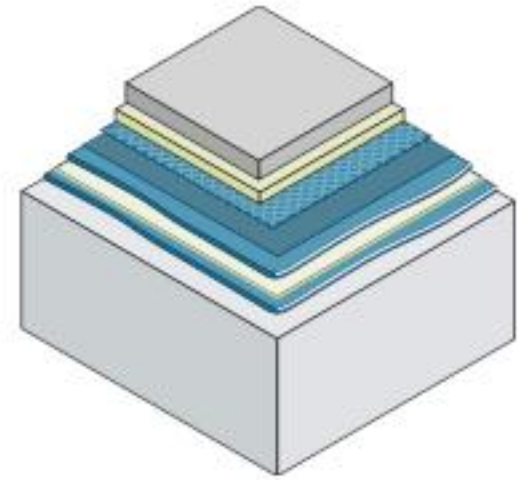
### General Notes

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

On completion the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

It is assumed that the building owner or his advisors have satisfied themselves that the roof structure and deck are suitable to receive the dead load both during construction and on completion of the works.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Specification - Green Roofs

## Lawns, Recreation Areas, Planters, Roof Gardens and Internal Garden Areas

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

#### Note:

The structural deck is to be designed to a minimum 1:60 falls to ensure an actual minimum 1:80 is achieved after allowing for building tolerances, deflection and settlement on site.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 40-AR Root Barrier brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with torch welded laps.

### Detailing of Reinforcement

Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, lapped 75mm over Flex Flash F.

All detail work to be a minimum of 150mm from finished roof, including surfacing.

Please note that entry of water over any detail work of less than 150mm in height, (above the finished roof surface, including paving/ballast etc.) would not be covered under the terms and conditions of the warranty.

### Thermal Insulation

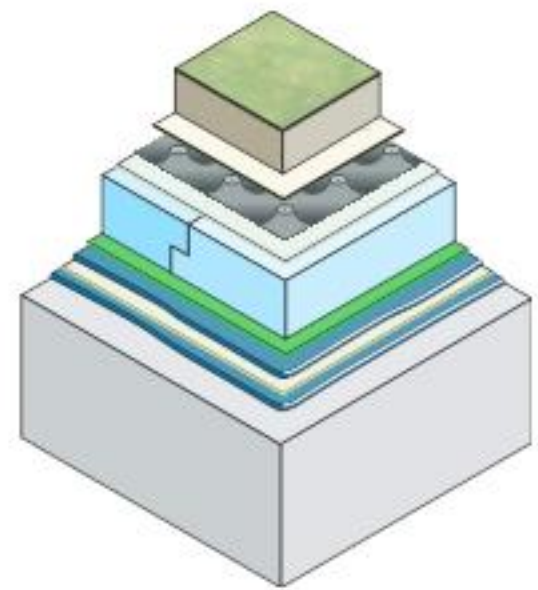
Supply and lay on to the completed roof waterproofing Alumasc Roofmate TF extruded polystyrene insulation of sufficient thickness to meet the U value requirement for the structure, plus MK separator sheet. The loading to be imposed by the green roof system to be engineered to be sufficient to ballast against flotation and wind uplift.

### Drainage Layer

Supply and lay appropriate Alumasc/ ZinCo drainage layer over the insulation. The drainage sheets are to be overlapped and fixed in accordance with Alumasc's instructions. The drainage units can be cut to fit around roof protrusions with a heavy duty knife or small toothed saw.

### Filter Sheet

Supply and lay Filter Sheet SF over the drainage layer. Laps to be 150mm. The Filter Sheet must be taken up all protrusions and upstands to at least soil level.





# Specification - Green Roofs

## Substrate Layer

Supply and lay ZinCo Roof Garden Substrate to a minimum depth of 150mm, over the filter sheet.

## Planting

Supply and lay turf as selected by the client or their advisors, loose laid onto the Roof Garden Substrate, close butted and staggered. The turf to have a minimum thickness of 20mm.

An approved organic slow release fertiliser must be sprinkled over the turf at the rate specified by the manufacturers.

The Roof Garden Substrate and turf must be thoroughly watered to encourage immediate growth. The system must not be allowed to dry out within the first 4 weeks of installation of the turf. Further irrigation after this period will be a prerequisite to maintaining a healthy and vigorous grassed surface.

## Accessories

Supply and install an outlet inspection chamber over each outlet within the soft landscape area. The drainage layer should be close butted to the base of the inspection chamber. The filter sheet should be dressed up all sides of the inspection chamber to substrate level.

## Detailing of Vegetation Barriers

Provision should be made to install and form a barrier between the vegetation and all vulnerable roof details, i.e. at upstands, outlets, rooflights, vent pipes etc. The barrier must be a minimum of 300mm wide, and can take the form of large rounded pebbles 16mm to 32mm grade, paving slabs, decorative bricks etc.

The waterproofing should be taken up all upstands, protrusions etc., a minimum of 150mm above substrate level.

## General Notes

**The following are vital to the accurate pricing, correct installation, and ultimately the long-term life of a green roof, and must therefore be included within the specification and tender documents.**

The installation of an Alumasc ZinCo Green Roof will only be carried out by a contractor approved by Alumasc. The workmanship of the contractor is to be regularly checked during the contract either by Alumasc personnel or persons approved by Alumasc.

On completion of the membrane and before the landscape is installed, the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

It is assumed that the building owner or his advisors have satisfied themselves that the roof structure and deck are suitable to receive the dead load of the proposed green roof system and landscape both during construction and on completion of the works.

Provision should be made to estimate the number of site visits required of the green roof contractor to enable them to complete the contract. The number of visits estimated should be entered into the tender documents in order to facilitate accurate pricing.

A planned or contractual delay between the installation of the waterproofing and landscape will almost certainly necessitate additional/increased protection to the waterproofing. This protection may be temporary or permanent. The responsibility for the cost of this possible extra protection should be clearly included within the tender documents.

It is essential to the long-term life of **intensive landscapes** that some form of irrigation system is provided, preferably on an automatic basis.

Although **extensive landscapes** are designed to withstand drought conditions, it is advisable to allow for a water point to be installed in case of extreme conditions.

Correct detailing and their construction are essential to the long-term life of the green roof. Therefore, detail drawings illustrating their construction must be included in the tender documents in order to enable the contractor to tender accurately.

The waterproofing and protection layers must always be mechanically fixed with a termination bar, placed at the top of the flashing detail. The termination bar must be fixed with the appropriate fixings at 300mm centres, bedded in non-setting mastic.

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Specification - Substructures

## Tanking, Damp Proof Membranes, Bund Walls, Drainage Pits and Pile Caps

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 40-AR Root Barrier, brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with torch welded laps. Prior to backfilling, install Hydrodrain 300 drainage layer, loose laid over the protection layer with 100mm overlapping fabric selvedge. All to be overlapped onto the horizontal waterproofing by a minimum of 150mm.

Where the height of the vertical work exceeds 1000mm, mechanical retention with continuous termination bar fixed at 150mm centres is required.

### Detailing

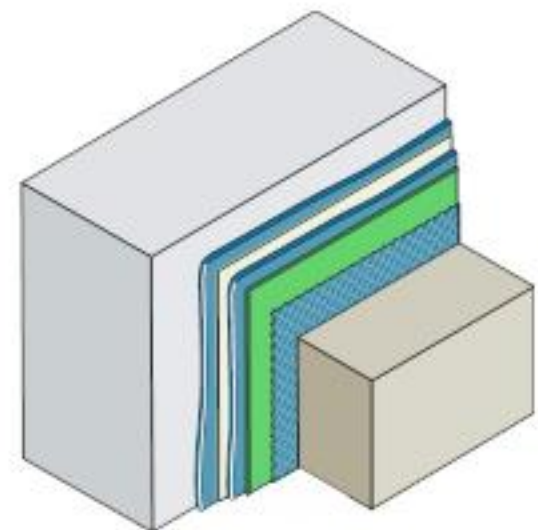
Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, lapped 75mm over Flex Flash F.

### General Notes

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

On completion the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Specification - Water Features

## Reflecting Pools, Cascades, Swimming Pools, Cooling Towers and Fountains

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 20 brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with 75mm laps.

### Surfacing

Supply and install onto the Hydrogard protection layer a waterproof screed/adhesive and decorative tile surface as specified elsewhere by the client's representative.

### Detailing

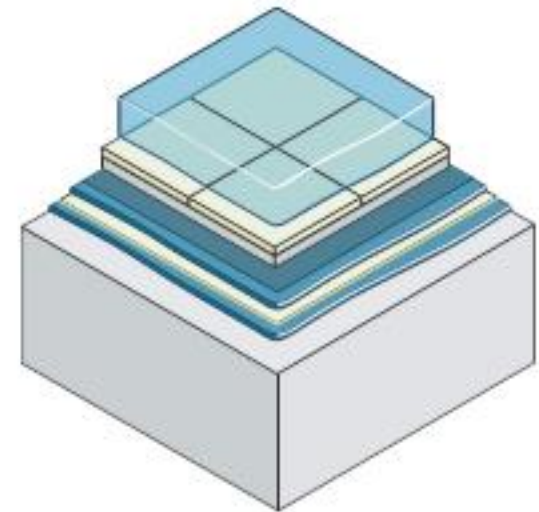
Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, lapped 75mm over Flex Flash F.

### General Notes

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

On completion the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Specification - Access Roadways

## Access Ramps, Car Parks, Loading Bays and Vehicular Access Areas

### Preparation

In situ structural concrete surface to be finished with wood float (not steel trowel or power floated). Concrete density 2160 kg/m<sup>3</sup> to 2563 kg/m<sup>3</sup> cured for 28 days.

Surface must be dry and clean of all contaminants. All loose dirt or debris to be brushed and blown clear using dry air or industrial vacuum machine.

Prime concrete with Alumasc Bitumen Primer using hand held air sprayer at a rate of 8-16m<sup>2</sup> per litre and allow to dry completely. Do not prime metal or timber surfaces.

### Waterproofing

Heat blocks of Hydrotech Monolithic Membrane 6125 in an oil or air jacketed melter to 205°C and apply to substrate at a rate of circa 3mm thick spreading with a squeegee.

Apply reinforcement of Flexflash F polyester in roll form and brush into Hydrotech Monolithic Membrane 6125 ensuring no air pockets.

Apply a second coat of Hydrotech Monolithic Membrane 6125 at a rate of 3mm thick spreading with a squeegee while hot, ensuring no air pockets.

Install a layer of Hydrogard 30 brush rolled into the final coat of Hydrotech Monolithic Membrane 6125 with 75mm laps.

### Notes:

Care is to be taken to ensure that there is no Hydrogard 6125 membrane adhering to the top surface of the Hydrogard 30 protection layer, either in the field area, at the laps or at detail items. Any trace of Hydrotech 6125 membrane found is to be carefully removed or covered over with a fresh piece of Hydrogard 30 protection layer prior to the installation of the wearing course, sub-base and finish.

### Paving

Supply and install an asphalt/macadam sub-base and wearing course as specified elsewhere by the client's representative.

### Detailing

Where minor movement or change in level direction or dissimilar materials occur, the reinforcement is to be Flex Flash UN, lapped 75mm over Flex Flash F.

All detail work to be a minimum of 150mm from finished surface, including surfacing.

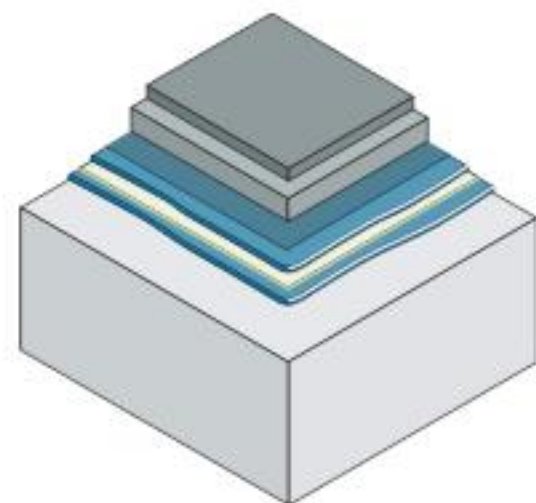
Please note that entry of water over any detail work of less than 150mm in height, (above the finished roof surface, including paving/ballast etc.) would not be covered under the terms and conditions of the warranty.

### General Notes

The contractor is to install all details to comply with the Hydrotech Quality Assurance Manual for Hydrotech hot-melt membrane systems. Should any detail arise where it is not clear that this can be achieved, the contractor is to seek advice and approval for all fabrication proposals from Alumasc before completing the works.

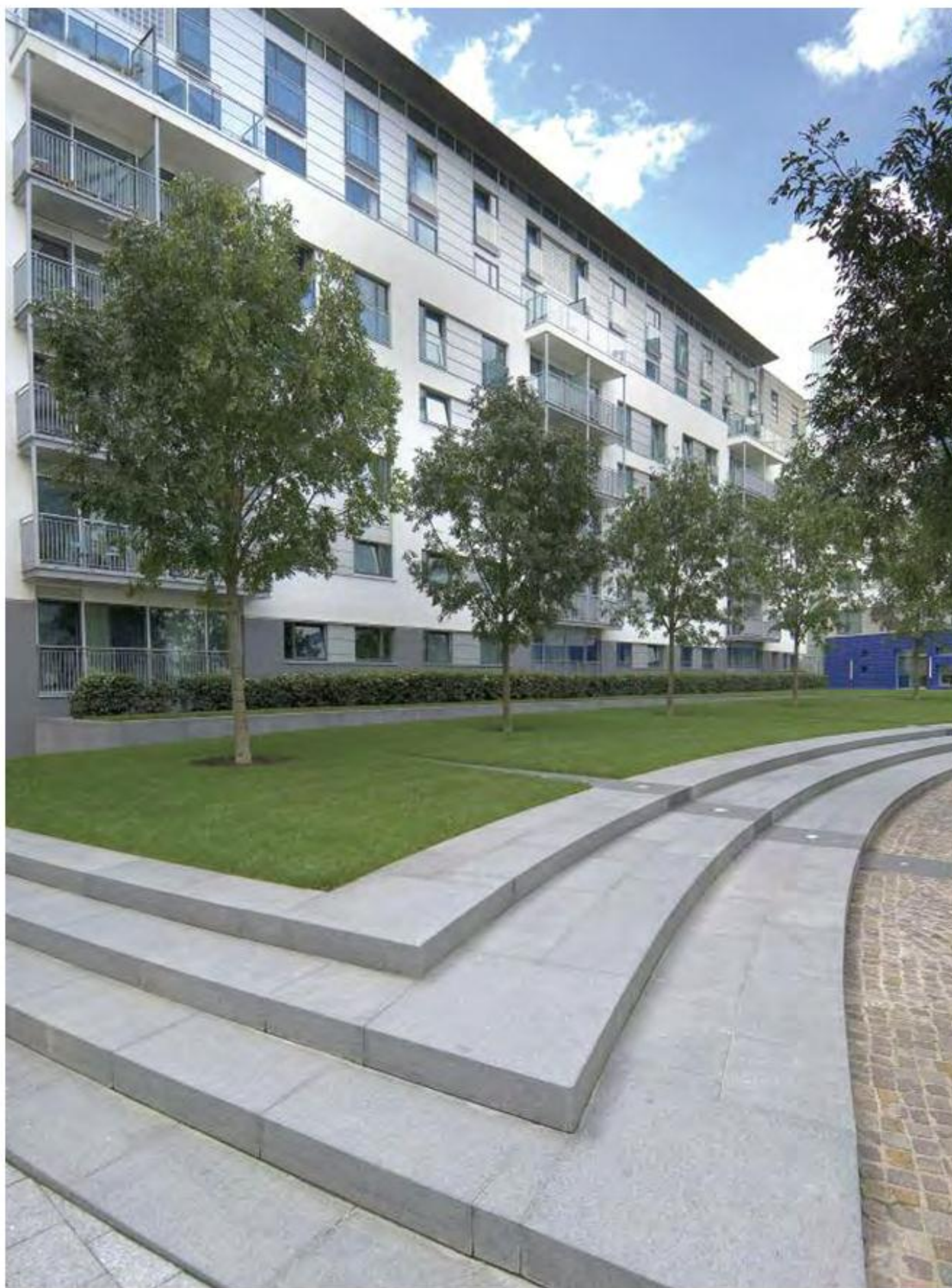
On completion the integrity of the waterproofing must be tested by means of an electronic detector system to prove that the waterproofing is 100% free from punctures and defects. The issue of the Hydrotech warranty is conditional upon the provision of a leak test certificate. The waterproofing contractor should include a sum for such a test within his quotation.

The above specification shall be installed in accordance with the manufacturers' installation instructions. Alumasc fixing instructions shall be followed for product supplied by the company. The works shall be installed by an Alumasc Hydrotech Approved Contractor, and the Hydrotech Warranty shall be issued upon completion.





# Components, Accessories and Complementary Products





# Hydrotech System Components and Accessories

## Alumasc Bitumen Primer

A specially formulated spray applied bituminous primer that enhances the adhesion of Hydrotech Monolithic Membrane 6125 to concrete surfaces.



Alumasc Bitumen Primer

## Hydrotech Monolithic Membrane 6125

A hot rubberised bitumen, modified with styrene resins, natural rubbers, oils, fillers and antioxidants. Used for the main areas to be waterproofed, including upstands.

## Flex Flash F

A spun-bonded polyester fabric, designed as reinforcement to the Hydrotech Monolithic Membrane 6125. For use over general areas and in normal conditions. Can accommodate structural and shrinkage cracks up to 6mm wide.



Flex Flash F

## Flex Flash UN

A flashing reinforcement of uncured neoprene rubber, used at expansion joints and as a transition across the junction of dissimilar materials.



Flex Flash UN

## Hydrogard Protection Sheets

A range of protection sheets used to protect Hydrotech Monolithic Membrane 6125 and Hydrotech Liquid Membrane 6090 following installation. There are four standard grades:

### Hydrogard 10

Lightweight oxidised bitumen glass fibre reinforced sheet for use where the subsequent build up is being installed immediately.

### Hydrogard 20

Polyester reinforced modified bitumen sheet suitable for use where normal site conditions apply (i.e. some following trades but no abnormally heavy traffic anticipated).

### Hydrogard 30

Heavy duty dual reinforced modified bitumen sheet suitable for use where abnormally heavy traffic is expected prior to application of topping.

### Hydrogard 40-AR

A root resistant dual reinforced modified bitumen sheet incorporating root repellent, suitable for use under green roof applications.

## Hydrotech Liquid Membrane 6090

A cold-applied alternative for Hydrotech Monolithic Membrane 6125, used mainly for localised repair work and pitch pockets. A two-part system comprising a base component and an activator component, mixed together prior to application. Available in horizontal and vertical grades.



Hydrotech Liquid Membrane 6090

## Hydrodrain

A range of drainage layers each comprising a HDPE drainage core and a filter fabric that prevents clogging of the core. Used wherever subsurface drainage is required, and ideal below planters, plaza decks, and against exterior vertical foundations. There are two standard grades:

### Hydrodrain 200

Filter fabric bonded to one side of HDPE core, and suitable for areas subject to normal loading and traffic.

### Hydrodrain 300

As Hydrodrain 200, but for areas subject to heavy loading and traffic.

Other grade specifications are available to order.



# Complementary Products and Systems

## Thermal Insulation Systems for Inverted Roof Construction

There are various options for inverted roof construction.



### Alumasc Roofmate TF-X

An HFC blown CFC/HCFC-free extruded polystyrene board with shiplap edge profiles and a thermal conductivity of 0.029 - 0.031 W/m°C.

The calculated thickness of insulation to achieve any specific insulation value is increased proportionally to take account of the rainwater cooling effect.

Sufficient ballast must be employed (eg, paviments on paving supports, round washed stone, green roof build-up) to counteract the forces of wind uplift and flotation.

An MK separator sheet should always be installed over the insulation prior to installation of the paviments or ballast, with 300mm laps.

### Alumasc Roofmate MK

A water vapour permeable, spun bonded polyethylene separator sheet based upon Tyvek®, loose laid over the insulation at right angles to the roof slope with 300mm laps, reduces the cooling effect on the insulation to a minimal 2% by preventing the rainwater from reaching the waterproof layer. Its use minimises the thickness of insulation required in each case, and is designed for use with Alumasc Roofmate TF-A and TF-X.

