



Specialists in Roofing
and Waterproofing

Company Overview

Products & Services



Sky Garden, Walkie Talkie, London
Architects: Rafael Viñoly Architects

Welcome

Specialists in roofing and waterproofing

Radmat Building Products is an independent British company providing waterproofing and insulation systems that will provide a lifetime's protection for your building's structure.

Our high performance products are independently certified, including PermaQuik and ProTherm Quantum® PLUS+, offer extensive and revolutionary potential for architects, consulting engineers and quantity surveyors and are incorporated within some of the UK's most iconic landmark buildings.

Our team are committed to providing superior roofing and structural waterproofing products supported by exceptional technical support to assist the specifier and construction team with achieving a Building Regulations compliant project specific solution.



www.radmat.com





About us

A lifetime's protection for your building's structure

Our high performance waterproofing materials, including PermaQuik Hot Melt Monolithic waterproofing, Esha Reinforced Bitumen Membranes, ParaFlex and ReadySeal Liquid Applied Membrane and EshaPlan Single Ply Membranes are backed by comprehensive guarantees and technical support.

Supplying only through Radmat Approved Contractors we provide complete design and technical support to the entire construction team, aiding delivery of the right solution at the right price. Whether new build or refurbishment our focus is on providing the most suitable, regulatory compliant, waterproofing solution, taking into consideration requirements such as design, aesthetics, thermal performance, budget, buildability, drainage requirements, wind uplift resistance, safety programme and ultimate client use.

Our long standing relationships with some of the UK's leading clients, specifiers, surveyors, main contractors and specialist roofing contractors bear testimony to our levels of commitment to doing the job right first time, an attitude that has benefitted many prestigious projects across the United Kingdom.

The Westfield Centre, Shepherds Bush, London has one of the largest roofs ever designed in central London. With a huge choice of possible waterproofing systems, *PermaQuik* was chosen to provide the long term security necessary to protect some of the most expensive areas of retail space in the world.



Services

Whether new construction or refurbishment Radmat Building Products supplies guaranteed roofing solutions tailored to the individual needs of the application.

Radmat supply a range of waterproofing systems that support our objective of providing the most applicable solution for every project. To enable us to establish the correct specification for an individual project requires a range of specialist support services, including; bespoke NBS specifications, CAD details, site surveys and application inspections, all delivered with professionalism and backed by expertise borne from years of experience.

We pride ourselves on the calibre and technical expertise of our staff, who have extensive experience in all forms of flat roofing technology, insulation materials and contracting. The unique combination of these skillsets enables Radmat to develop effective roofing and waterproofing solutions and provide extensive technical support at all stages of the construction process. Whether writing a specification, commenting on design details or discussing the most appropriate solution we are committed to delivering practical and cost effective roofing solutions that are buildable.

For comprehensive support for your roofing projects contact
Radmat Building Products
Tel: **01858 410372**
techenquiries@radmat.com
www.radmat.com

Crossrail Place, Canary Wharf, London
Extending more than 300 metres along the north dock, the above ground scheme includes four levels of shops, cafes and restaurants, as well as extensive public gardens, which are densely populated with trees and plants. The waterproofing materials were supplied by Radmat using *PermaQuik 6100, Radmat Root Barrier, ProTherm G insulation.*

Radmat Product Range

PermaQuik PQ6100	Hot Melt Monolithic Waterproofing	14-15
EshaFlex	Reinforced Bitumen Membranes	16-17
ParaFlex	Liquid Applied Waterproofing Membrane	18-19
ReadySeal	Liquid Applied Waterproofing Membrane	20-21
EshaPlan	Single Ply Membrane	22-23
EshaUniversal	Single Layer Membrane	24-25
ProTherm/Quantum PLUS+	Thermal Insulation	26-27
BlueRoof	Rain Water Management	28-29
MedO	Living Green Roofs	30-31
Ancillary Components	Accessories	32



