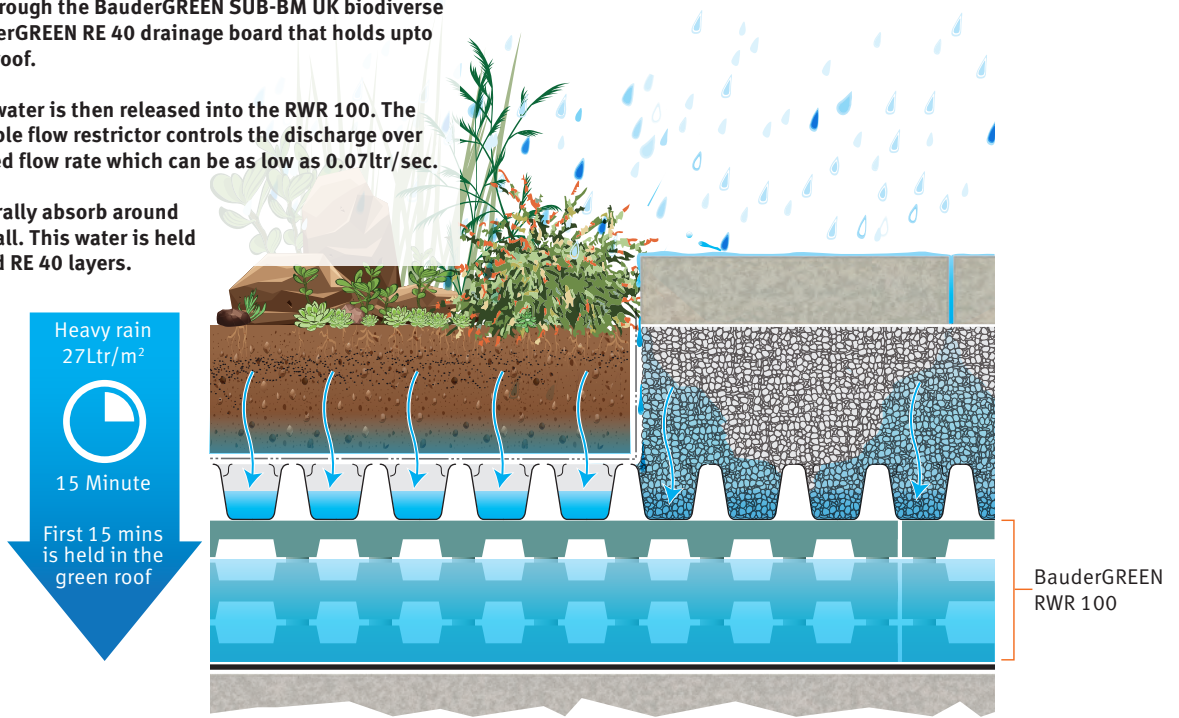


BauderBLUE STORMcell System

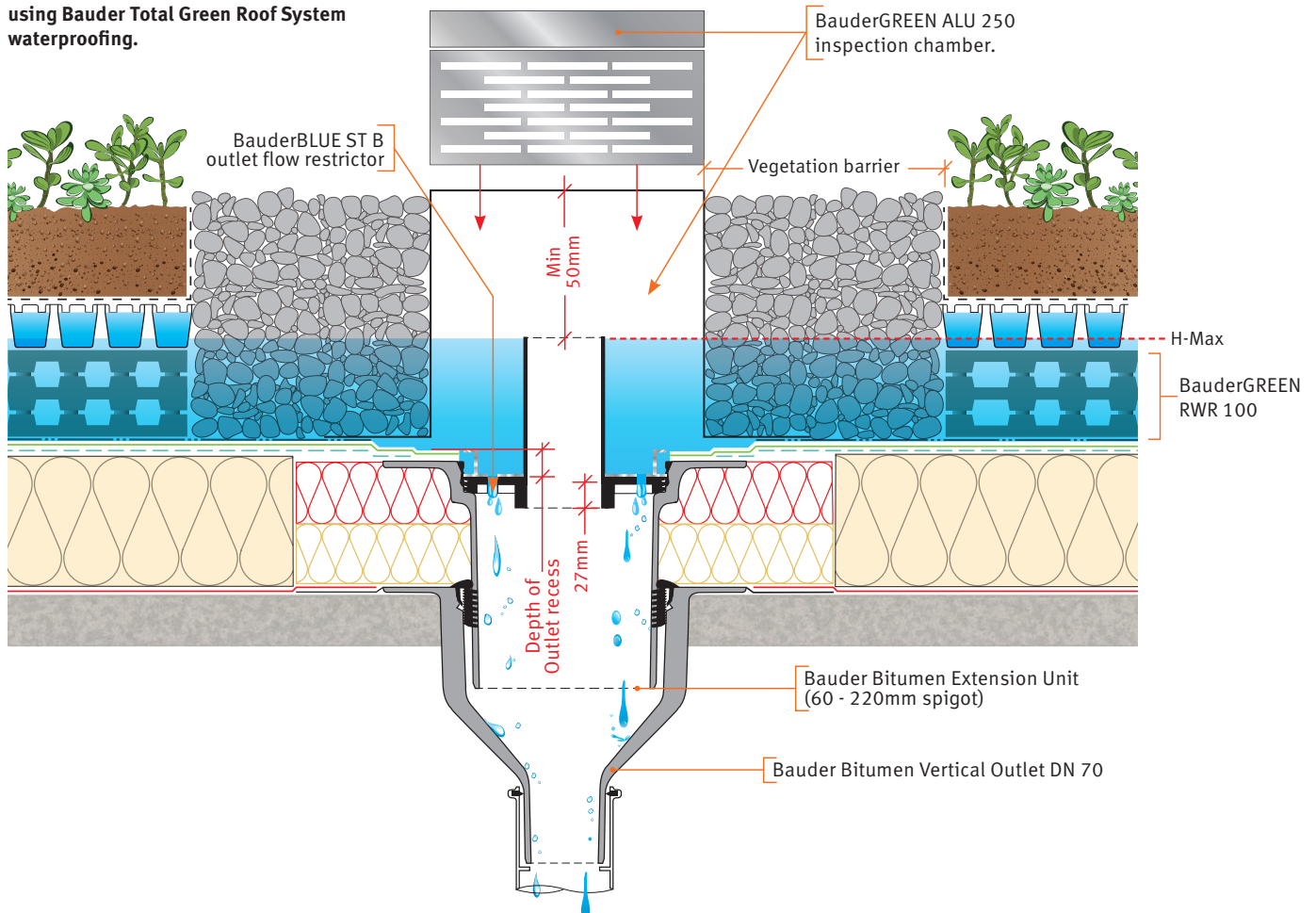
Rainwater percolates through the BauderGREEN SUB-BM UK biodiverse substrate into the BauderGREEN RE 40 drainage board that holds upto 13.5 l/m² for the green roof.

During a storm, excess water is then released into the RWR 100. The BauderBLUE ST adjustable flow restrictor controls the discharge over <48 hours at the required flow rate which can be as low as 0.07ltr/sec.

The green roof will naturally absorb around 50% of the annual rainfall. This water is held within the substrate and RE 40 layers.



Illustrated here as a warm roof construction using Bauder Total Green Roof System waterproofing.



BauderBLUE STORMvoid System

Simplest blue roof solution beneath hard landscaping on a pedestal support system

Courtyard podiums or terraces are ideal locations for this blue roof solution with a completely paved finish above the void space created by the pedestal system.