The Roofmate MK should be extended to finish at least flush with the surface of the ballast.



### Alumasc Roofmate TF-A

A completely environmentally friendly option, Alumasc Roofmate TF-A is a CO<sub>2</sub> blown CFC/HCFC-free extruded polystyrene board, with shiplap edge profiles and a thermal conductivity of 0.036 W/m°C (up to and including 130mm) and 0.038 W/m°C (greater than 120mm).

The calculated thickness of insulation to achieve any specific insulation value is increased proportionally to take account of the rainwater cooling effect.

Sufficient ballast must be employed (eg, paviments on paving supports, round washed stone, green roof build-up) to counteract the forces of wind uplift and flotation.

An MK separator sheet should always be installed over the insulation prior to installation of the paviments or ballast with 300mm laps.

### BREEAM Ratings

Alumasc Roofmate TF-A and TF-LG-A are CO<sub>2</sub> blown products with a GWP of 1, which qualify for additional credits under the BREEAM rating system, which rewards products with a GWP of less than 5.

### Alumasc Roofmate TF-LG-X

An HFC blown CFC/ HCFC-free cementitious topped extruded polystyrene board with shiplap ends and tongued and grooved sides, and a thermal conductivity of 0.029 - 0.031 W/m°C.

### Alumasc Roofmate TF-LG-A

A CO<sub>2</sub> blown alternative cementitious topped board for minimal environmental impact.

The calculated thickness of insulation to achieve any specific insulation value is increased proportionally to take account of the rainwater cooling effect.

This product provides a lightweight solution to inverted roofing systems in low wind uplift locations, and can also be employed in exposed situations such as upstands as a self protected insulation board, in conjunction with Alumasc Roofmate TF-X or TF-A on the horizontal areas.

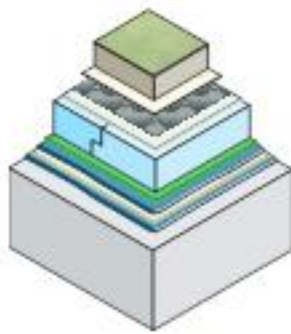
Alumasc Technical Services must be contacted in every instance in order to ascertain the suitability of the proposed specification.



# Complementary Products and Systems

## ZinCo Green Roof Systems

A range of products and systems for landscaped roofs that use Hydrotech structural waterproofing.



ZinCo Green Roofs offer three alternative planting regimes :

1. Extensive green roof:  
Using hardy plants for low maintenance and where general roof access is not required.
2. Semi-intensive green roof:  
Provides all year round colour with minimal maintenance.
3. Intensive green roof:  
Using vegetation ranging from grass to semi-mature trees, and mainly for recreational activities, and requiring normal garden maintenance.

The products and systems include:

### Lightweight Substrates

Plant growing mediums, available in several varieties, including:

#### ZinCo 'Sedum Carpet' Substrate

Recycled crushed brick with fines, for 'extensive planting'

#### ZinCo 'Heather with Lavender' Substrate

A mixture of crushed brick and compost for 'semi-intensive' planting.

#### ZinCo 'Roof Garden' Substrate

A mixture of crushed brick, compost and sandy loam, suitable for use on intensive roofs.

### Filter Sheets

For preventing particles of substrate and other matter from entering the drainage layer. Available in rolls as two product variants:

#### Filter Sheet TG

A loose laid filter sheet specifically for use over Elastodrain EL 200 and EL 202.

#### Filter Sheet SF

A loose laid filter sheet for general purpose use with Floradrain®, Floratherm® and Floraset, where required.

### Drainage Layers

These continuous layers allow water to drain unimpeded from any type of landscape, with some systems retaining water for plant use. There are five systems:

#### 1. Floradrain®

Used for unimpeded drainage and also water retention for plants. Available as three product variants:

##### Floradrain® FD 25 E

25mm deep polyethylene sheet or roll for shallow 80-100mm soil depths on extensive roofs to falls of at least 1:60.

##### Floradrain® FD 40 E

40mm deep polyethylene sheet or roll for roofs with or without falls, for complex extensive or semi-intensive landscaping.

##### Floradrain® FD 60

60mm high profiled polythene board for intensive green roofs with or without falls, which may incorporate high loads and dwarf walls. Can be used as permanent shuttering for further constructions or vehicle surfaces.

#### 2. Stabilodrain SD 30

A heavy duty extremely stable and traffickable drainage and water storage element made of thermoformed polystyrene for use over underground car park decks under vegetation, walkways and driveways.

#### 3. Floraset

An expanded polystyrene board, loose laid, for draining landscaped pitched roofs. Available in three grades: FS 50, FS 75, and ultra lightweight FS 100 for up to 25°.

#### 4. Elastodrain/Protectodrain

A rubber mat with large studs on one side, loose laid over a slip sheet, for use under vehicular and pedestrian paving, and large irrigated intensive roofs. Available in three grades: EL 200, EL 202 and Protectodrain PD 250.

#### 5. DBV12 Drainage Mat

A 12mm polyethylene/polypropylene roll, loose laid, and used for protection against foundation walls or as a protection mat with additional drainage.

### Root Barriers

Used for preventing root damage to the waterproof membrane. Available as two product variants:

#### WSF 40

Polyethylene sheet, loose laid.

#### Hydrogard 40-AR

Polyester reinforced modified bitumen incorporating root repellent, rolled into Hydrotech, or torch applied to suitable underlayer.

### Anti-Erosion Net

For binding new soil surfaces on sloping areas greater than 15°. Available as:

#### JEG Anti-Erosion Net

Heavy, wide mesh jute fibre sheet, 100% bio-degradable, and secured with wooden pegs.

### Moisture Retention and Protection Mats (uninsulated areas only)

For protecting the waterproof membrane whilst retaining moisture and nutrients. Available as three product variants:

#### BSM 64

A loose laid polypropylene fibre mat with a needlepunched carrier, in rolls.

#### SSM 45

A loose laid fibre mat with a polypropylene carrier, in rolls.

#### Iso-mat ISM 50

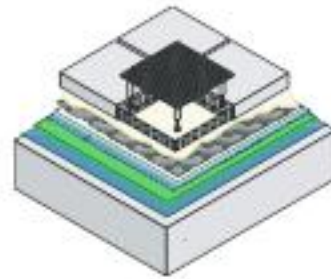
A loose laid fibre mat combined with polypropylene and rubber, in rolls, reinforced for spade resistance.



# Complementary Products and Systems

## Terrace Grills

For use over outlets in paved areas. Placed over Floradrain® layer and adjusted to level of paving. Available in three sizes, in steel or aluminium.



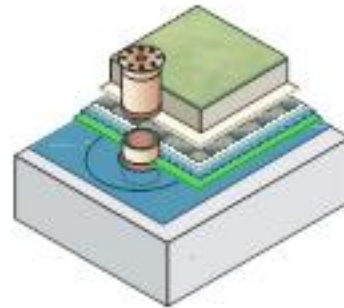
Terrace Grill

## Terrace Linear Gratings

A range of adjustable gratings for linear drainage channels. Contact Alumasc for full details.

## Roof Edge Profile

A range of edge profiles to retain substrate or paving, in either aluminium (80 or 120mm deep profile) or stainless steel (80, 120 or 140mm). Jointing inserts also available to maintain alignment.



Roof Dam

## Roof Dam

For fixing over roof outlets to retain water on roof. Available in copper.

## Outlet Inspection Chambers

Provide access to outlets in planted areas. Chambers have variable heights to suit substrate depths from 50mm to 500mm. There are seven types of inspection chamber:

### KS 5

Plastic coated steel (for 50mm substrate).

### KS 8

Plastic coated steel (for 80mm substrate).

### KS 12

Plastic coated steel (for 120mm substrate).

### KS 15

Polystyrene (for 150mm substrate).

### KS 25

Polystyrene (for 250mm substrate).

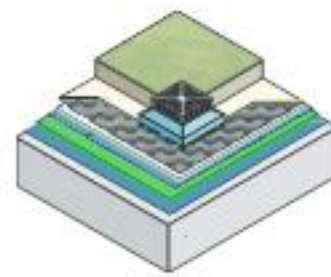
### KS 30

Polyethylene (for 300mm substrate). Also available in stainless steel.

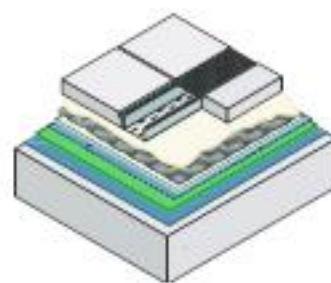
### KS 52

Polyethylene (for 500mm substrate).

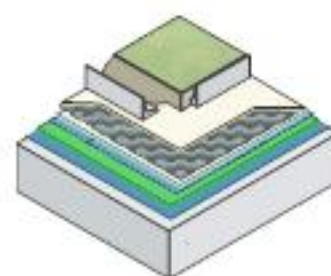
Note: Extension pieces are available for all inspection chambers.



Outlet Inspection Chamber



Channel Drain



Kerb

## Channel Drains

For collecting water from downpipes and at abutments with falls and other features. Channel Drains comprise a removable grill set in a U-frame casing perforated along its base length. Made from stainless steel or galvanised steel, the latter available in variable lengths.

## Kerbs

Concrete L-shaped kerbs for retaining substrate at junctions with paved areas and changes in level or materials. Complete with internal and external corners.

## Automatic Irrigation Units

Automated water top up mechanisms for maintaining predetermined water levels on roofs without falls, and available as two product variants:

### Type B 32

Can be situated in any roof position, except directly over outlets.

### Type B 52

Can be situated in any roof position, primarily directly over outlets.



Please refer to Alumasc ZinCo Green Roofing Systems literature for more comprehensive information



# Complementary Products and Systems

## Harmer Flat Roof Rainwater Outlets

Harmer Roof metal and insulated rainwater outlets, offer comprehensive and innovative drainage solutions for all types of flat roof, including those carrying vehicular traffic. All Harmer Roof metal and insulated rainwater outlets are designed and manufactured to ensure trouble free performance over a long period, in whatever type of roof construction they are incorporated.

For detailed information on these systems, please contact Alumasc Technical Services.

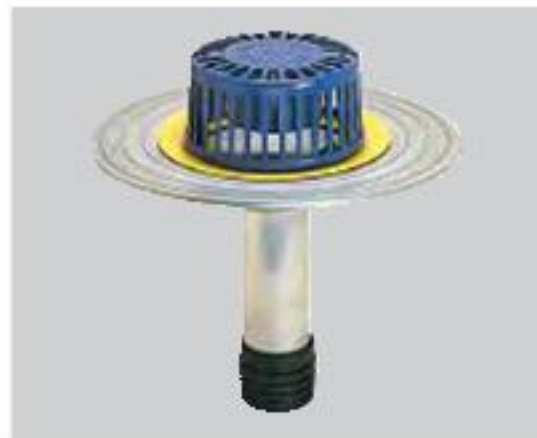
### AV Vertical Spigot or Screw Outlets

- Harmer Roof AV Vertical Spigot and Screw outlets provide anti-vortex performance within an economic range of general purpose outlets
- Diecast in LM6 aluminium silicon alloy to BS 1490: 1988
- AV outlets are designed for connection to individual downpipes and must not be used in siphonic rainwater systems



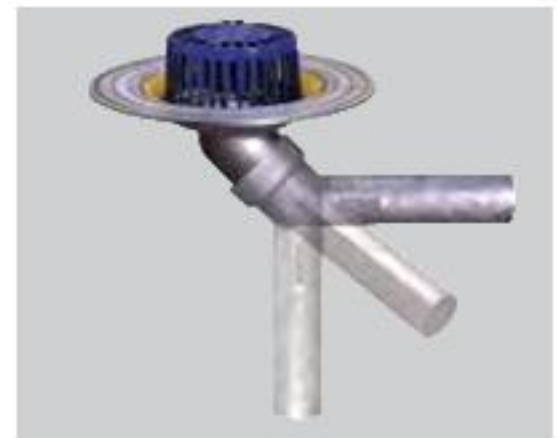
### AV Retro-Gulley Outlets

- Harmer Roof AV Retro-Gulley outlets incorporate anti-vortex performance and are designed for flat roof upgrading without necessitating removal of the old rainwater outlet
- The body is diecast in LM6 aluminium silicon alloy to BS 1490: 1988
- The Retro-Gulley aluminium tail pipe connects directly into the existing pipework via the old outlet



### AV Multi-Gulley Outlets

- Harmer Roof AV Multi-Gulley outlets incorporate an adjustable spigot that can be rotated to suit any angle of outflow from horizontal to vertical
- Interchangeable spigots provide for 75mm or 100mm pipe connections
- Bodies and spigots are diecast in LM6 aluminium silicon alloy to BS 1490: 1988



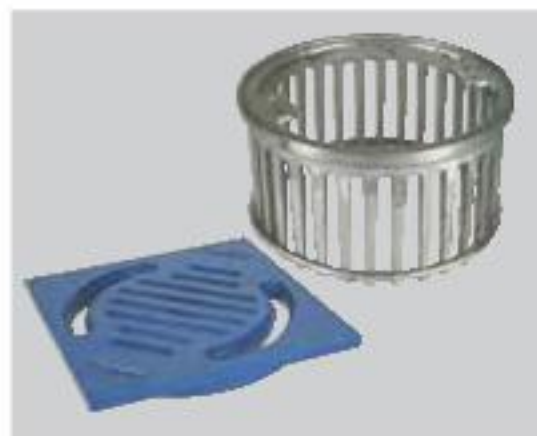
### Detail Outlets

- Harmer Roof Detail outlets comprise a range designed to solve problematic detailing requirements
- The range includes two way, balcony, car park and gulley outlets
- Detail outlets are diecast in LM6 aluminium silicon alloy to BS 1490: 1988



### Accessories

- There is also a comprehensive range of accessories available to ensure the successful installation of Harmer Roof rainwater outlets in most types of roof construction





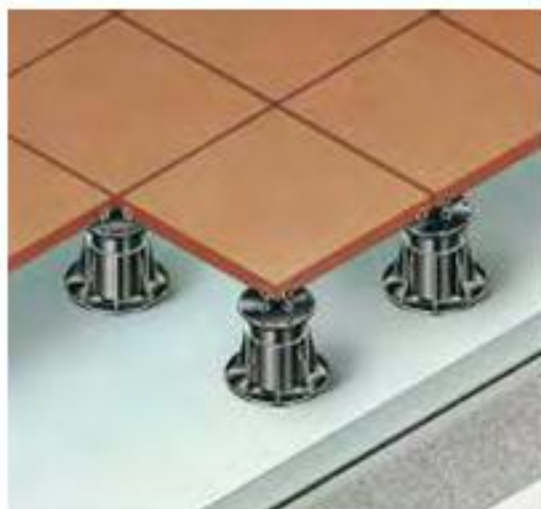
# Complementary Products and Systems

## Harmer Raised Paving Support Systems

These systems are designed to meet a wide range of paving support requirements applicable to terraces, walkways, balconies and ballasted roof constructions. There are two systems:

1. **Harmer Modulock**

A raised, adjustable pedestal system, based on four basic modules, which can support paving slabs or timber decking at varying heights from the sub-structure.



Harmer Modulock



Harmer Modulock

2. **Harmer Uni-Ring**

A shallow injection moulded polyethylene ring, that is stackable, and designed to allow concealed drainage beneath paving slabs.



Harmer Uni-Ring



Harmer Modulock



Harmer Uni-Ring



# Complementary Products and Systems

## Skyline Coping

The Skyline Coping system provides an economical and easily installed capping to upstand parapets, in conjunction with flat or pitched roofs. The strap fixing method avoids penetration of the coping, whilst allowing ventilation over the top of the wall. Skyline Coping is maintenance free, available in a wide range of colours and is equally suited to retrofit and new build.

For detailed information, please contact Alumasc Technical Services.

### Skyline Copings have the following key features:

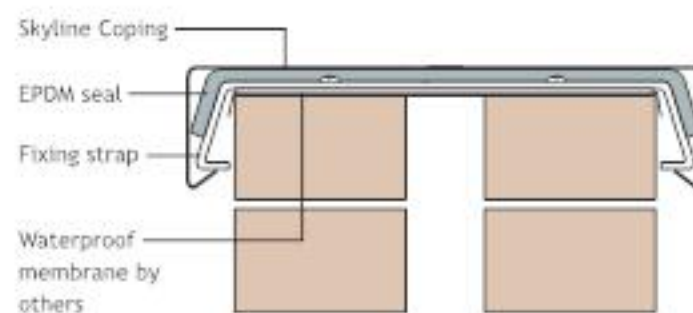
- Attractive, clean lines are maintained as fixings are not visible on the surface of the coping
- Totally weatherproof covering achieved as the fixing mechanism involves no penetration of the coping
- The fixing strap profile allows ventilation over the top of the wall whilst remaining weatherproof
- Simple and quick to install and in most cases fixing can be carried out from the roof so no external access is required making it particularly suitable for renovation work
- Lightweight, durable and corrosion resistant
- Virtually maintenance free, with a lifespan well in excess of 25 years
- Material thickness and fixing mechanism gives excellent rigidity
- Aluminium is 100% recyclable
- Choice of standard, BBA approved polyester powder coating colours with others available to special order

### Skyline Coping Components

- Copings are fabricated from 2mm or 3mm thick aluminium alloy sheet, depending on width
- Fixing straps are pressed 3mm aluminium with extruded EPDM seals bonded to the top surface
- All fabricated fittings (90° corners, irregular corners, stop ends, closed ends, upstands, 90° tee junctions) are mitred, welded and have a smooth finish on the front face
- Waterproof membrane will be required beneath coping to provide an effective seal

### Performance

- Coefficient of linear thermal expansion is  $23 \times 10^{-4} \text{mm/m/}^\circ\text{C}$
- A gap of 3-4mm should be left between coping sections to accommodate thermal expansion
- Aluminium is a suitable material for use as a lightning conductor
- Alumasc Lightning Link can be supplied for fitting to adjacent sections to provide good electrical conductivity in accordance with BS 6651
- Alumasc hold British Board of Agrément Certificate No. 86/1671 for a range of polyester colours





# Complementary Products and Systems

## ROOF-PRO Roofing Products

ROOF-PRO systems are designed to provide future-proof solutions for the support of roof-mounted building services and engineered expansion joint solutions.

For detailed information on these systems, please contact Alumasc Technical Services.

## ROOF-PRO Support Systems

The ROOF-PRO solution is flexible and efficient, supporting services from 50mm pipes to 10,000 kg Air Handling Units independently on a range of flat roof designs.

ROOF-PRO supports are quickly and simply positioned on the roof finish without penetrating or damaging the waterproofing. The systems range includes:

- Supports for ladder and cable trays
- Small to large pipe supports
- Support systems for AHUs, heat pumps and chillers
- Duct, attenuator and extract fan supports
- Condenser supports, small splits, VRV and VRF
- Access, step-overs, and maintenance platforms

ROOF-PRO support systems are designed to each individual roof structure utilising standard and bespoke designs to provide stability, weight distribution and building clearance, ensuring your services are fully supported without the need for penetrative design details to the waterproofing.



## RedLINE and FlamLINE Expansion Joints

RedLINE and FlamLINE sealed, flat expansion joints are compatible with the Hydrotech system and are designed for continuous waterproofing integrity at simple or complex movement joint details.

### RedLINE

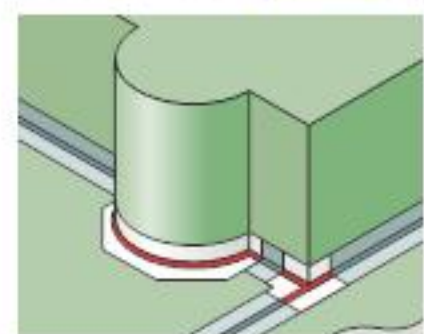
The ideal joint tape for bituminous seals. RedLINE consists of a highly elastic movement section made of EPDM and two laterally flexible adhesive flanges.