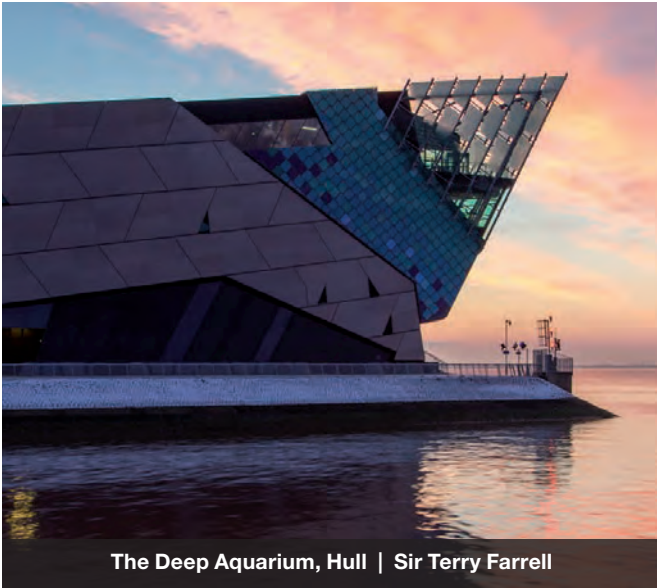
The Walkie-Talkie, 20 Fenchurch Street, London | Rafael Viñoly Architects

Entrusted
to roof the
UK's iconic
buildings





The Home Office, London | Sir Terry Farrell



The Deep Aquarium, Hull | Sir Terry Farrell



Scottish Parliament, Edinburgh | Enric Miralles



The Willis Building, 51 Lime Street, London | Foster + Partners



Civil Justice Centre, Manchester | Denton Corker Marshall



The Treasury Building, London | Foster + Partners



Wimbledon, SW19, London | Stanely Peach



Crossrail Place, Canary Wharf, London | Foster + Partners





PermaQuik PQ6100 is a hot melt monolithic membrane roofing system suitable for inverted roof, basement and podium waterproofing applications; including zero falls applications.

Applied in two layers that encapsulate the PQ2017 polyester reinforcing fleece, PermaQuik PQ6100 combines excellent waterproofing performance with toughness, durability, flexibility and strong adhesion to a variety of substrates.

Developed in Canada in the 1960's, PermaQuik PQ6100 is manufactured in the UK following extensive research and development with Shell UK in our ISO14001 production facility. Its unique blend of bitumen, natural rubbers and polymers create a membrane that has self-healing properties, can be installed to zero falls in accordance with BBA Information Bulletin No 4 and has a BBA Certified durability for 'the design life of the roof in which it is incorporated'.



The new **Library of Birmingham** installation used *PermaQuik PQ6100 Hot Melt Monolithic* waterproofing system, set to deliver exceptional performance befitting of the uniquely designed structure which has set a remarkably high standard for library design.



GCHQ building, Cheltenham

Beneath the central green roof at GCHQ, PermaQuik was specified to provide a lifetime of waterproofing security.

- Completely seamless monolithic bond so water cannot track within the system
- Upstands can be installed first allowing other trades to swiftly progress with the building's fabric
- Excellent low-temperature flexibility and adhesion characteristics
- Once covered with a protection sheet can be opened up to following trades delayed by inclement weather and speeding up site programming
- Self-heals minor damage under applied loads
- Quick application and no curing time leaves roofs instantly water tight



Installed to achieve a minimum thickness of 6mm, PermaQuik PQ6100 is finished with either a standard or root prevention wearing sheet prior to being electronically tested. In inverted roof applications Radmat ProTherm Inverted Roof Insulation board and Water Flow Reducing Layer (WFRL) are installed prior to the chosen surface finish. A range of finishes are possible, including paving, ballast, decking and Radmat MedO living green roofs.