This blue roof solution incorporates open-jointed paving on a Bauder pedestal support system that covers the height of the H-Max. The weight loading of the paving must exceed any buoyancy forces that will be exerted on the pedestals. The STORMvoid system is likely to require additional ballast to prevent floatation if used on inverted blue roofs.

The Bauder pedestal range is used in the STORMvoid system with hard landscaping. Selection will depend on the performance required.

Options include:

Bauder Adjustable Pedestal System

Simple, high strength, low-cost pedestal units that achieve depths from 18mm to 955mm. The pedestals feature a 197mm diameter base to negate the need for additional load spreader.

Bauder Non-Combustible Pedestal System

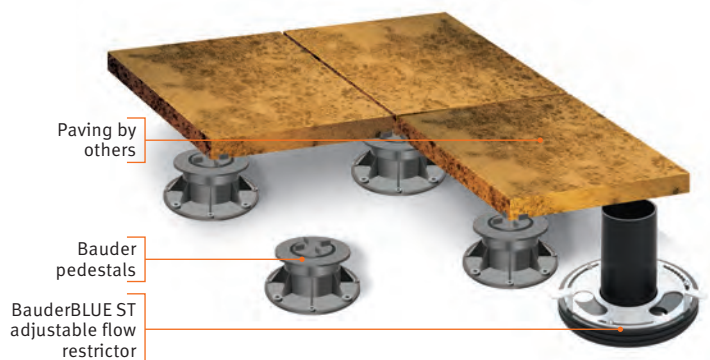
An all metal, non-combustible pedestal with a 170mm diameter base plate to spread load across the roof surface. The pedestal system can achieve a variety of heights from 42mm to 282mm.