The flanges are reinforced by a polyester fleece that stabilises the EPDM, forcing movement to occur only in the movement section and provides a surface that gives high bonding strength.

### FlamLINE

Compatible with torch-on roofing membranes. FlamLINE is manufactured from a single flexible sheet of high grade Butyl-Elastomer.

The flanges contain a mesh that, like RedLINE, stabilises the adhesive flanges for sealing the waterproofing membrane to it. Movement is again forced to occur in the movement section that is positioned over the expansion joint.





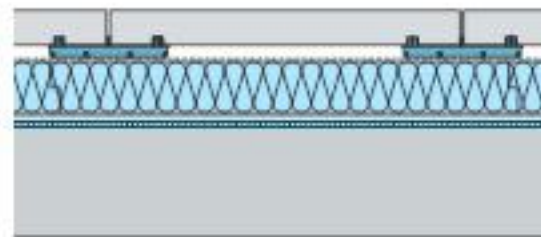
# Scope of the Details

The structural waterproofing application details illustrated on these pages show the scope and versatility of the Hydrotech system, and are grouped into the categories listed below:

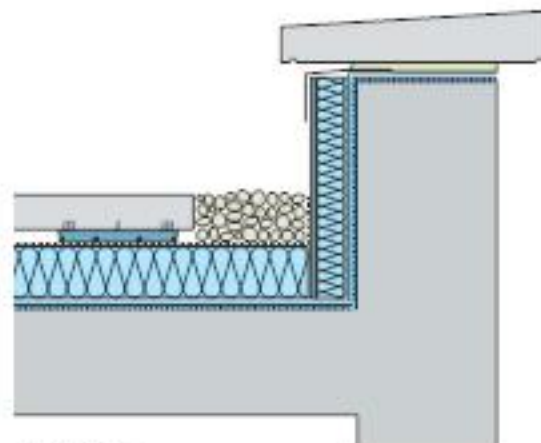
- Main roof areas
- Rainwater outlets
- Upstands
- Abutments
- Penetrations
- Joints
- Green roofs

These typical waterproofing detail applications are illustrative only.

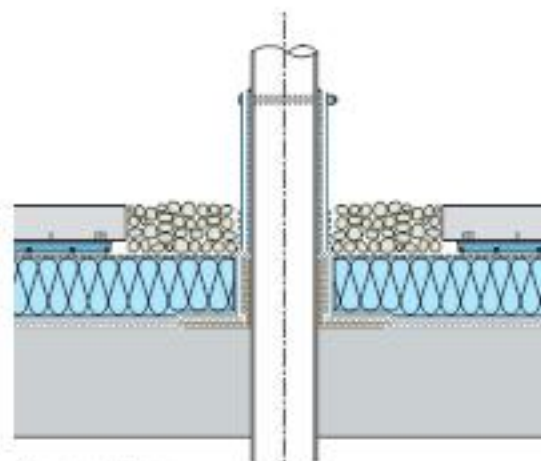
Application details are periodically updated in accordance with updated Building Regulations and Codes of Practice. It is therefore advised to seek confirmation that the current version is being used.



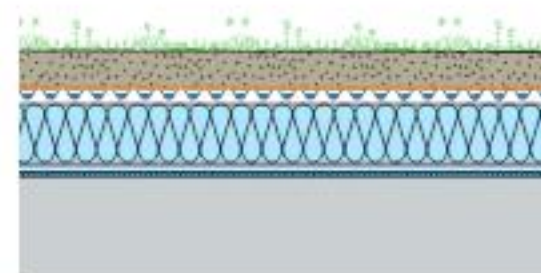
Main roof areas  
p 40



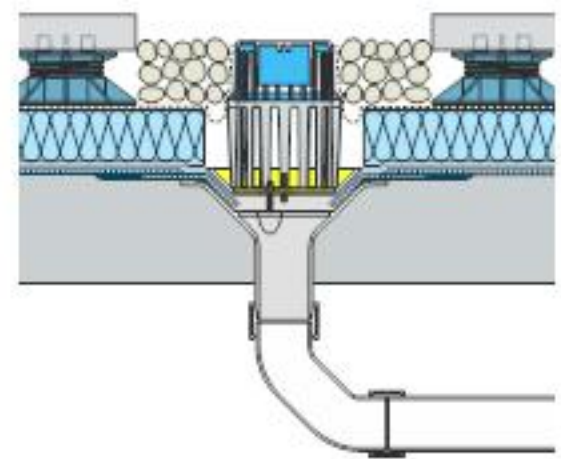
Upstands  
pp 43-45



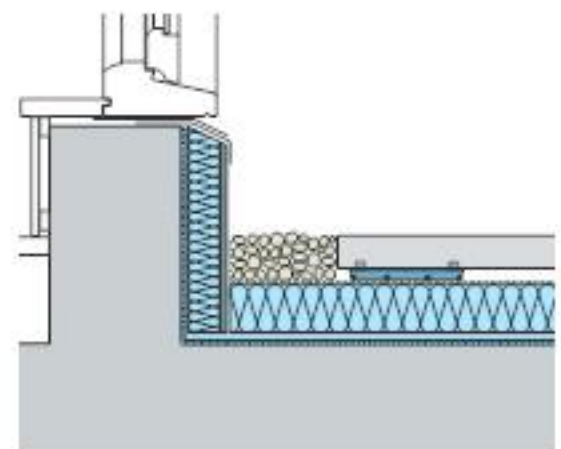
Penetrations  
pp 48-49



Green roofs  
p 54



Rainwater outlets  
pp 41-43



Abutments  
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Joints  
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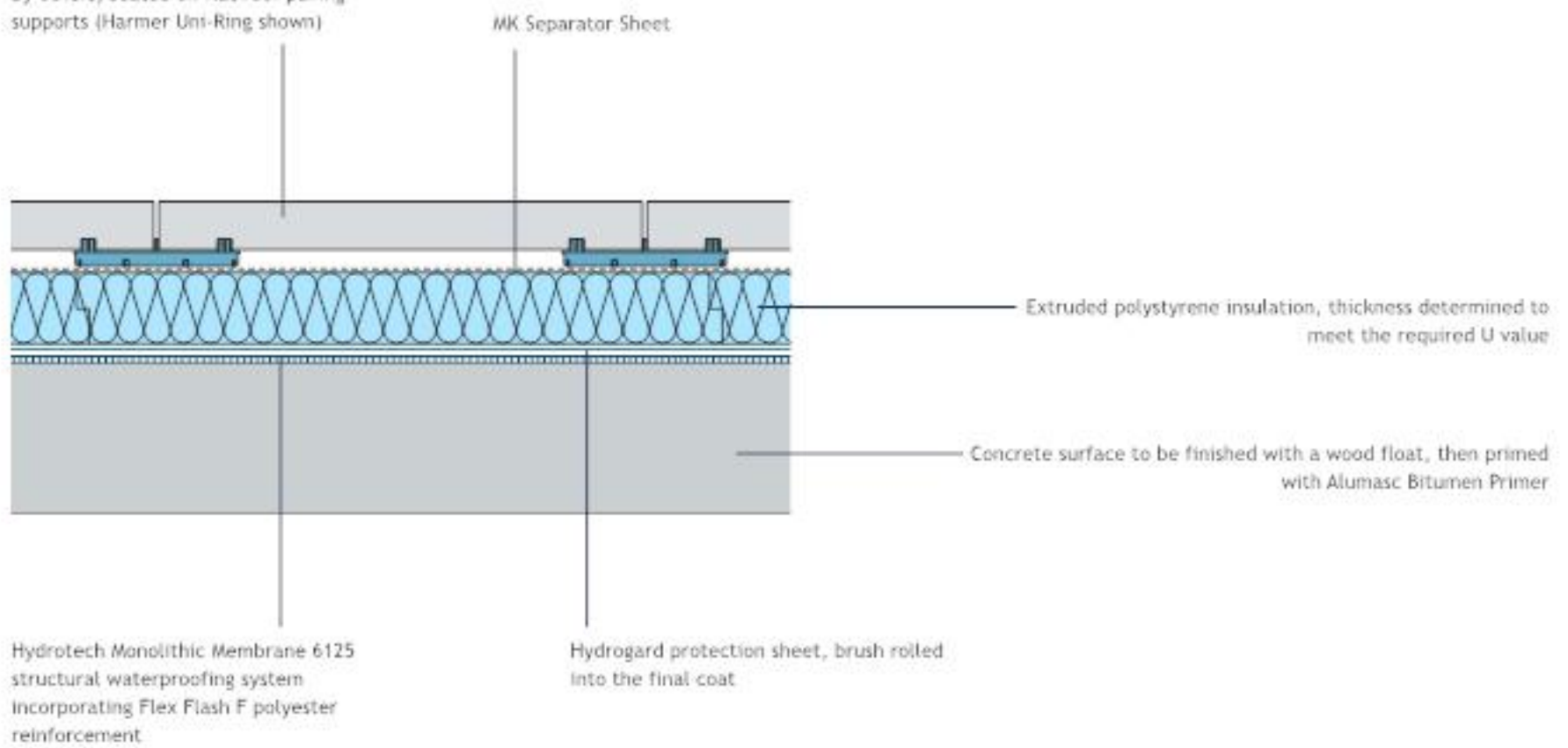


# Application Details

## Main Roof Area – 1a

### Hydrotech waterproofing to inverted roof

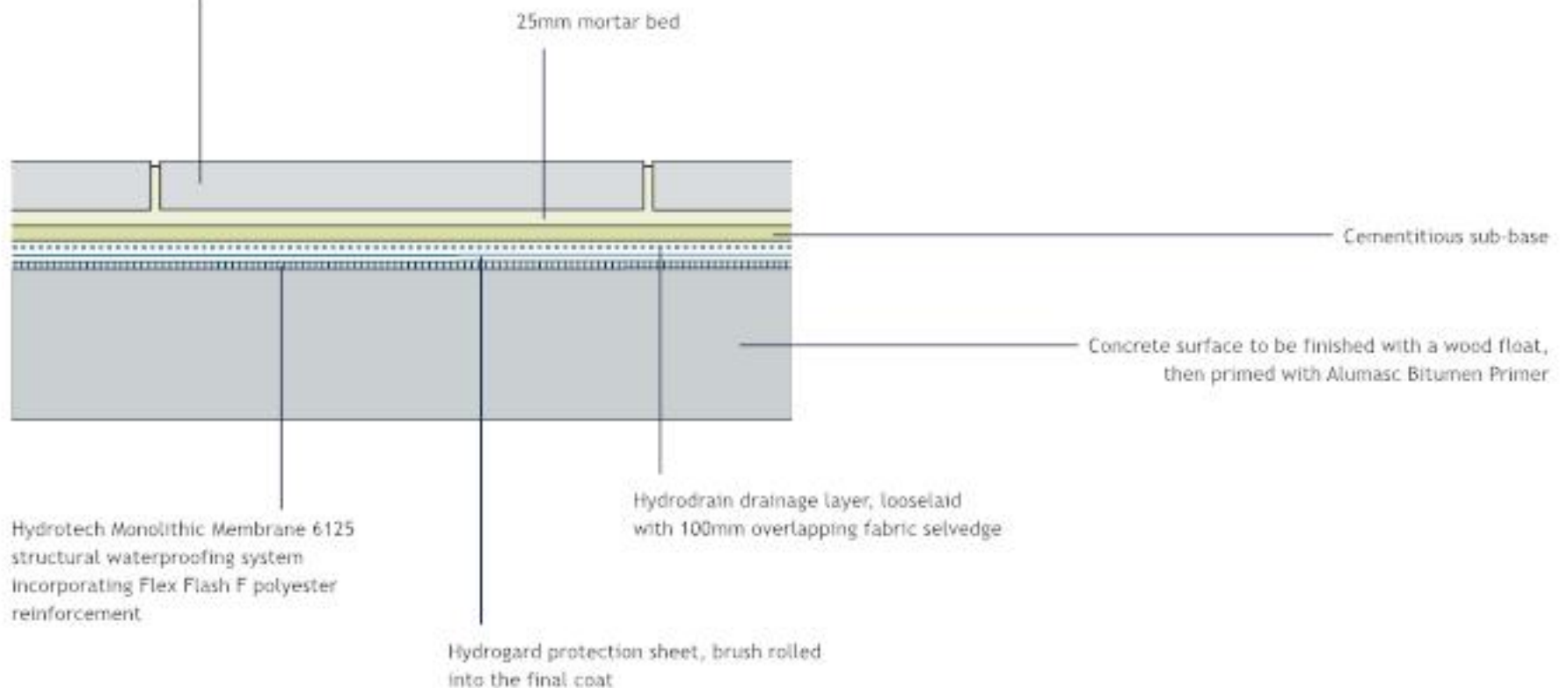
Standard pressed concrete paving slabs, by others, seated on flat roof paving supports (Harmer Uni-Ring shown)



## Main Roof Area – 1b

### Hydrotech waterproofing to un-insulated plaza roof

Standard pressed concrete paving slabs or sets, by others

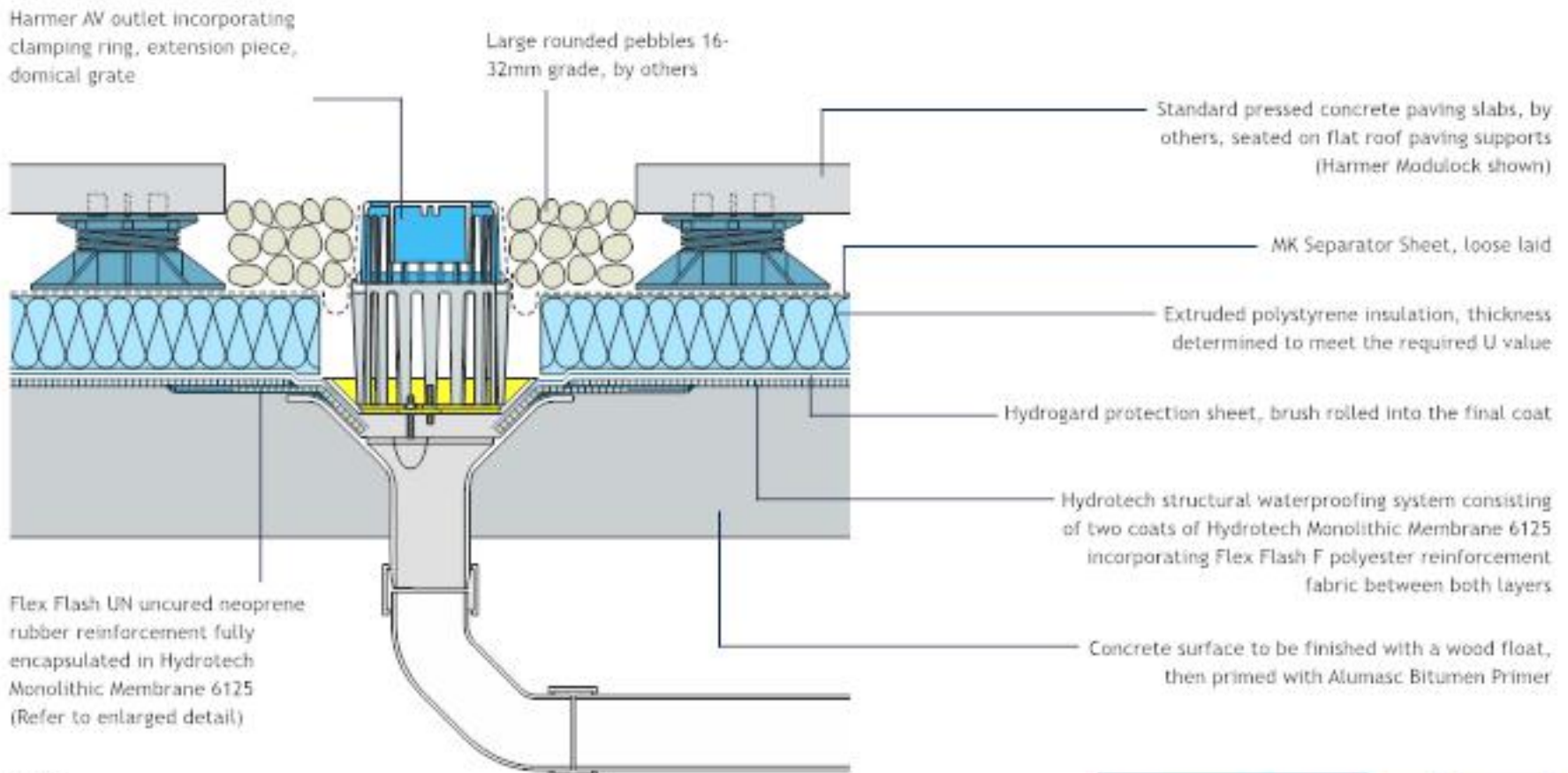




# Application Details

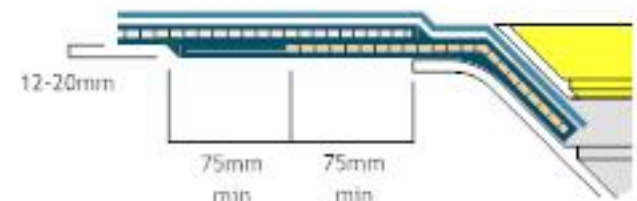
## Rainwater Outlet – 1

Hydrotech waterproofing to rainwater outlet with clamping ring (outlet exposed)



**Notes**

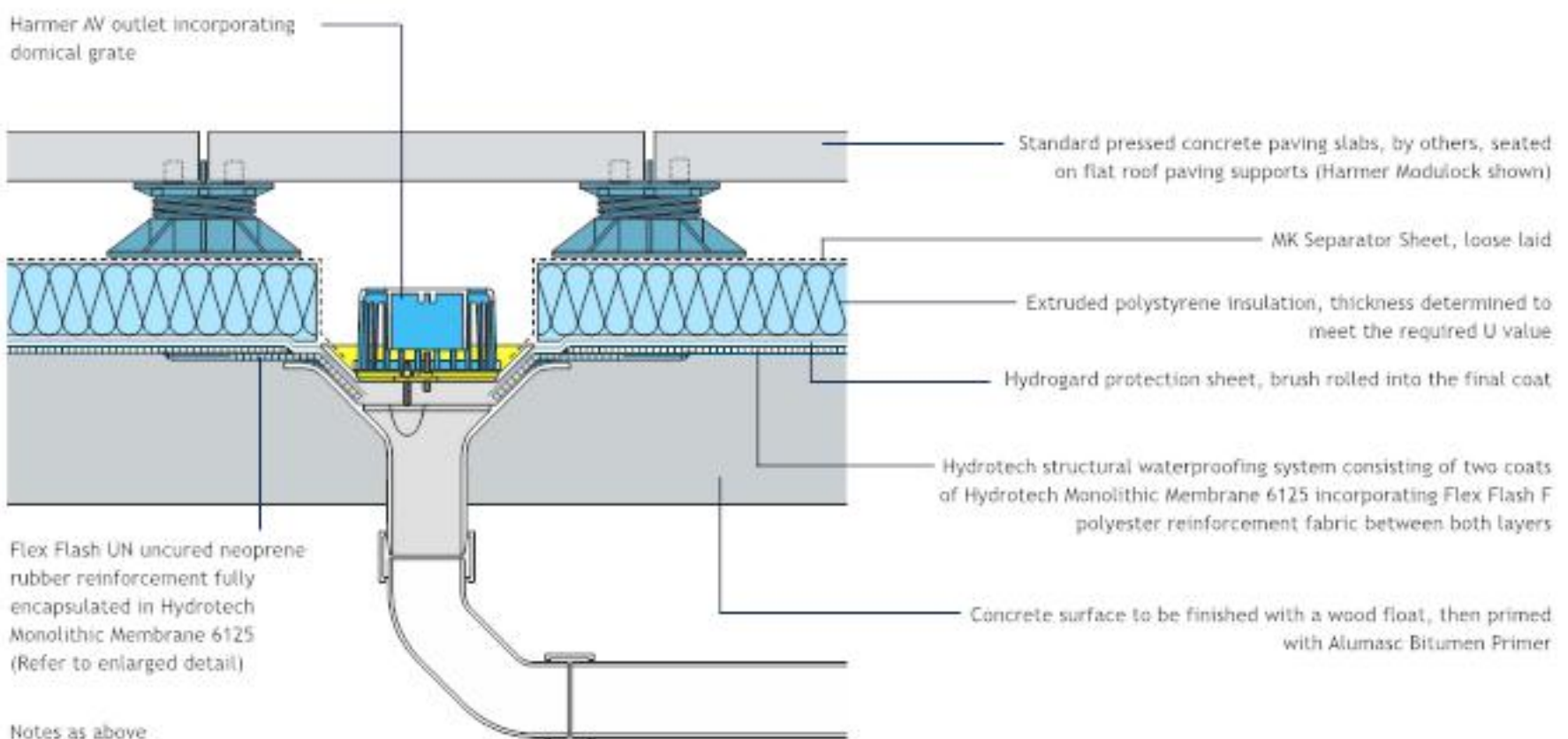
1. Concrete around gulley should be dressed to promote positive water drainage.
2. Flex Flash UN should be one sheet extending a minimum of 75mm beyond the gulley flange on all sides, and secured by clamping ring.
3. Gulley must be maintained free to weep at membrane level.