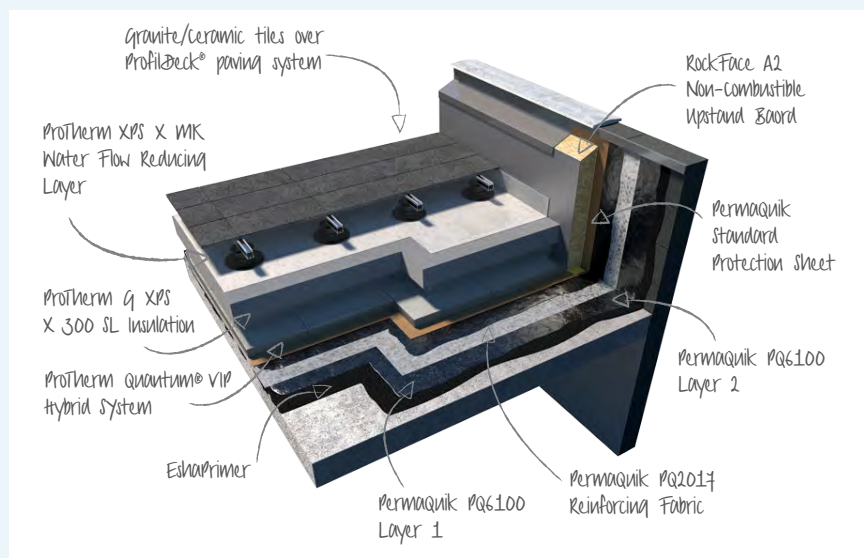
In accordance with the LRWA Hot Melt Code of Best Practice a flexible neoprene strip is applied to the angle changes at perimeters and detailing, this facilitates minor movement and prevents cracking. Perimeter upstands are finished with ProTherm SD or ProTherm Rockface A2, a BS EN 13501-1 class A2, s1-d0, non-combustible upstand board, consisting of stonewool insulation and a factory laminated 6mm calcium silicate fibre cement facing board.

Fully bonded inverted roofing systems including zero falls applications

- Roofs
- Balconies
- Podiums
- Terraces
- Paved finish
- Ballasted finish
- Timber deck finish

Fully bonded inverted living green and biodiverse roofing systems including zero falls applications.

- Roofs
- Balconies
- Podiums
- Terraces
- Inverted Amenity Roofs
- Biodiverse Wildlife Roofs
- Wildflower/ Extensive Sedum Roofs



Installing EshaFlex Reinforced Bitumen Membranes reduces installation times by up to 30%

EshaFlex SBS are innovative modified reinforced bitumen membranes engineered to meet the demands of the 21st Century.

Achieving Green Guide to Specification A+ ratings, and BBA Certified for a life expectancy in excess of 30 years, environmental credibility and ease of installation are supported by patented 'groove technology'. This technology typically reduces gas consumption by 25% (45 grams per m²), reduces CO₂ production by 168 g/m² and reduces installation times by up to 30%.



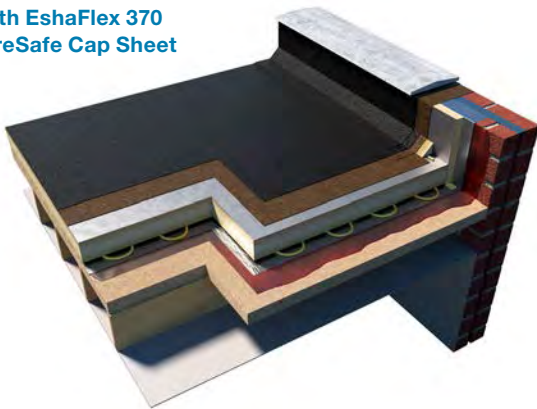
Marnier Primary School is Tower Hamlets' largest and most ambitious primary school expansion project. Radmat provided the roofing materials and services for the new roof. Products used were: *MedO Extensive Sedum*, *EshaFlex 370 Black Mineral*, *EshaFlex 370 WS Mini Slate* and *EshaVent*.