Plus points

- Accommodates high volumes of water.
- Hard landscape finish.
- Often an ideal finish for simple roof areas.
- Ideal as part of a comprehensive BREEAM solution.
- Comprehensive range of guarantee packages to fulfil cover requirements for the project (dependant on system/product selection). For more information contact our technical dept for a sample guarantee outlining cover level, terms and conditions.

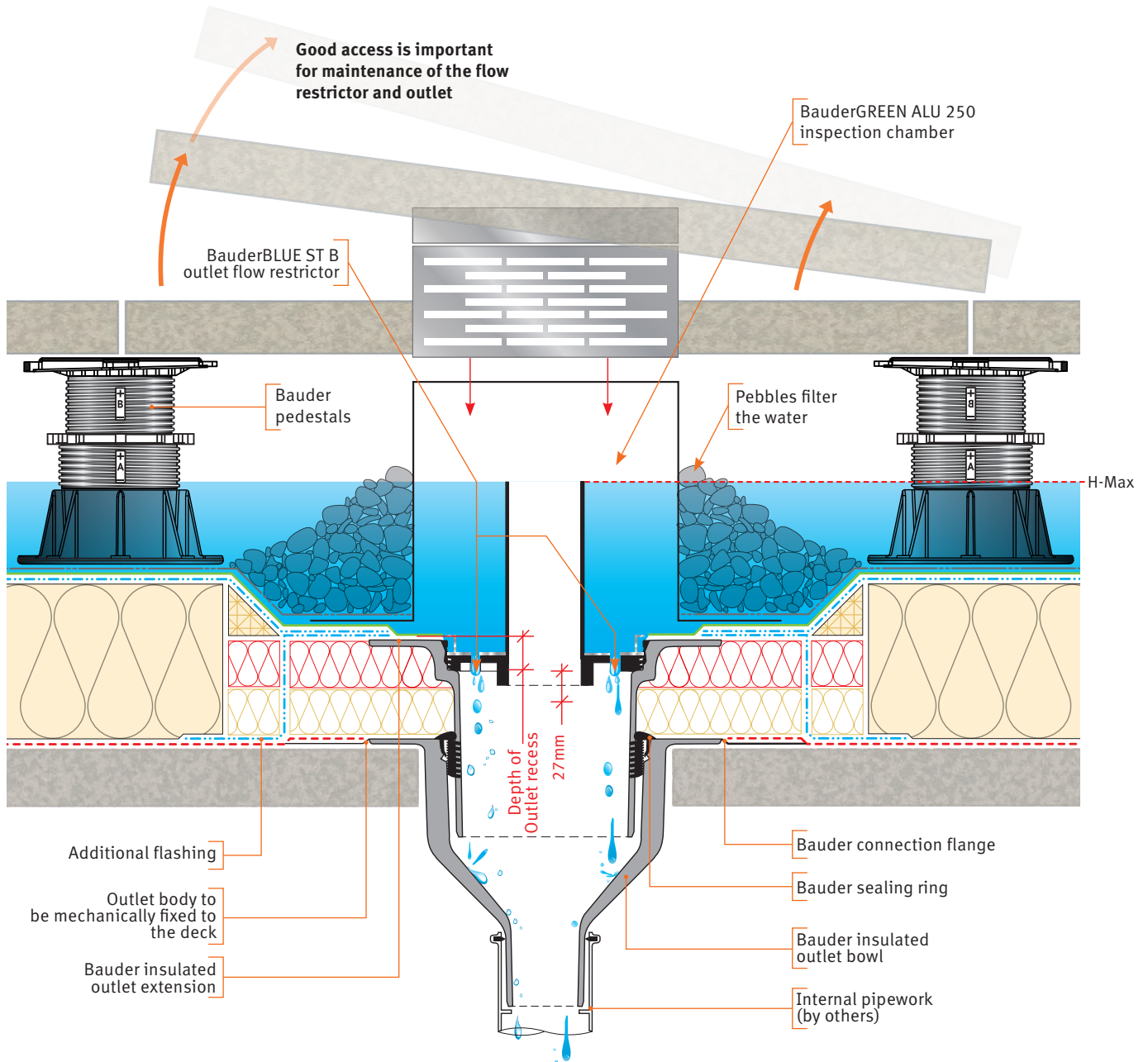
Roof finish options

- Paving.
- Metal decking.