Enlarged detail of dressing into AV outlet  
(Read with rainwater outlet details 1 and 2)

## Rainwater Outlet – 2

Hydrotech waterproofing to rainwater outlet with clamping ring (outlet hidden)



Notes as above

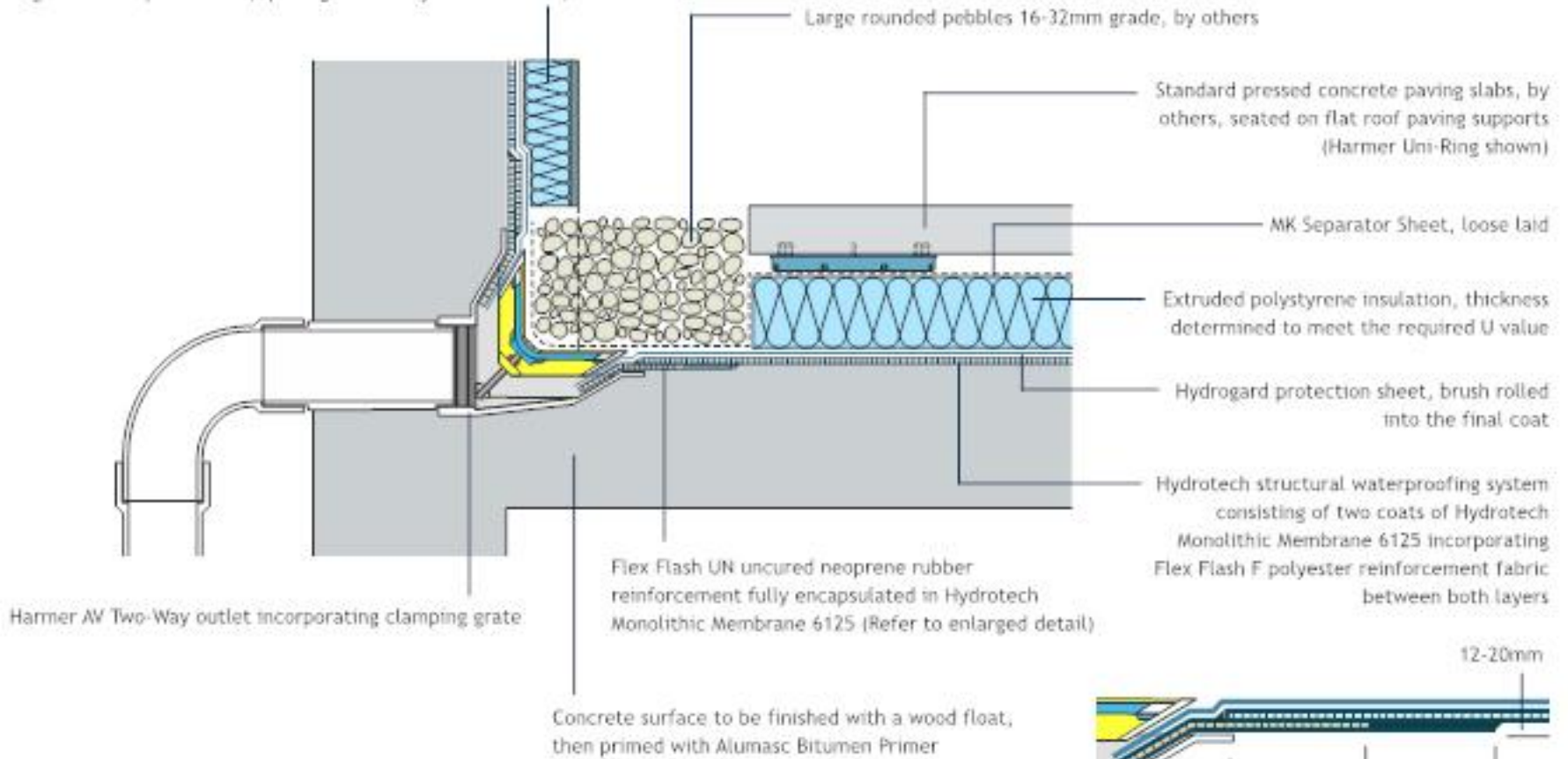


# Application Details

## Rainwater Outlet – 3

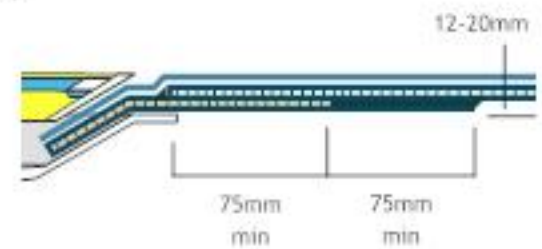
### Hydrotech waterproofing to two-way outlet with clamping grate

Alumasc Roofmate TF-LG in accordance with Building Regulations requirements (Opening cut locally around outlet)

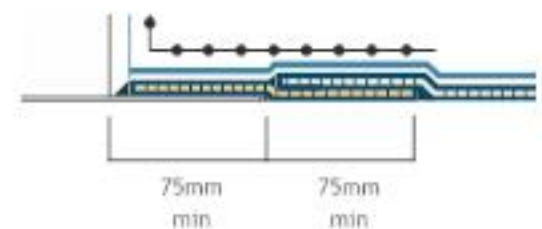


**Notes**

1. Concrete around gulley should be dressed to promote positive water drainage.
2. Flex Flash UN should be one sheet extending a minimum of 75mm beyond the gulley flange on all sides, and secured by clamping grate.
3. Gulley must be maintained free to weep at membrane level.



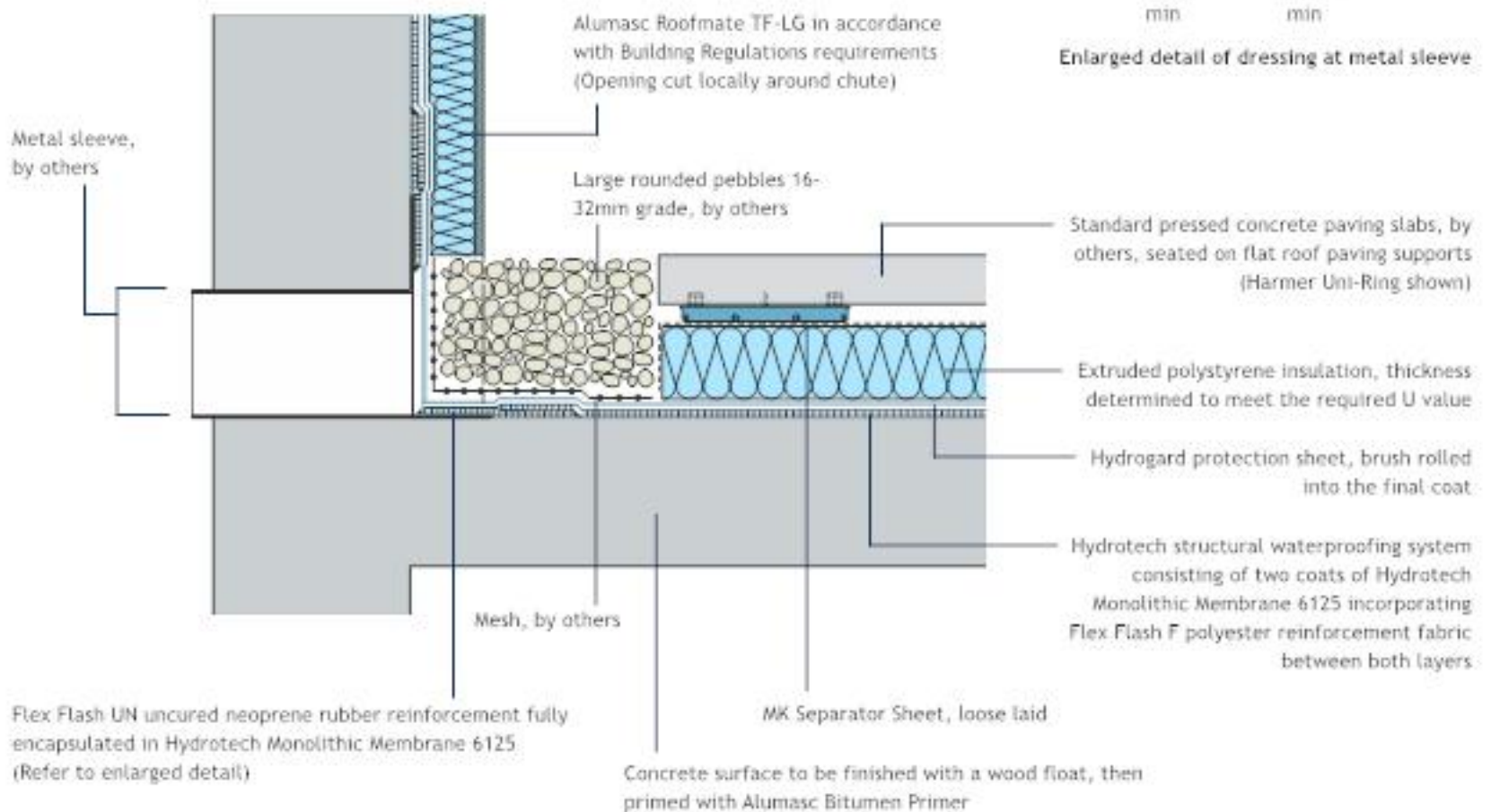
Enlarged detail of dressing into two-way outlet