Upgrade Systems for new or existing roofs

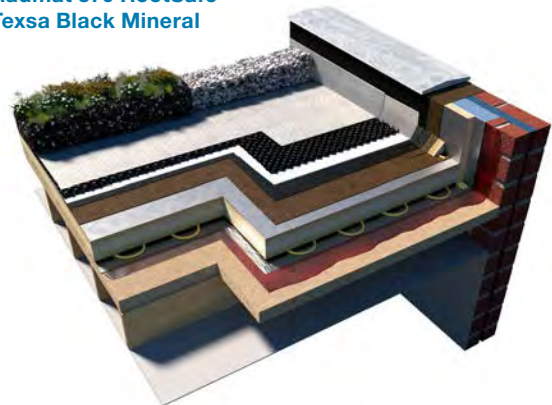
EshaFlex 370 Base sheet with EshaFlex 370 FireSafe Cap Sheet



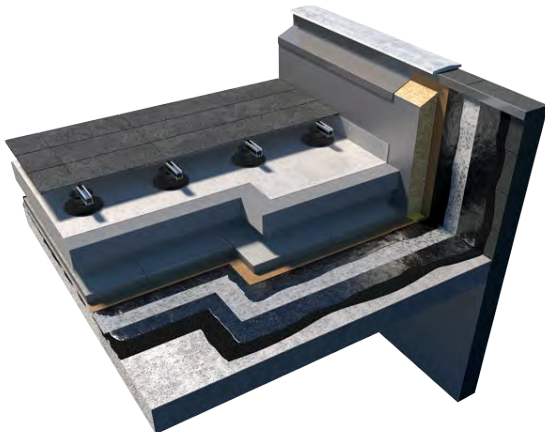
Fully Bonded: sand finished EshaFlex 370 Plain with a mineral finish, EshaFlex 370 FireSafe cap sheet.

Green Roof Systems for new or existing roofs

EshaFlex 370 Plain Base sheet with Radmat 370 RootSafe Texsa Black Mineral



Sand finished EshaFlex 370 'Plain' base sheet and FLL Certified Radmat 370 RootSafe Texsa Black Mineral either **partially bonded**, **fully bonded** or **mechanically fastened** and finished with a Radmat MedO extensive, biodiverse or intensive green roof system, subject to loadings.



Inverted, Paved and Ballasted systems for new & existing roofs

Two layers of sand finished EshaFlex 370 Plain fully bonded prior to the installation of the surface finish. In an inverted roof Radmat ProTherm Insulation and ProTherm XPS X MK Water Flow Reducing Layer are installed prior to application of the roof finish. In a warm roof the finish is applied directly over the completed roof membrane, subject to loadings.

ParaFlex doesn't require a cure time between coats; speeding application and creating a continuous monolithic membrane that is fully bonded to the substrate.

ParaFlex is a fast curing, cold applied polyester resin, Liquid Applied Waterproofing Membrane suitable for both new build and refurbishment applications, including zero falls.

Designed for application either directly to a suitable substrate, over an existing waterproofing system or onto a suitable thermal insulation. ParaFlex can even be installed to zero falls in accordance with BBA Agreement certificate 09/4653 in an inverted or warm roof application.

Manufactured in Germany since 1976 ParaFlex is BBA Certified for 'at least 35 years' in exposed applications and 'for the design life of the roof' for inverted roof applications.

Mixed on site and applied in a 'wet on wet' application to encapsulate either a non-woven polyester or glass fibre carrier layer, ParaFlex doesn't require a cure time between coats; speeding application and creating a continuous monolithic membrane that is fully bonded to the substrate. Available in either black or light grey as standard (with other colours on request) the ParaFlex mix is adjusted to suit the weather; enabling ParaFlex to be installed in temperatures as low as -5°C.