BauderBLUE STORMvoid System

The STORMvoid system uses the Bauder range of pedestals to form the blue roof void. Rainwater landing on the decking or paving drains through the open joints between them into the void below. Here the water is held via the BauderBLUE ST adjustable blue roof flow restrictor and discharged at the required rate for the roof. The system is ideal for simple hard landscaped blue roofs.



The discharge flow rate is controlled by the adjustable flow Restrictor. The pebble margin filters the rainwater to prevent debris being washed into the restrictor.

Sumping of the outlet increases efficiency of the flow restrictor.

Waterproofing a Blue Roof

Ensuring the construction remains watertight throughout the service life of the structure

It is critical to ensure the waterproofing system is able to meet the demands placed on it by the blue roof. Additionally, the design should minimise the risk of water ingress by eliminating penetrations within the blue roof areas.

Reinforced bitumen membrane systems for warm roof construction

Our reinforced bitumen membrane systems are used when a warm roof needs to be constructed on the building.

BTRS PLUS and BTRS are suitable for STORMcell and STORMvoid hard landscaping. For green roof systems over STORMcell or STORMsub system BTGRS PLUS and BTGRS are used with their root resistant cap sheets.

In a warm roof all penetrations are isolated. This is achieved by forming a secondary seal between the vapour control layer and the underlay or the underside of the waterproofing, set 250mm back from the penetration.

See our Reinforced Bitumen Membrane brochure for more details on these systems.

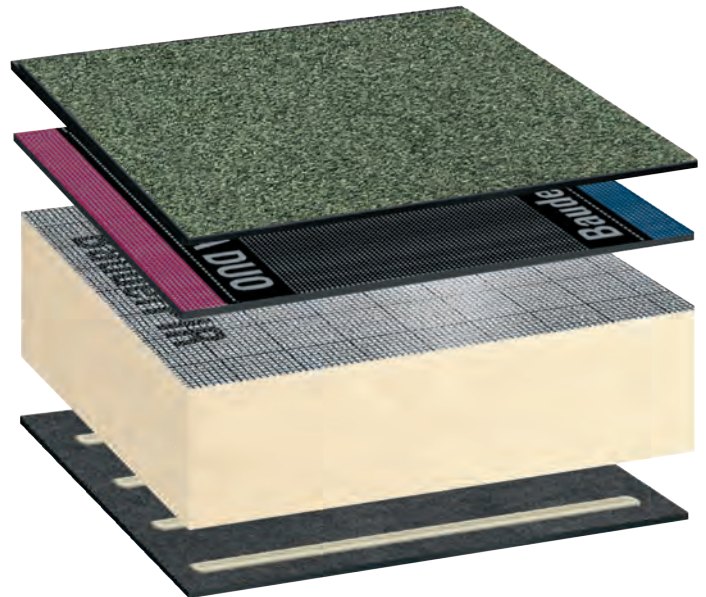
Hot melt structural waterproofing system for inverted roof construction

A seamless monolithic liquid waterproofing that is hot applied to the deck. The durability of this system matches the expected service life of the structure, as stated in BBA certificate 06/4350. Also specified as a cold roof construction.