Enlarged detail of dressing at metal sleeve

## Rainwater Outlet – 4

### Hydrotech waterproofing to rainwater chute

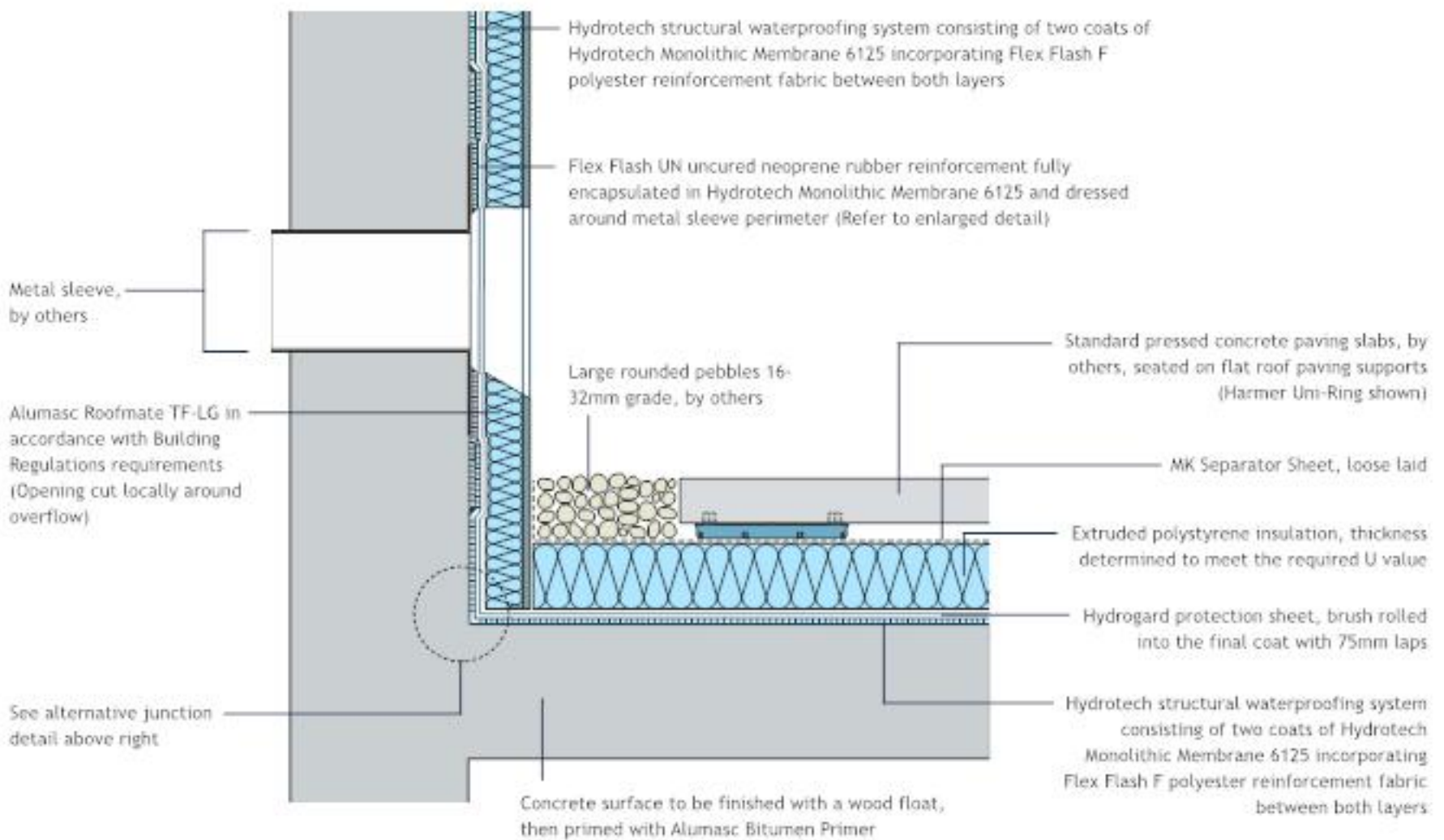




# Application Details

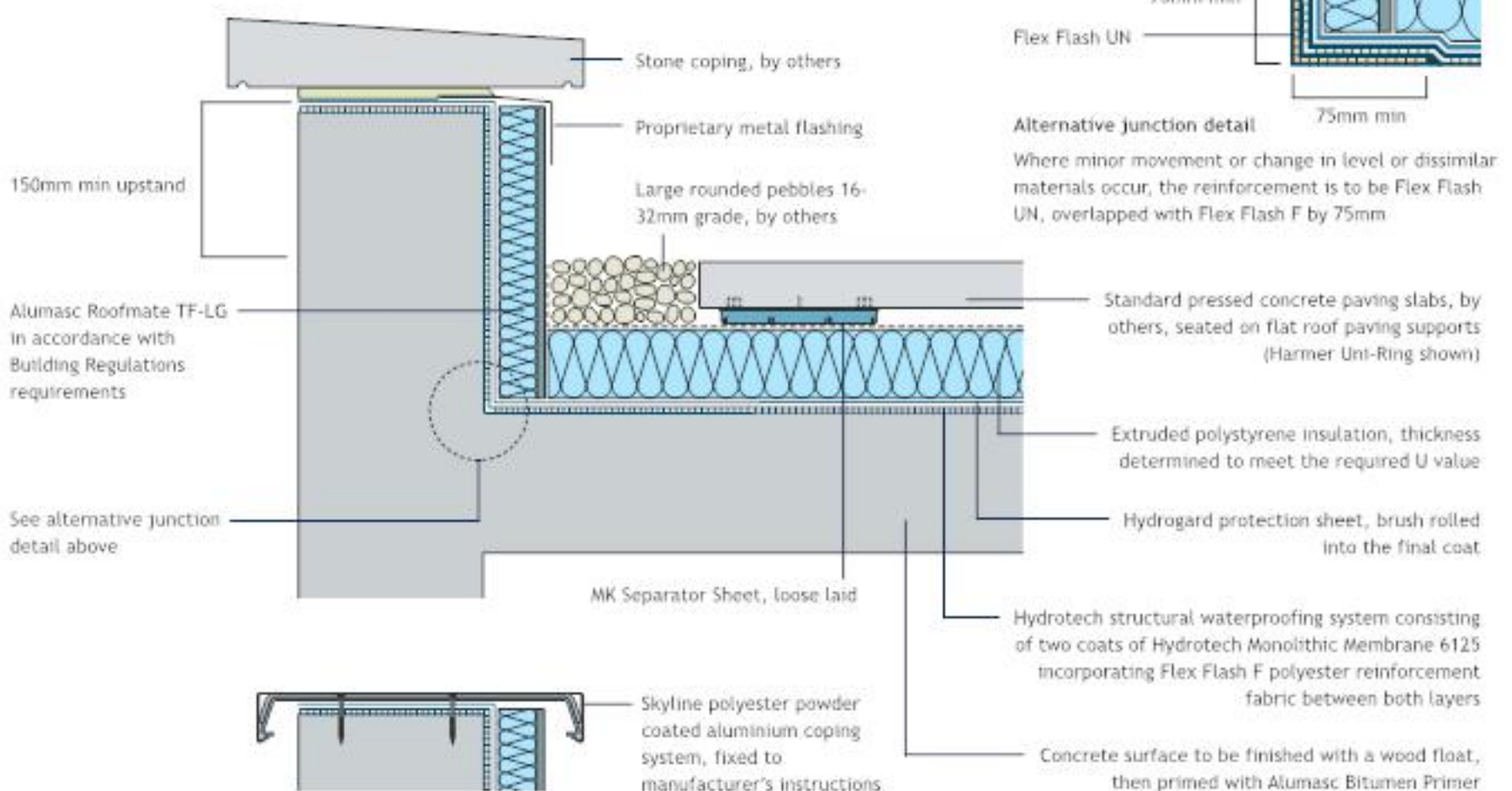
## Rainwater Outlet – 5

Hydrotech waterproofing to rainwater overflow



## Upstand – 1

Hydrotech waterproofing to upstand with stone or aluminium coping

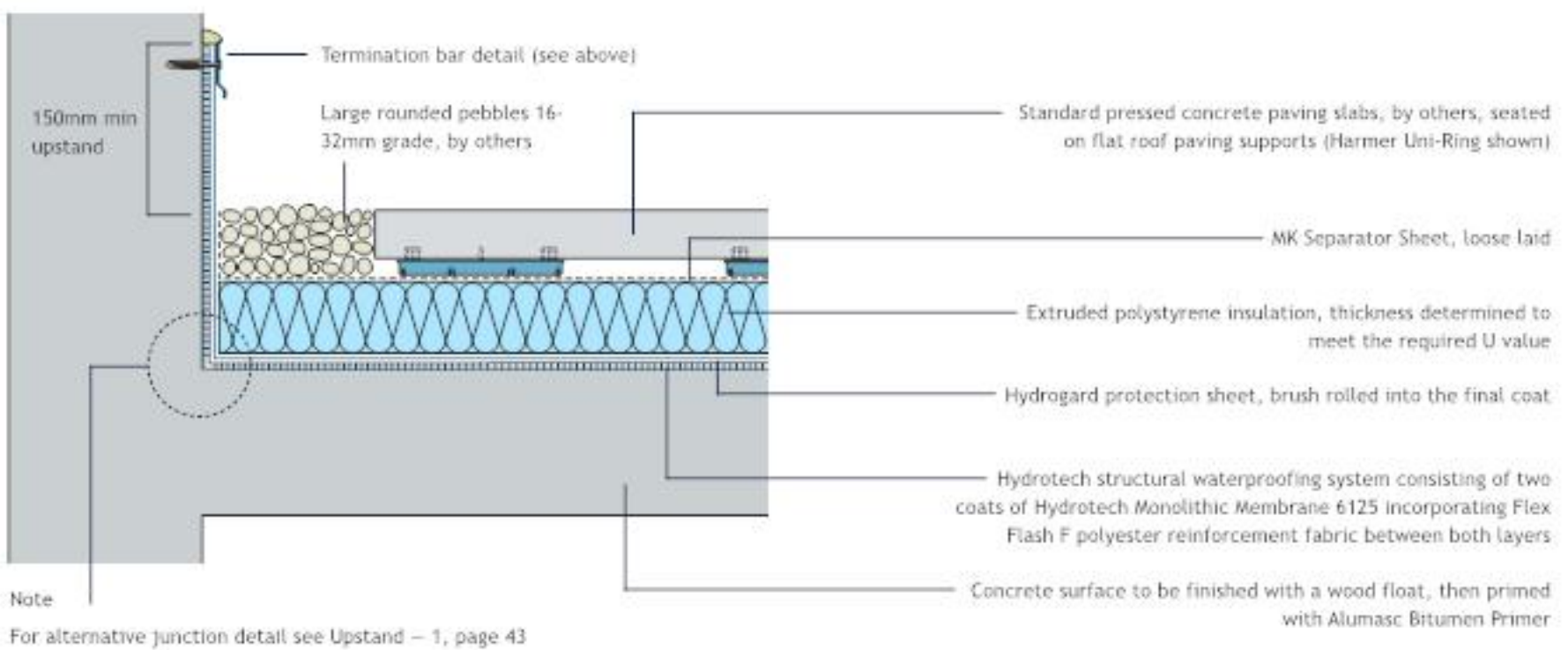




# Application Details

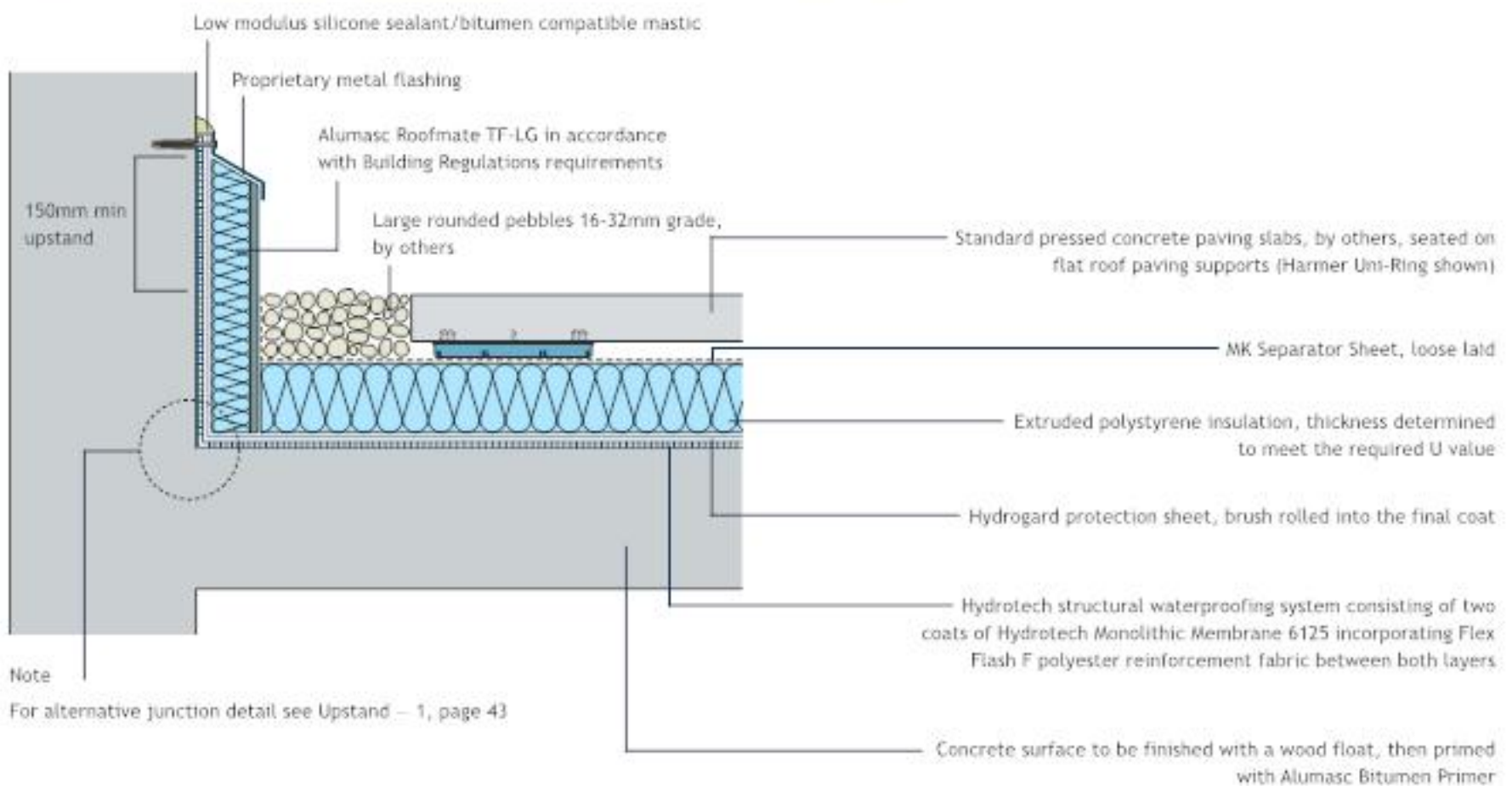
## Upstand – 2

### Hydrotech waterproofing to un-insulated upstand with termination bar



## Upstand – 3

### Hydrotech waterproofing to insulated upstand with termination bar

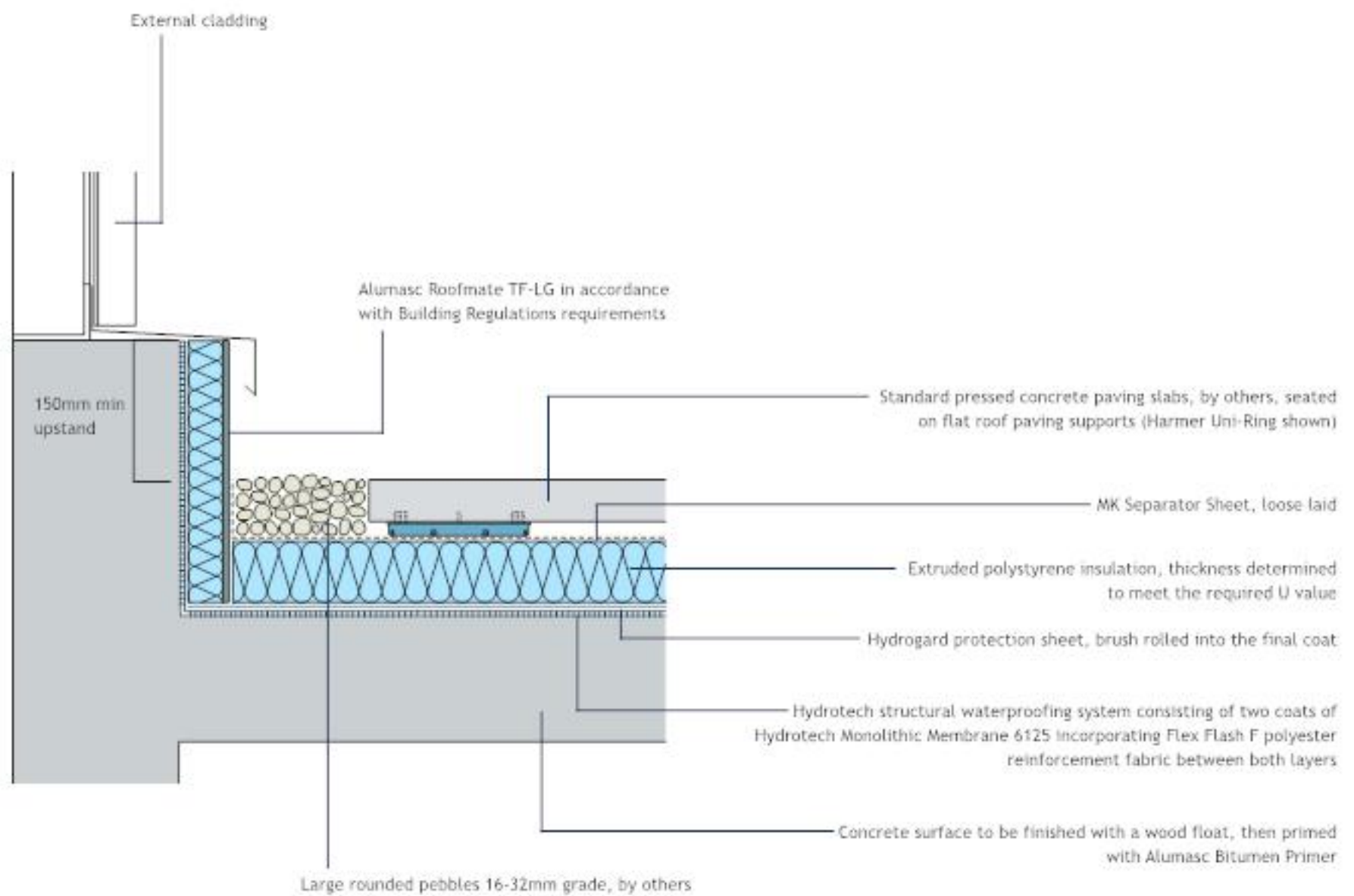




# Application Details

## Upstand – 4

Hydrotech waterproofing to insulated upstand to cladding cill



### General note for upstand details 1 – 4

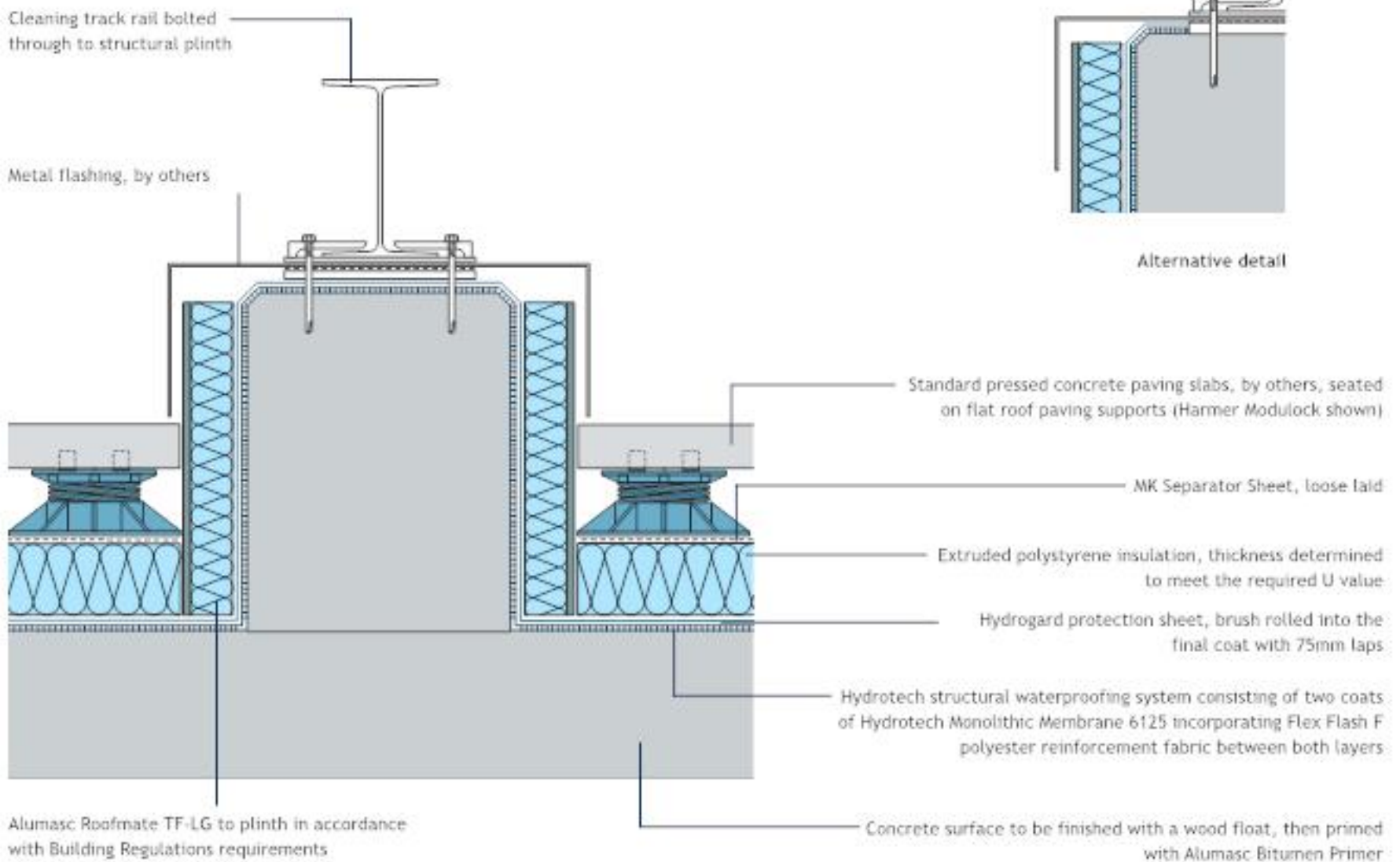
Where a paved area is constantly trafficked, perimeter paving slabs should be set in a sand and cement mortar bed



# Application Details

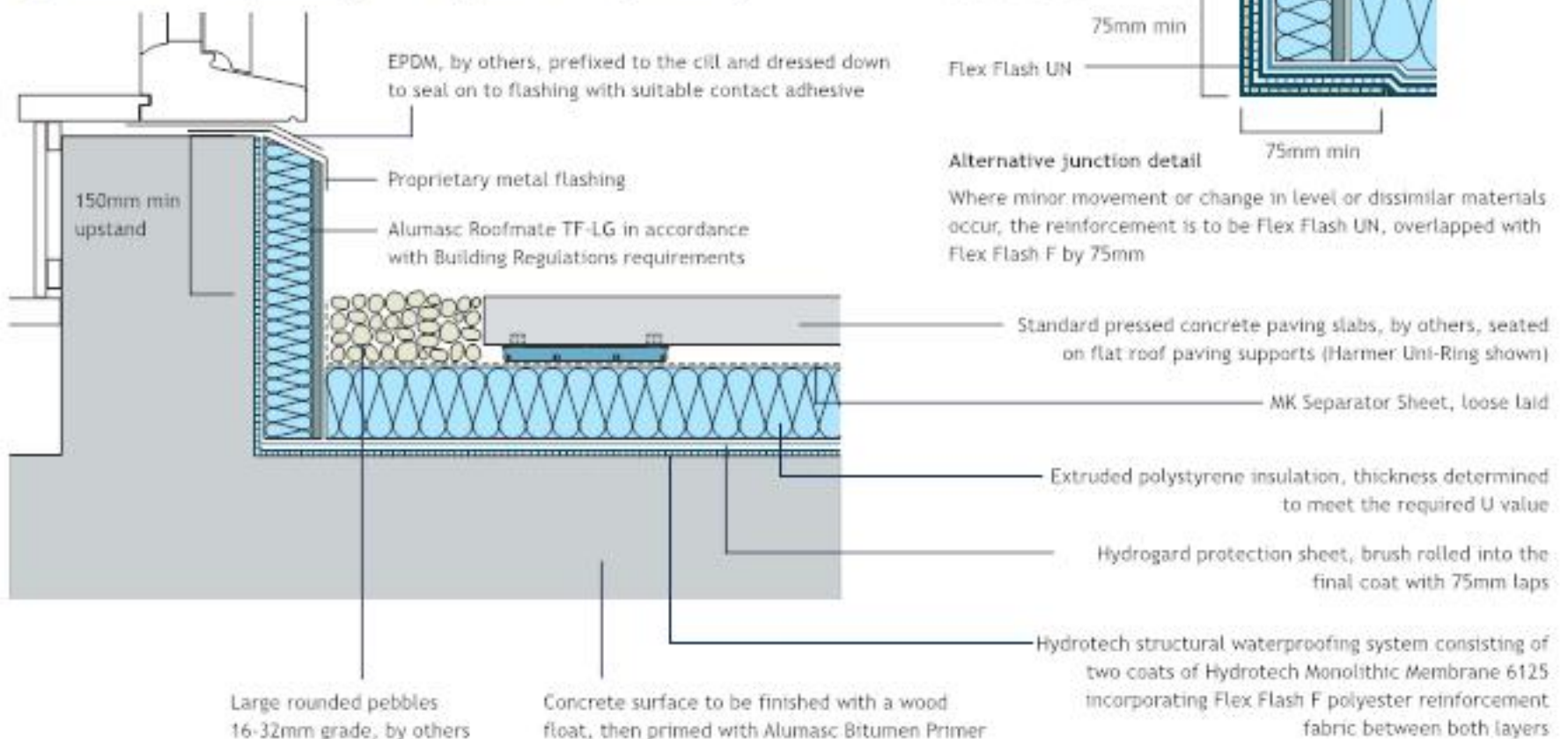
## Abutment – 1

Hydrotech waterproofing to plinth supporting cleaning track rail



## Abutment – 2

Hydrotech waterproofing to cill (EPDM to Hydrotech)