Above: Dark grey roof refurbishment

Right and left: Light grey roof refurbishment

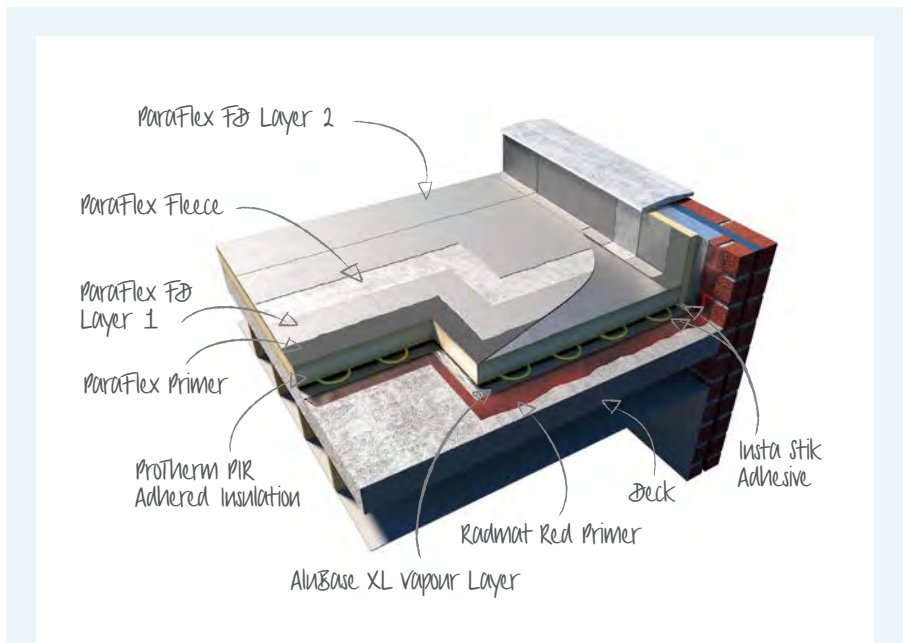
Below: New light grey balconies



Once completed the FLL Certified ParaFlex system can be left exposed or, in inverted applications, finished with a Radmat MedO living green roofs, pavers or ballast. Where used as a self-finish in exposed applications, a hard wearing walkable surface for walkways or balconies can also be created by scattering the final coat with coloured microchips for a pleasing aesthetic, or with kiln dried sand for delineation, or to provide a textured surface.

ParaFlex can also be used to provide long lasting waterproofing to water features, fountains or any other structure that is designed to hold and retain water.

- Suitable for balconies and walkways
- Suitable for warm and inverted roofs
- Suitable for vertical applications and complex shapes and details
- Light foot traffic possible after 30 minutes, completely trafficable within 90 minutes.
- No curing time required between coats
- Suitable for green roof and roof garden applications
- Root resistant
- Will accommodate minor movement without damage
- Suitable for light foot traffic and light concentrated loads



ParaFlex System – Liquid Applied Waterproofing Membrane

ParaFlex is designed for application either directly to a suitable substrate, over an existing waterproofing system or onto a suitable thermal insulation. ParaFlex can even be installed to zero falls in accordance with BBA Agreement certificate 09/4653 in an inverted or warm roof application.

ReadySeal has a BBA assessed service life of in excess of 30 years.