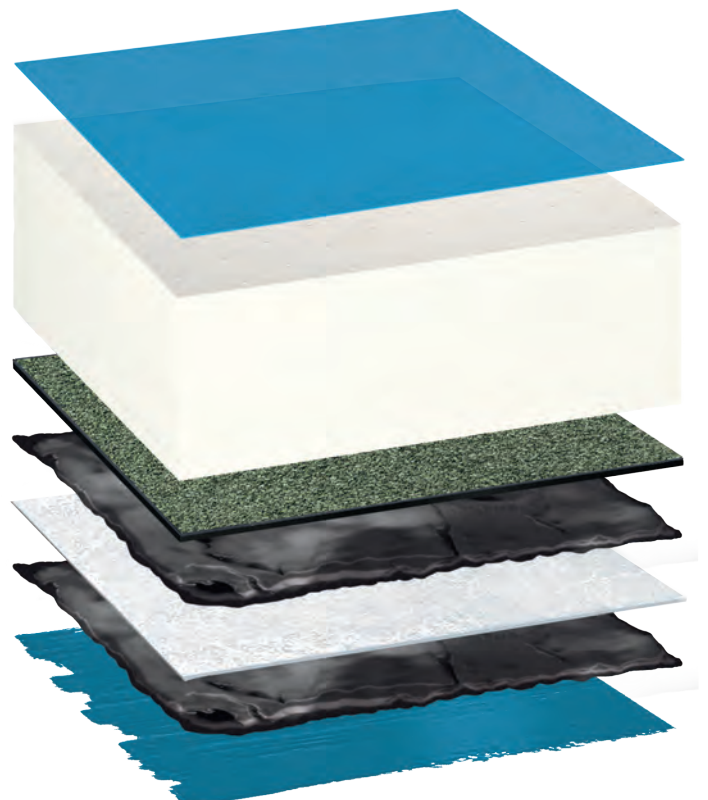
See our Hot Melt Structural Waterproofing brochure for further information.

Incorporating a green roof

A root resistant membrane is specified to prevent plant roots and rhizomes damaging the waterproofing.



Reinforced bitumen membrane systems for warm roof construction



Hot melt waterproofing for inverted roof construction

Technical Support Service for Blue Roof Projects

Supporting you in the design of a blue roof to meet the needs of the building and its construction

Our technical managers are based nationwide and play a vital role in the success of every blue roof project from initial concept through to installation and sign-off of the Bauder solution.

We assist you with the design of the detailing, writing the specification for the blue roof solution, and recommend suitable approved contractors to tender for the project. Our service is without charge, and we work with you to ensure your roof specification meets all your needs.

Working with you to understand

- Building type and usage.
- Drivers for the blue roof.
- The SuDS requirements for blue roof, i.e. target flow rates.
- Zero falls necessity.
- Requirements for waterproofing system design life.
- Opportunity for adding a green roof or biosolar PV array to meet sustainability targets.
- Budget.
- Insulation responsibility to meet building regulations and negate risk of floatation for inverted roofs.
- Guarantee requirements.

Our service to you delivers

- Flow rate calculations for roof, site, and geographical location to meet planning obligations.
- Drainage calculations for the overflow requirements.
- Calculation for the total imposed load of the waterproofing and blue roof system and volume of water held in a 1:100 yr storm.
- Recommended waterproofing system for the structure.
- Wind load and restraint calculations for buoyancy forces on inverted insulation and roof finish.
- Full design service for green roof and biosolar PV with yield analysis.
- NBS Chorus, comprehensive Bauder detailed specification.
- Roof detail drawings.
- Comprehensive range of guarantee packages to suit project and cover requirements.
- Recommended approved contractors.



Project Study

Department of Engineering, Cambridge University

BauderBLUE STORMcell System with BauderSOLAR G LIGHT.

Synopsis

A new build construction with sustainability as a key driver in the design with the solution to be delivered by a single source supplier that could provide a guarantee for products and workmanship for the waterproofing, blue roof, extensive green roof, and biosolar PV array.

The roof deck was constructed using large span pretensioned concrete plank with consequential restricted dead load weight to the roof. Considerate specification of the blue roof with green landscaping and biosolar PV array was essential to ensure weight loads were heeded and followed the defined calculations. Additionally, the pretensioned deck did not provide a completely flat finish. When installing a blue roof, a flat deck with no falls is essential, as detailed in BS 6229:2018. To overcome this onsite challenge, the final deflection of the fully loaded roof was calculated and the concrete deck was screeded to give zero falls.

Highlights

- Warm roof solution with sustainability central to the design incorporating blue roof, green roof, and biosolar PV array.
- Concrete deck screeded to ensure zero falls to meet BS 6229:2018.
- Designed flow rate less than 0.7 litres/second.

System summary

Blue Roof	BauderBLUE STORMcell
Waterproofing	Bauder Total Green Roof System
Green Roof	Bauder extensive wildflower with Bauder Flora 3 seed mix
PV Array	BauderSOLAR G LIGHT





Department of Engineering,
Cambridge University

BUILDING BOARD

Roof Size:	1,610m ²
PV Scheme:	40 modules; 9.91MWh
Specifier:	RH Partnership Architects
Approved Contractor:	Voland Roofing
Main Contractor:	SDC Limited
PV Installer:	Voland Limited

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Respecting the planet

Reducing use of materials



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