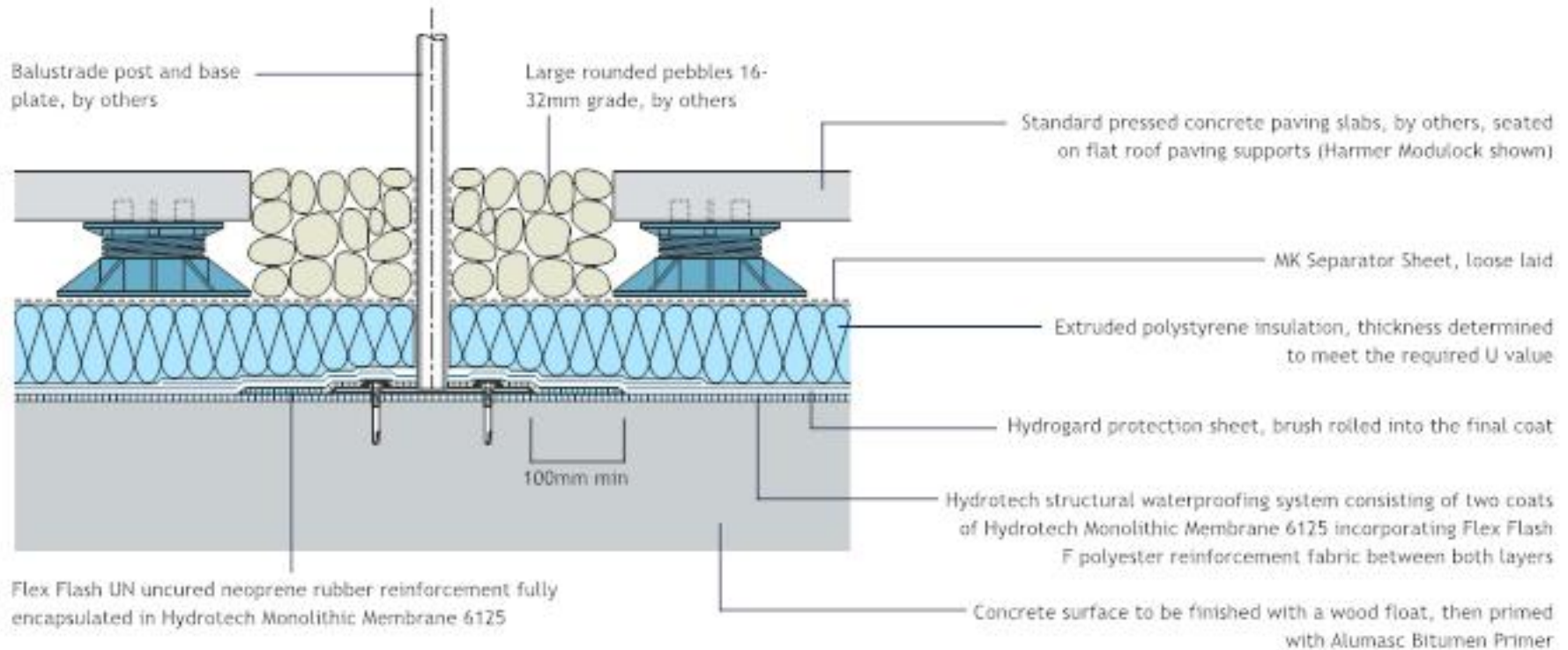




# Application Details

## Abutment – 3

### Hydrotech waterproofing to balustrade post

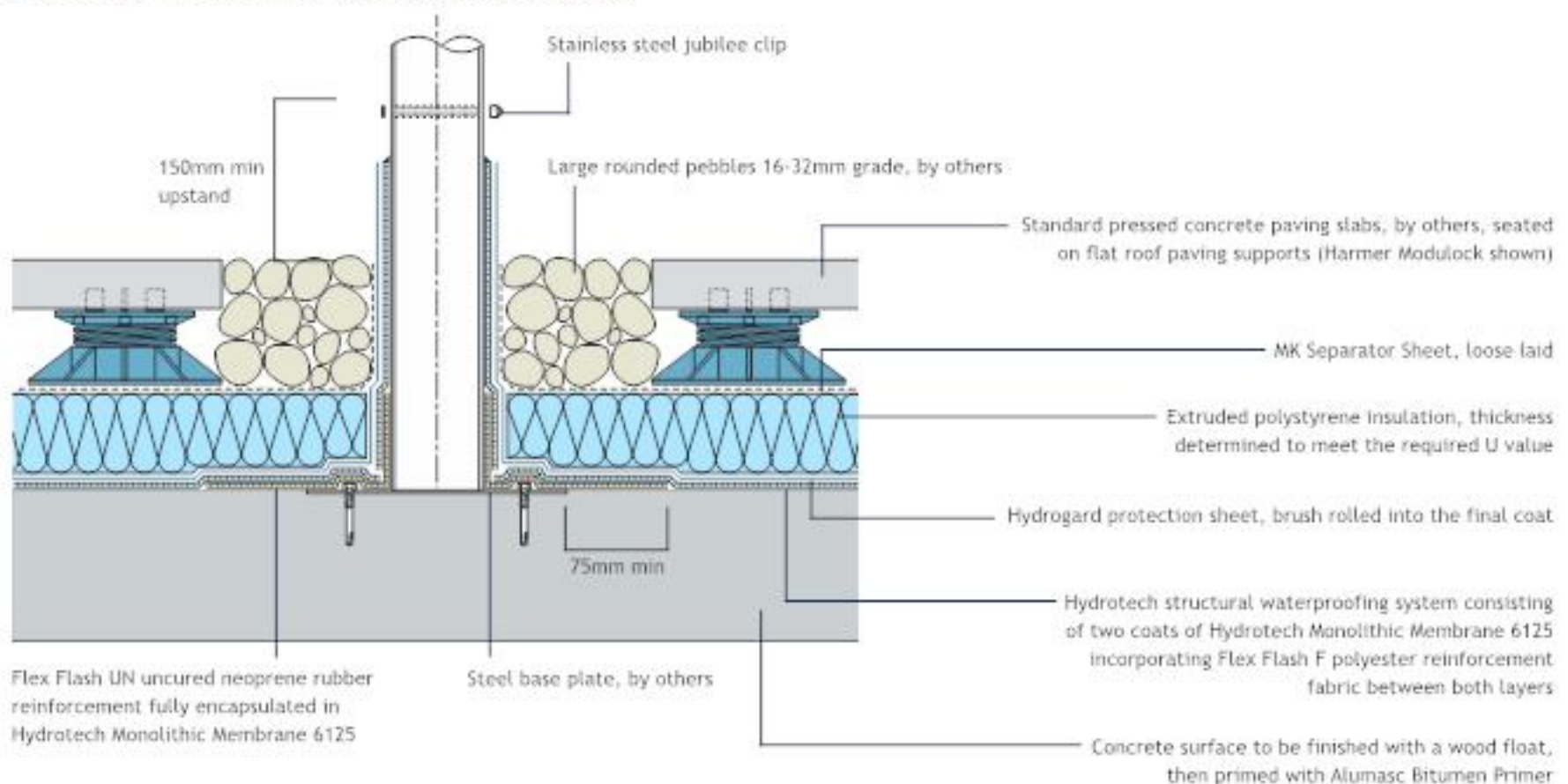


#### Installation sequence

1. Prime surface of concrete with Alumasc Bitumen Primer.
2. Install Hydrotech structural waterproofing system complete with Hydrogard protection sheet.
3. Remove Hydrogard protection sheet to expose an area of Hydrotech 100mm minimum larger than the balustrade base plate.
4. Install base plate, drill and fix bolts through the Hydrotech system and into the structure.
5. Apply secondary waterproofing to the base plate with Hydrotech Monolithic Membrane 6125 incorporating Flex Flash UN reinforcement.
6. Fully bond Hydrogard protection sheet to this secondary waterproofing, overlapping onto the existing protection sheet.

## Abutment – 4

### Hydrotech waterproofing to steel base plate



#### Notes

1. Base plate must be clean and free from dust, and whenever possible, membrane should be applied to substrate beneath base plate prior to its installation.
2. Whenever possible a single sheet of Flex Flash UN should be used.
3. Over bolt heads the sheet can be cut and embedded into membrane.
4. Where possible a mechanical termination should be achieved at the top of the Flex Flash UN if this is liable to be damaged by work of other trades.



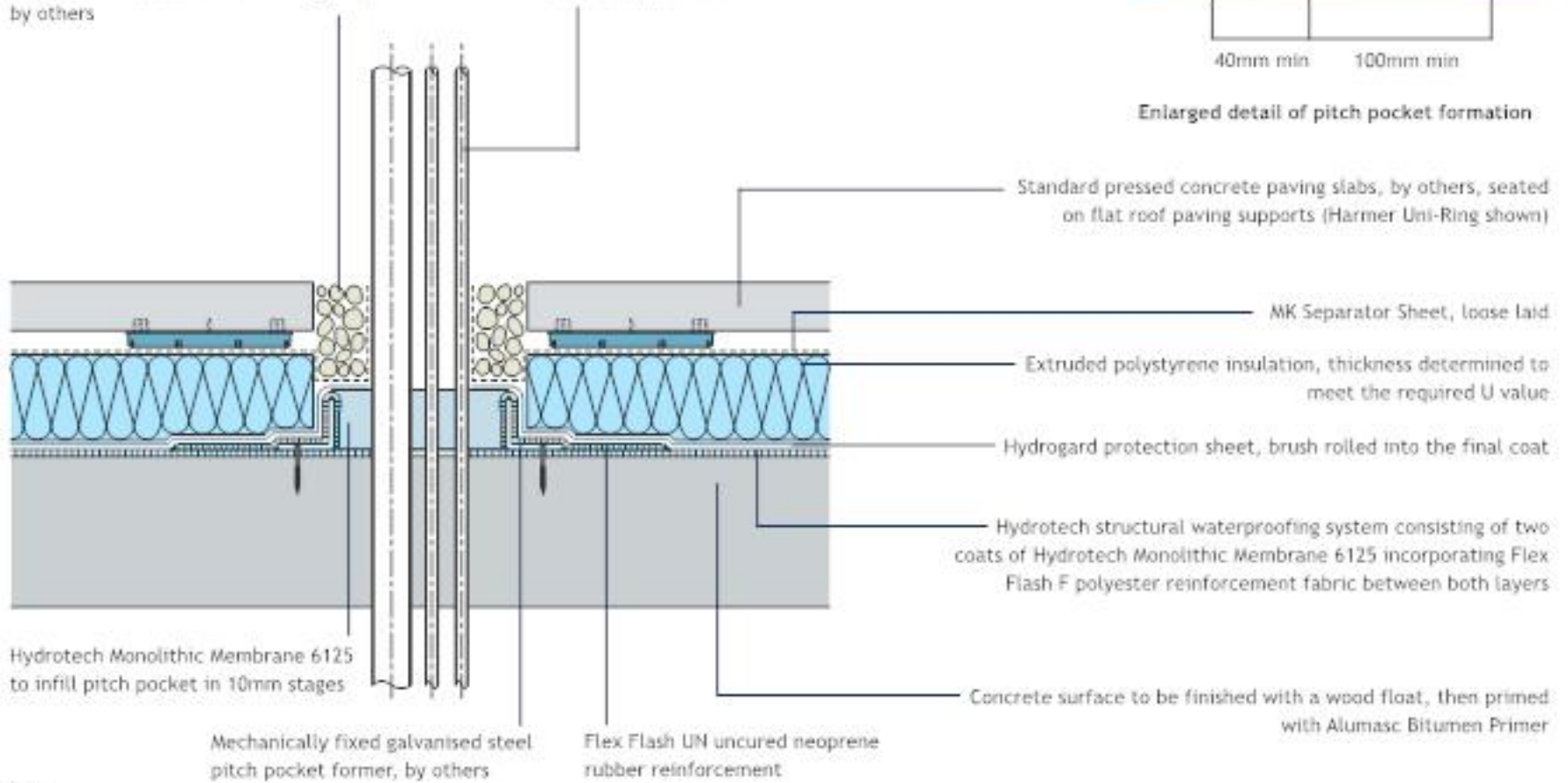
# Application Details

## Penetration – 1

### Hydrotech waterproofing to pitch pocket

Large rounded pebbles 16-32mm grade, by others

Grouped pipework

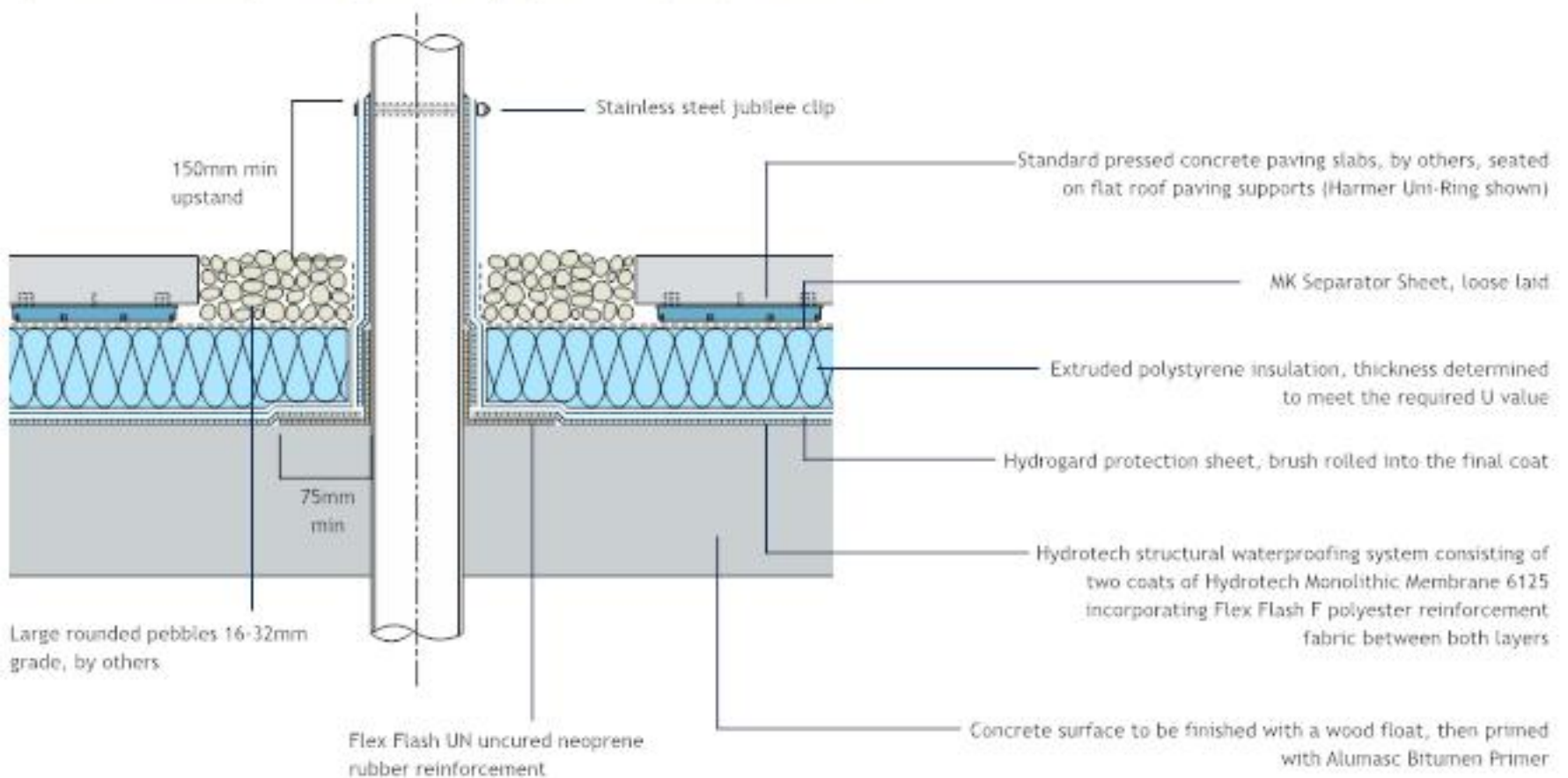


**Note**

Hydrogard protection sheet is not to be installed until detailing has been completed around galvanised steel pitch pocket.

## Penetration – 2

### Hydrotech waterproofing to metal pipe/vent (cold) – built in



**Notes**

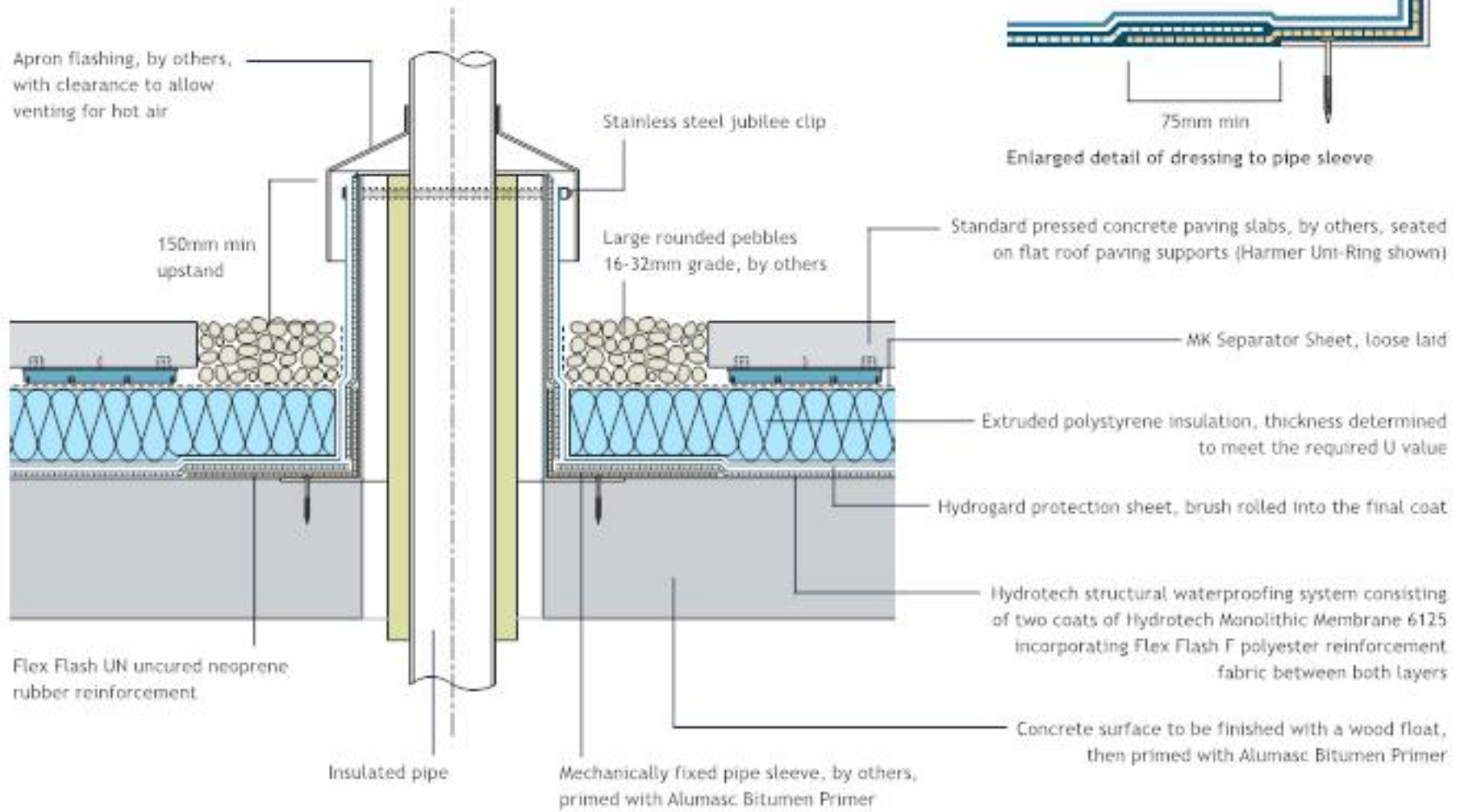
1. For PVC or other plastic pipes contact Alumasc Technical Services for further advice.
2. This detail can also be used in horizontal plane as an overflow facility.



# Application Details

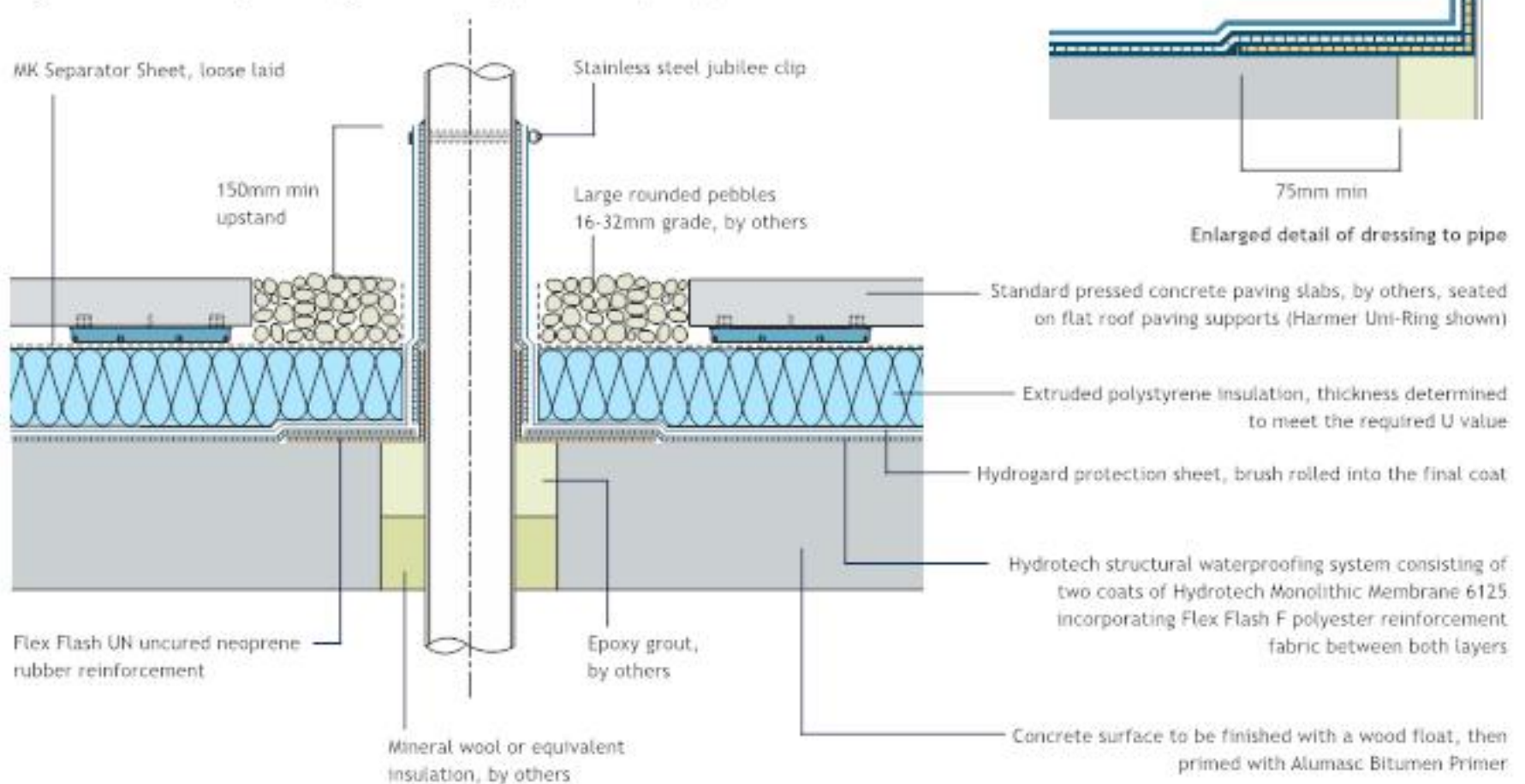
## Penetration – 3

### Hydrotech waterproofing to metal pipe/vent (hot)



## Penetration – 4

### Hydrotech waterproofing to metal pipe/vent (cold) – retro fitted



**Notes**

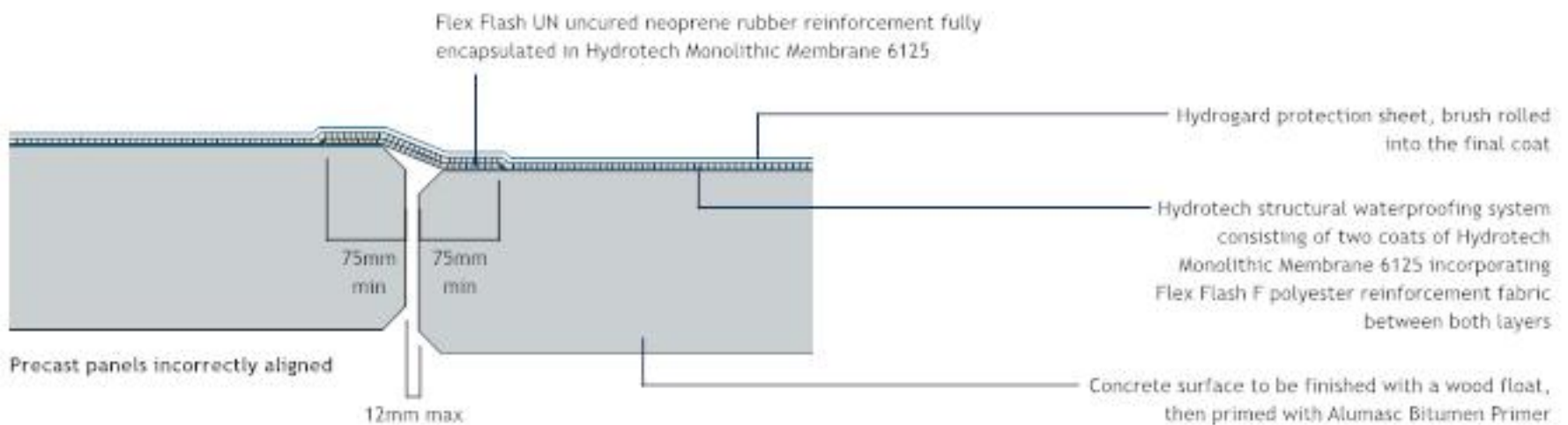
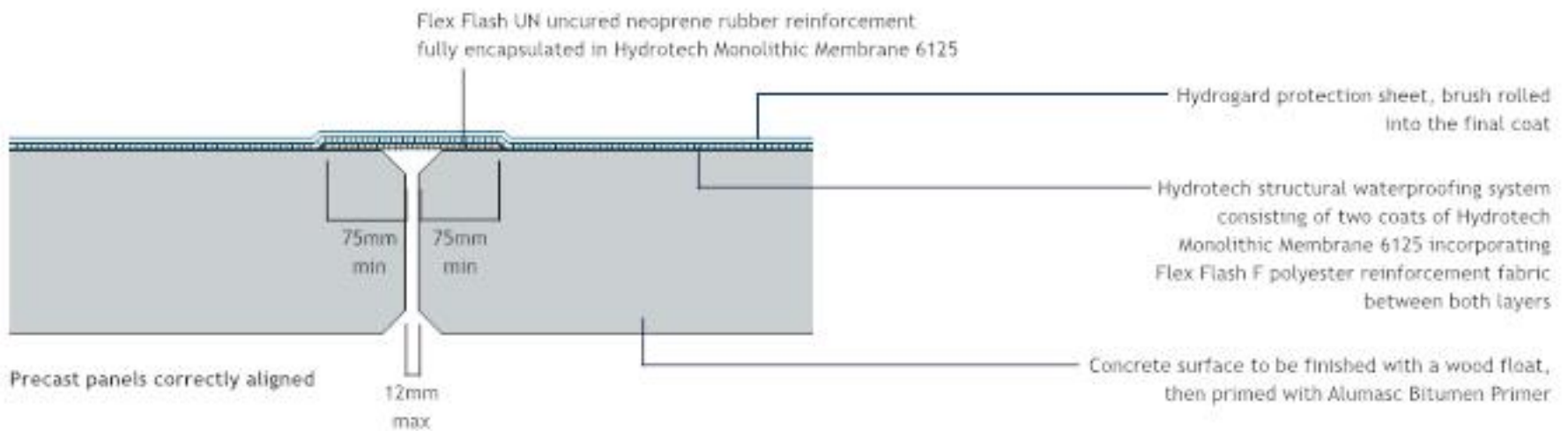
1. For PVC or other plastic pipes contact Alumasc Technical Services for further advice.
2. Pipe must be properly secured to structure to prevent vertical or lateral movement.



# Application Details

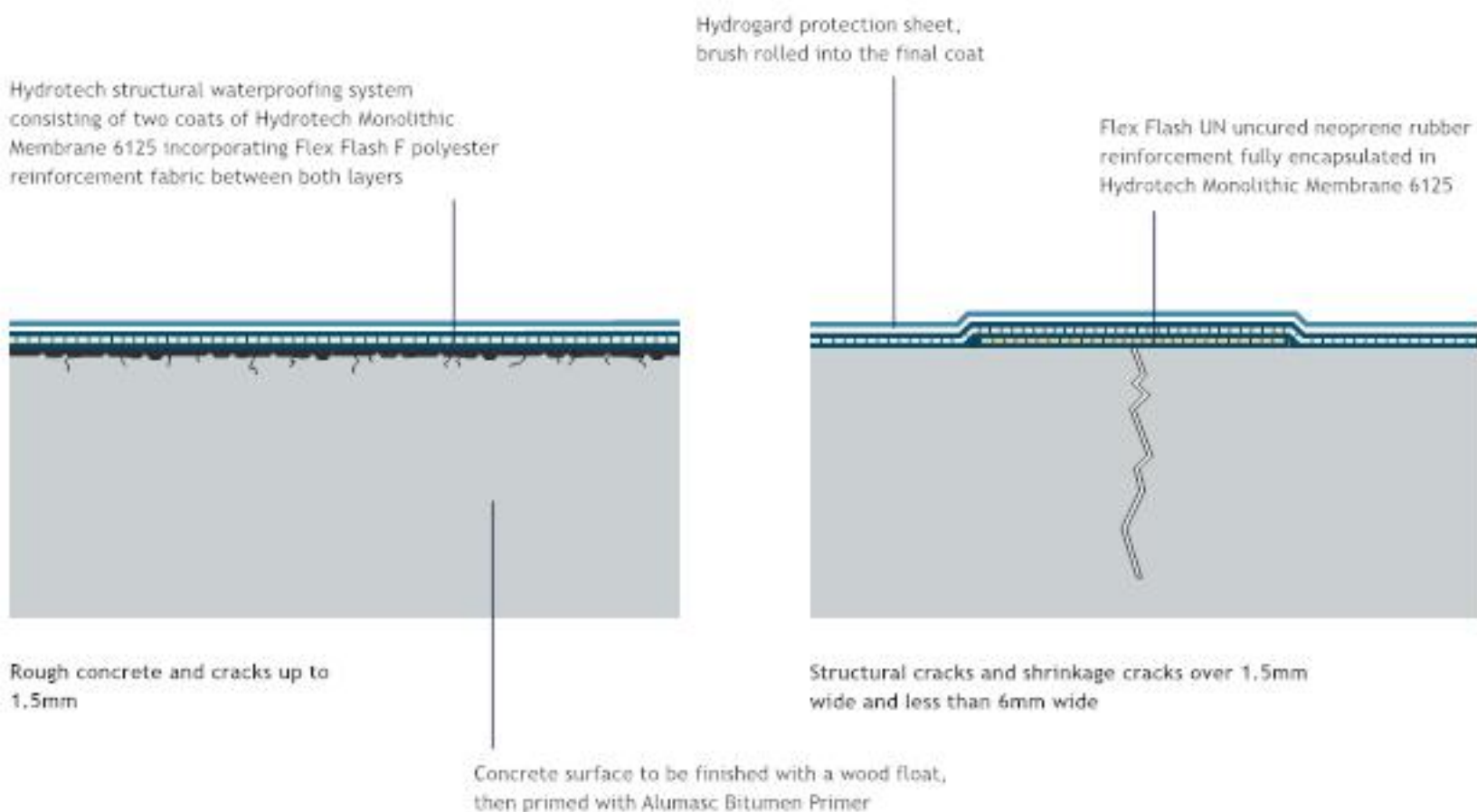
## Joint – 1

### Hydrotech waterproofing to precast panel side joint



## Joint – 2

### Hydrotech waterproofing to general cracks

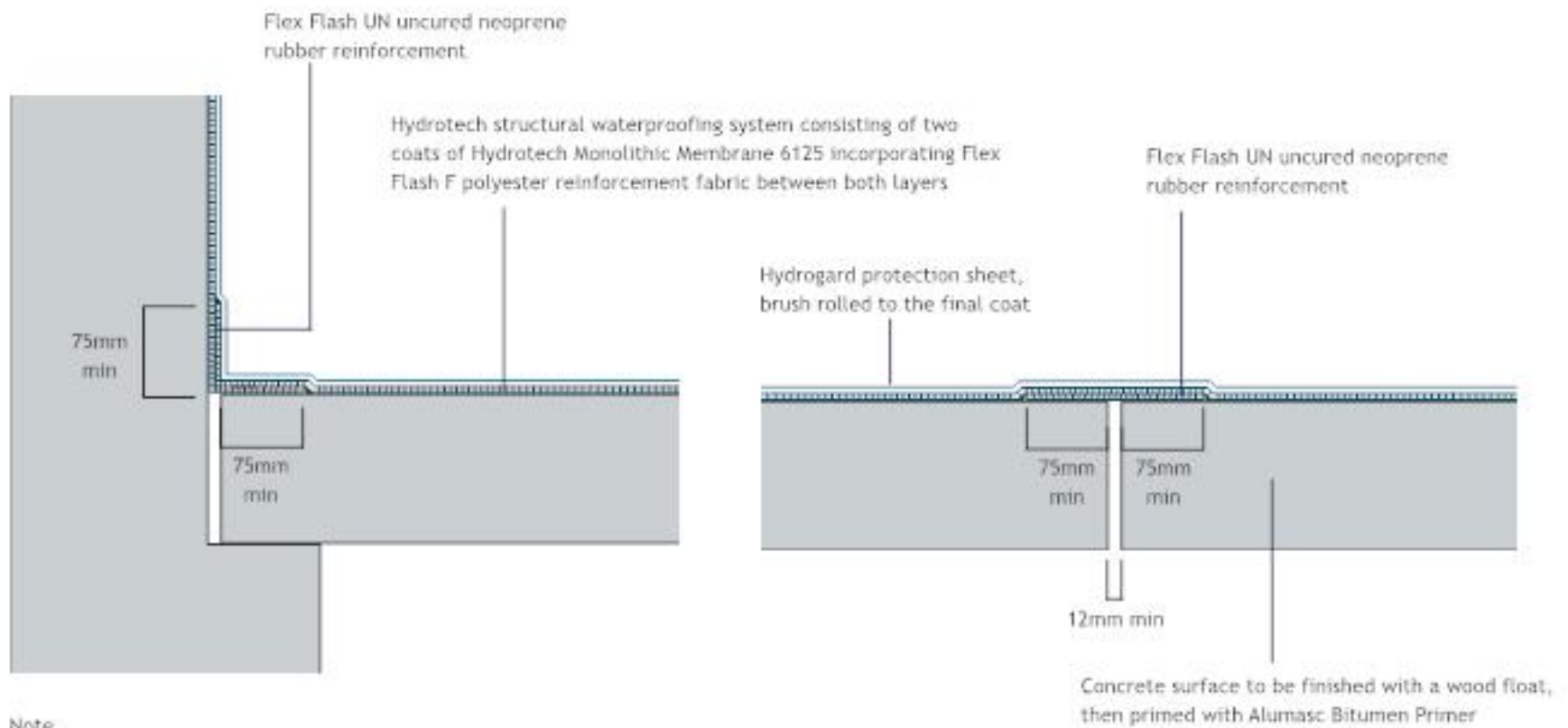




# Application Details

## Joint – 3a

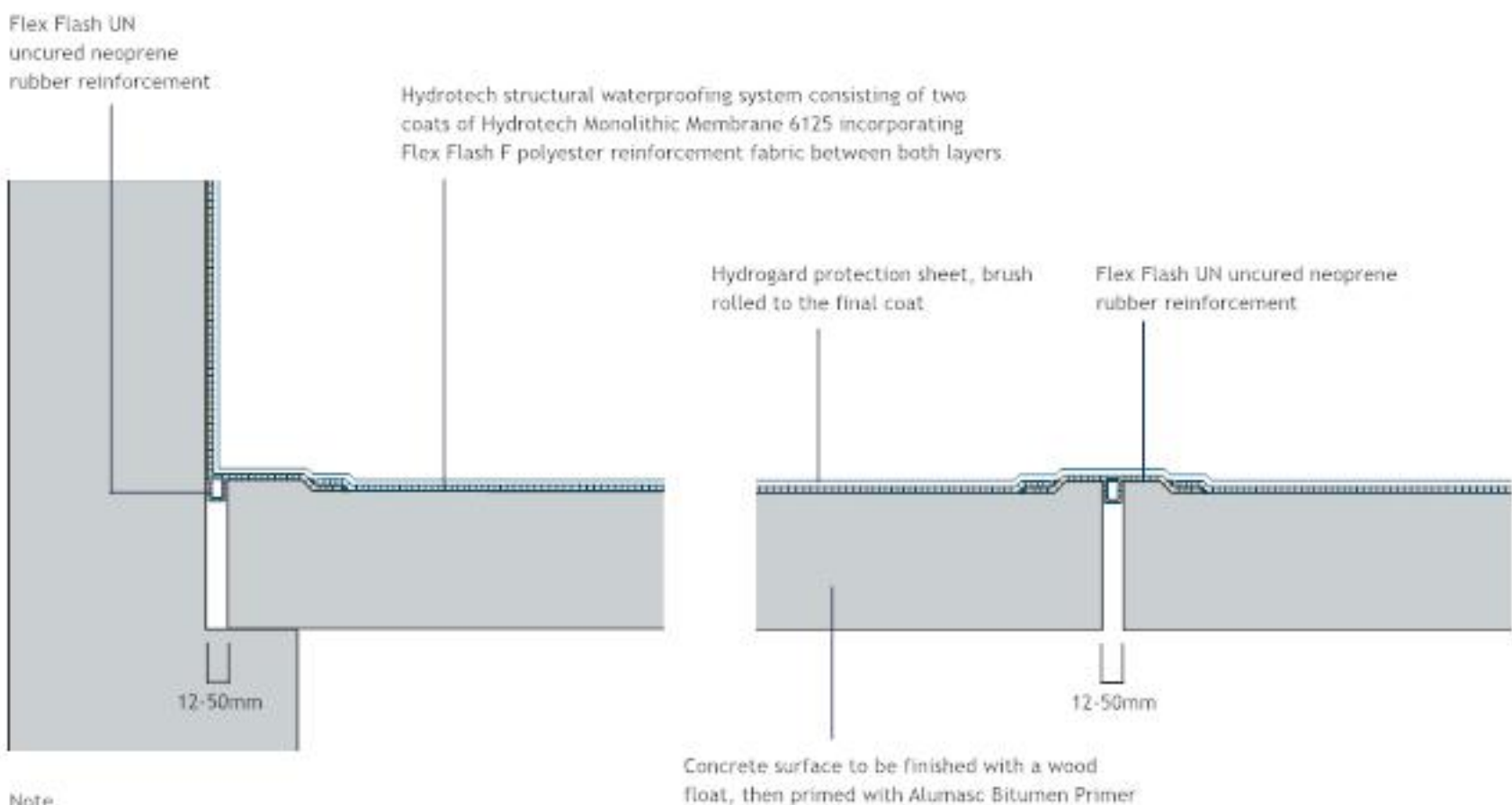
Hydrotech waterproofing to expansion joint – up to 12mm width



Note  
This type of joint should have less than 50% total movement.

## Joint – 3b

Hydrotech waterproofing to expansion joint – 12-50mm width



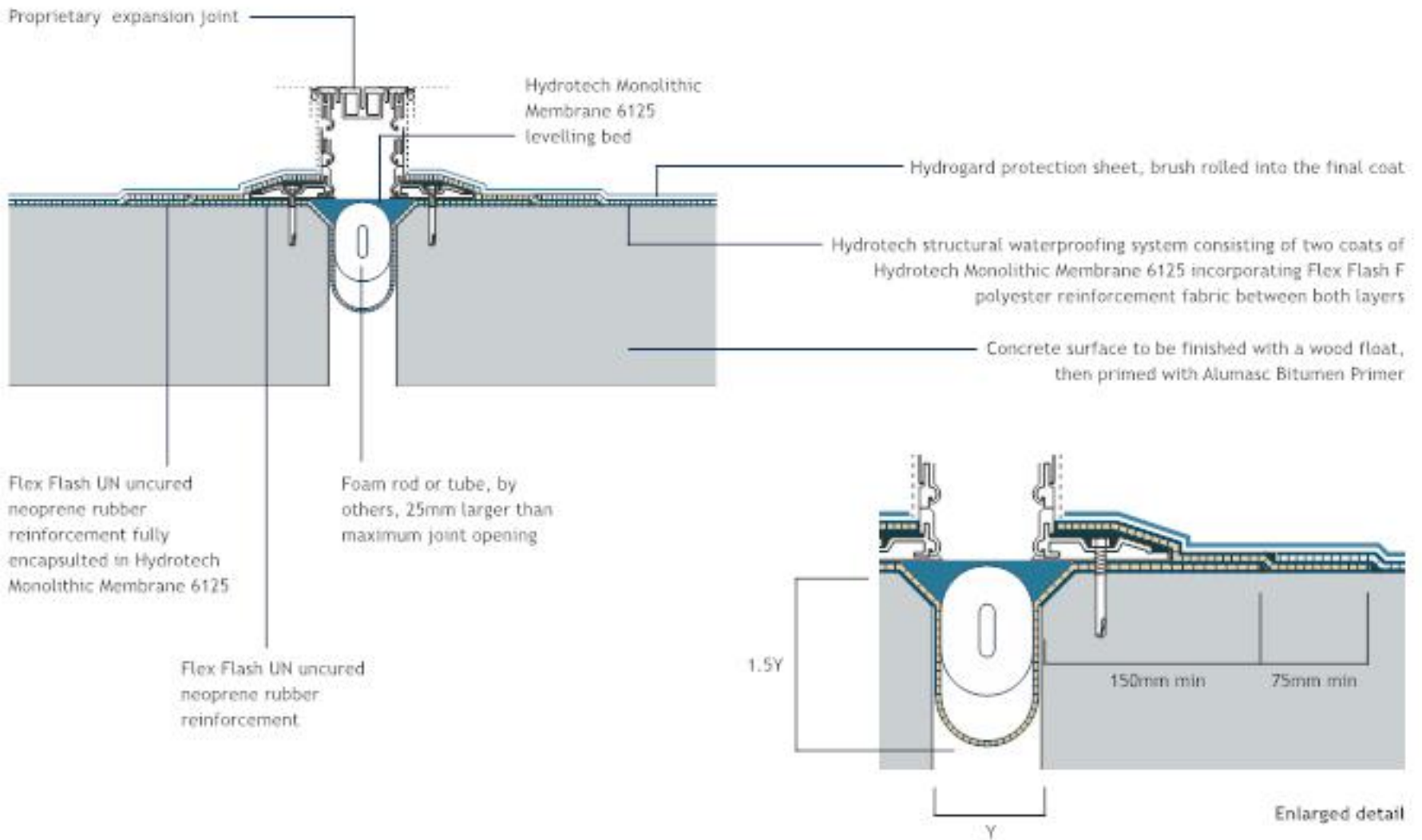
Note  
This type of joint should have less than 50% total movement.



# Application Details

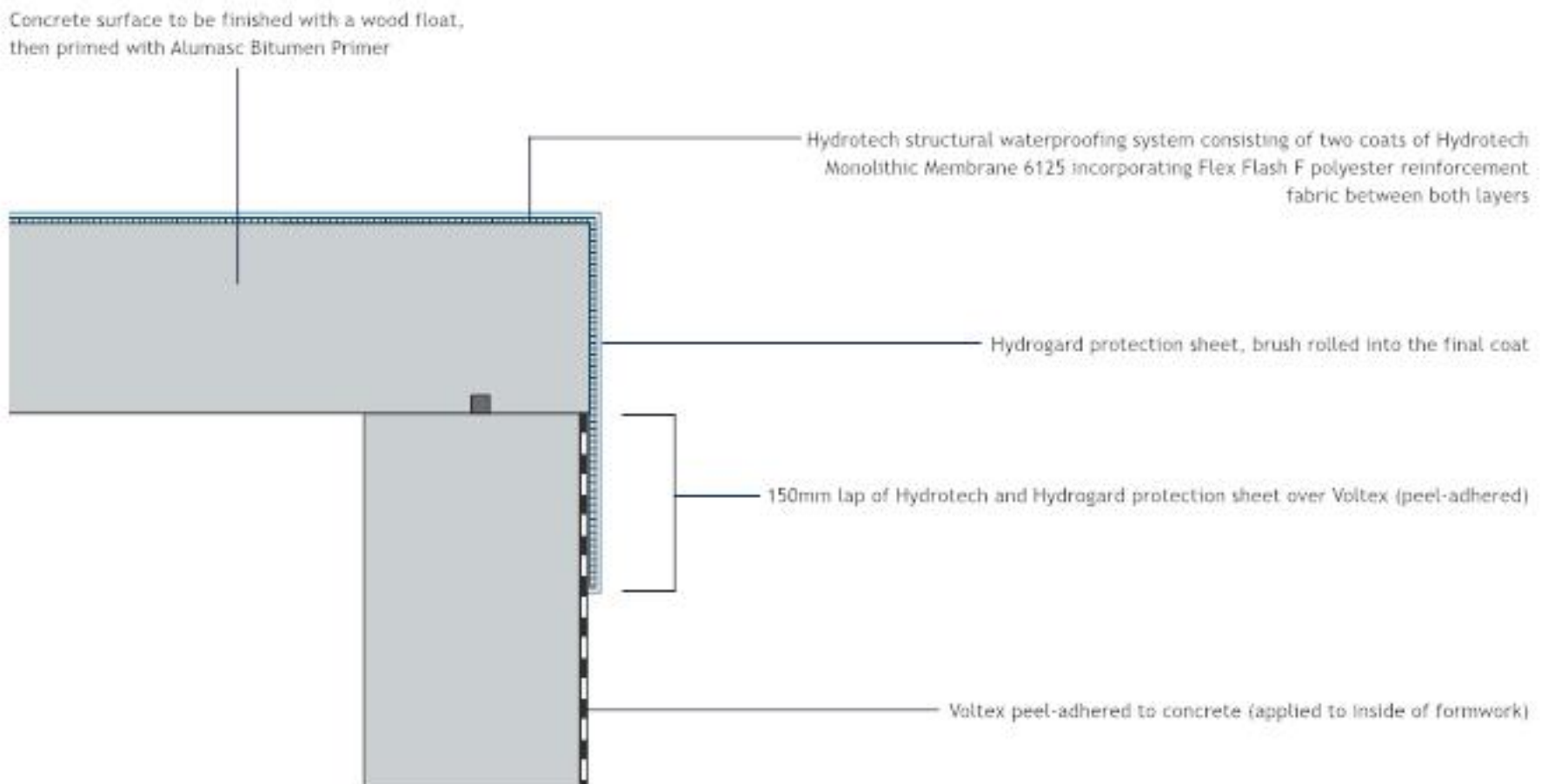
## Joint – 4

### Hydrotech waterproofing to proprietary expansion joint



## Joint – 5

### Hydrotech waterproofing junction with Voltex

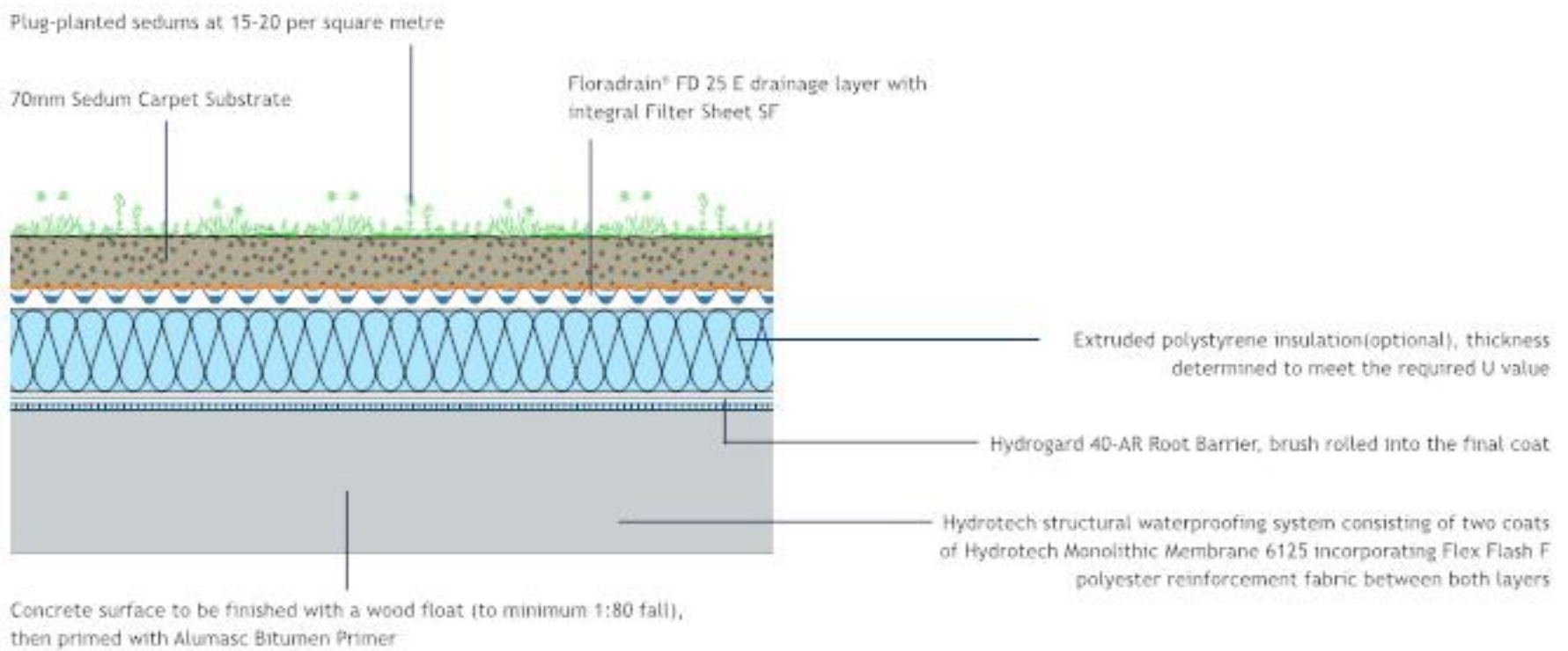




# Application Details

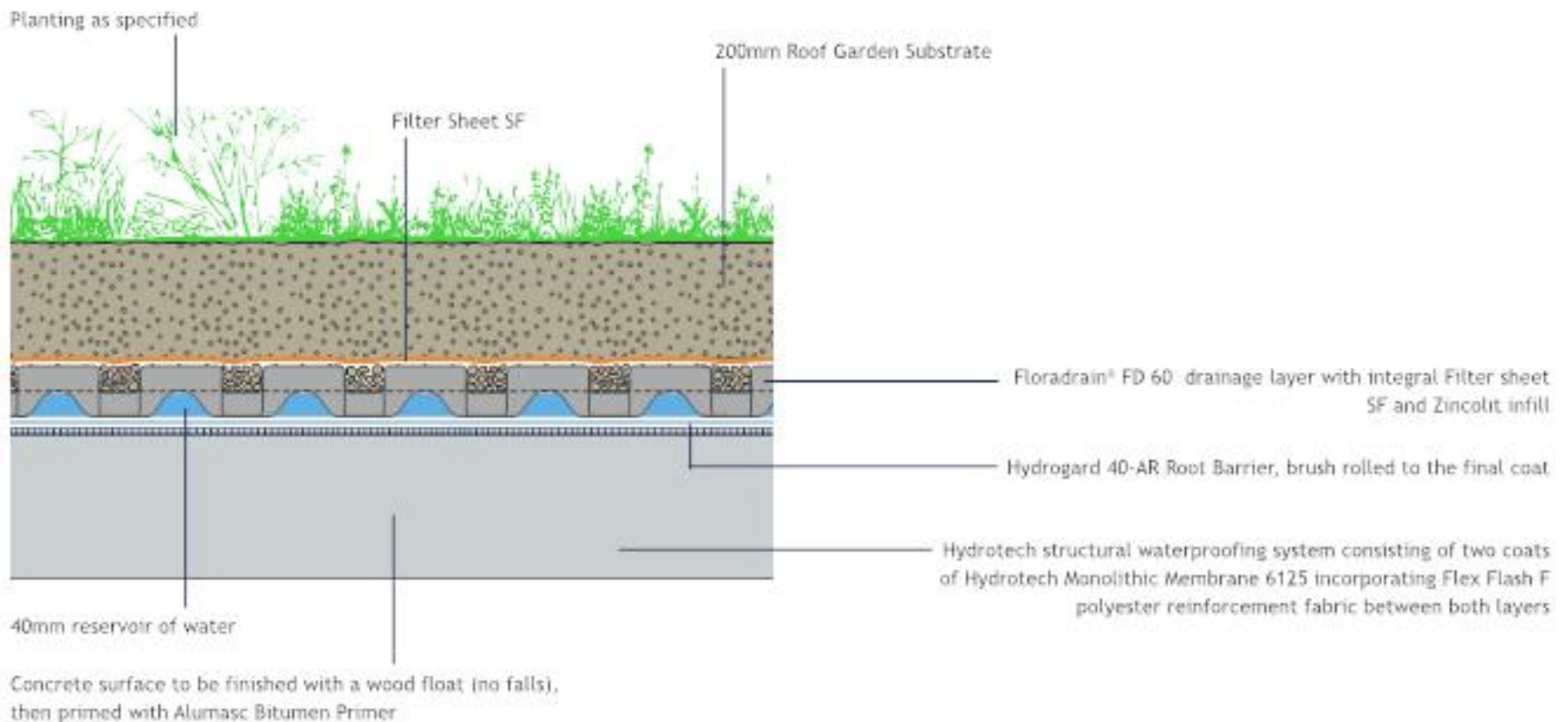
## Green roof – 1

### Hydrotech waterproofing for inverted/extensive build-up



## Green roof – 2

### Hydrotech un-insulated waterproofing for irrigated intensive build-up on podium deck



Please refer to Alumasc ZinCo Green Roofing Systems literature for more comprehensive information





# Product Data

## System Components

### Hydrotech Monolithic Membrane 6125

A hot rubberised bitumen, modified with styrene resins, natural rubbers, oils, fillers and antioxidants.

Hydrotech Monolithic Membrane 6125 is supplied in the form of solid 22.6 kg blocks, wrapped in polyethylene film, in cardboard boxes.

Flash point	260°C
Low temperature flexibility	-25°C
Shelf life	10 years
Specific gravity	1.25
Coverage	approx. 6.5 kg/m <sup>2</sup>

### Hydrotech 6090 H & V

A cold-applied alternative for Hydrotech Monolithic Membrane 6125. Supplied with separate catalyst for addition and mixing prior to application. Active life once mixed is 45 minutes. Available in horizontal and vertical grades.

Drum size	25 litres
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### Flex Flash F

A spun-bonded polyester fabric reinforcement sheet.

Roll length	200m
Roll width	1000mm
Mass	50 g/m <sup>2</sup>
Colour	White

### Flex Flash UN

An uncured neoprene rubber reinforcement sheet.

Roll length	30.5m
Roll width	150, 300, 450, 600mm
Thickness	1.5mm
Colour	Green

### Alumasc Bitumen Primer

A cold spray applied bituminous primer, for use on horizontal, vertical and sloping surfaces. Can also be applied by brush or roller.

Drum size	25 litres
Coverage	8-16m <sup>2</sup> /litre

## Protection Layers

### Hydrogard 10

A lightweight oxidised bitumen glass fibre reinforced protection sheet.

Roll size	20 x 1m
Roll weight	40 kg

### Hydrogard 20

A polyester reinforced modified bitumen protection sheet.

Roll size	20 x 1m
Roll weight	45 kg

### Hydrogard 30

A heavy duty dual reinforced modified bitumen protection sheet.

Roll size	12.73 x 1.1m
Roll weight	45 kg

### Hydrogard 40-AR

A root resistant polyester reinforced modified bitumen FLL approved\* protection sheet, incorporating root repellent.

Roll size	8 x 1m
Roll weight	39 kg

\* FLL - The Landscaping and Landscape Development Research Society

## Drainage Layers

### Hydrodrain 200

A drainage layer comprising an extruded polyethylene core with nonwoven polypropylene/polyethylene filter sheet. All rolls have a 100mm fabric overlap.

Roll size	2 x 25m
Coverage	50m <sup>2</sup>
Weight	0.85 kg/m <sup>2</sup>
Roll weight	43 kg
Thickness	5mm

### Hydrodrain 300

A drainage layer comprising an extruded polyethylene core with nonwoven polypropylene/polyethylene filter sheet. All rolls have a 100mm fabric overlap.

Roll size	1.21 x 22.86m
Coverage	27.66m <sup>2</sup>
Weight	1.33 kg/m <sup>2</sup>
Roll weight	37 kg
Thickness	6mm



# Product Data

## Insulation

### Alumasc Roofmate TF-X

An HFC blown CFC/HCFC-free extruded polystyrene board with shiplap edge profiles, and a thermal conductivity of 0.029 - 0.031 W/m°C.

Board size	1.25 x 0.6m
Coverage	0.75m <sup>2</sup> /board
Thickness	various
Density	38 kg/m <sup>3</sup>
Compressive strength	110 kN/m <sup>2</sup>

### Alumasc Roofmate TF-A

A CO<sub>2</sub> blown CFC/HCFC-free extruded polystyrene board with shiplap edge profiles, and a thermal conductivity of 0.036 W/m°C (up to and including 130mm) and 0.038 W/m°C (greater than 120mm).

Board size	1.25 x 0.6m
Coverage	0.75m <sup>2</sup> /board
Thickness	various
Density	38 kg/m <sup>3</sup>
Compressive strength	130 kN/m <sup>2</sup>

### Alumasc Roofmate TF-LG-X

An HFC blown CFC/HCFC-free cementitious topped extruded polystyrene board with tongue and grooved sides, and a thermal conductivity of 0.027 W/m°C.

### Alumasc Roofmate TF-LG-A

A CO<sub>2</sub> blown CFC/HCFC-free alternative cementitious topped extruded polystyrene board with tongue and grooved sides, a GWP of 1, and a thermal conductivity of 0.036.

Board size	1.2 x 0.6m
Coverage	0.72m <sup>2</sup> /board
Mortar topping (10mm)	approx. 22 kg/m <sup>2</sup>
Density	38 kg/m <sup>3</sup>
Compressive strength	110 kN/m <sup>2</sup>

### Alumasc Roofmate MK

A water vapour permeable, spun bonded polyethylene separator sheet.

Size	3 x 100m
Coverage	300m <sup>2</sup>
Weight	60 g/m <sup>2</sup>
Roll weight	19 kg
Overlap	300mm





# Alumasc Project Support

Alumasc Technical Services can advise on all aspects of product selection, specification and integration of Alumasc systems into any building design.

Specific technical advice is always available through our Area Sales Managers, Site Support Technicians or Technical Services team.

## The Alumasc Four Part Business Proposition

Based on an integrated delivery of the four key factors that make up a top class Waterproofing system offer:



### Premium Products

A constantly evolving range of quality proven world class products and systems, fully accredited to UK, European and North American standards.



### Technical Support

Comprehensive data for specification and use of all products and systems is available in published form, and on the company website.

This is backed up with proactive support on a project basis, led by specialist area managers and using the latest CAD technology.



### Approved Contractors

A rigorously trained and monitored installation network for each specialist system to ensure correct application on site.



### Warranties

A comprehensive choice of Alumasc warranties, giving protection for up to 25 years, ensuring long-term peace of mind.

## Alumasc Technical Support for Hydrotech

### Design Support

- Detailed site evaluation and survey reports
- Design advice
- Cost estimates
- Thermal efficiency calculations
- Condensation risk analyses
- Wind loading calculation for high exposure
- Typical CAD details
- Product samples
- Flow calculations

### Specification Support

- Detailed NBS specifications
- Guidance on Regulations and Standards
- Material safety and product data sheets
- Maintenance schedule

### Installation, Aftercare and Warranties

- Installation by an approved contractor network, on site technical and installation support, project specific warranties, supplementary maintenance schedules and programmes





# Approved Contractors and Warranties

Alumasc have, as part of their support team, a UK network of fully trained and approved contractors available to price and carry out and install Hydrotech systems for all types of new build and refurbishment projects.

## Alumasc Approved Contractors

Installation of Hydrotech systems is carried out by a national network of fully trained and approved contractors.

### Alumasc Approved Contractors:

- Provide fully warranted workmanship as part of the Alumasc products and services warranty offer
- Undergo comprehensive training both in-house and on-site, with a register kept of all carded operatives within the company
- Are assessed for competence and suitability on specific project types prior to selection for tendering opportunities
- Are assessed for financial stability prior to any award of approved status
- Are prepared to work beyond their local geographical boundaries where possible, therefore enabling provision of a list of contractors tailored to your individual need
- Are monitored as part of the ISO 9001: 2000 Quality Management and ISO 14001: 2004 Environmental Management systems

Alumasc ensure approved contractors receive valuable, hands-on assistance in the application of all Alumasc products and systems, as well as refresher training, whenever required, to ensure that applicators are all aware of any product or method improvements.

For details of the Alumasc approved contractor network please contact us or your local area sales manager direct.

## Warranties

Alumasc offers a comprehensive choice of warranties covering both product and installation to suit the specified design life of the installed product.

- Alumasc warranties are available for 12, 15, 20 or 25 years supported by public and product liability insurances with a total indemnity limit of £50 million on an annually renewable basis
- Third party insurance backing giving cover against latent product defects is available via FSA regulated insurance brokers subject to independent final inspection, documented compliance with an agreed maintenance schedule and pre-payment of the relevant premium.

NB: Warranties are only offered on Hydrotech projects that have been installed by an Alumasc Approved Contractor, in accordance with the relevant project specification and Alumasc Quality Assurance scheme ruling at the time of application

For all information relating to warranties for your specific project please contact us at the St Helens office or your local Area Manager direct.





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