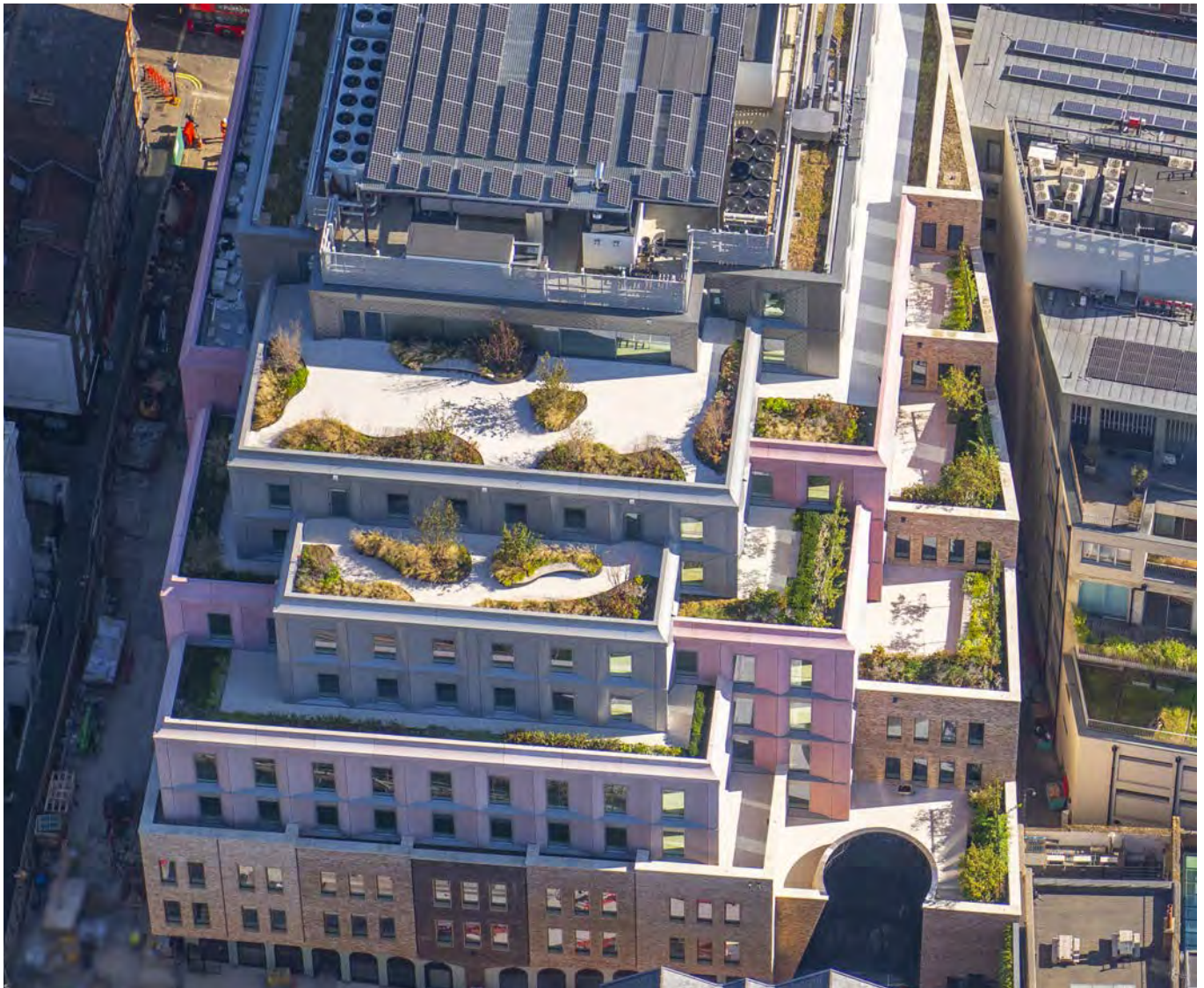


ReadySeal is a BBA Certified one component silane-terminated polyether, liquid applied waterproofing membrane. Applied 'wet on wet' between layers it doesn't need to be left to cure between coats; providing a continuous monolithic material with the benefit of fast application. ReadySeal can be applied when air and substrate temperatures are above 0°C.

When used as part of a roof system classified under BS EN 13501-5, ReadySeal achieves Broof(t4), contact Radmat Building Products for certification information and build-ups. Plasticiser, cyanate, and solvent free ReadySeal has a BBA assessed service life of in excess of 30 years.

Below: ReadySeal was installed on balconies and detailing for **Ilona Rose House, London.**

* including enclosed balconies over heated space, insulated walkways and specified attachments such as projecting open balconies, projecting enclosed balconies, recessed open balconies or recessed enclosed balconies.



PRODUCT FEATURES

- One component without mixing
- Plasticiser free
- Cyanate free

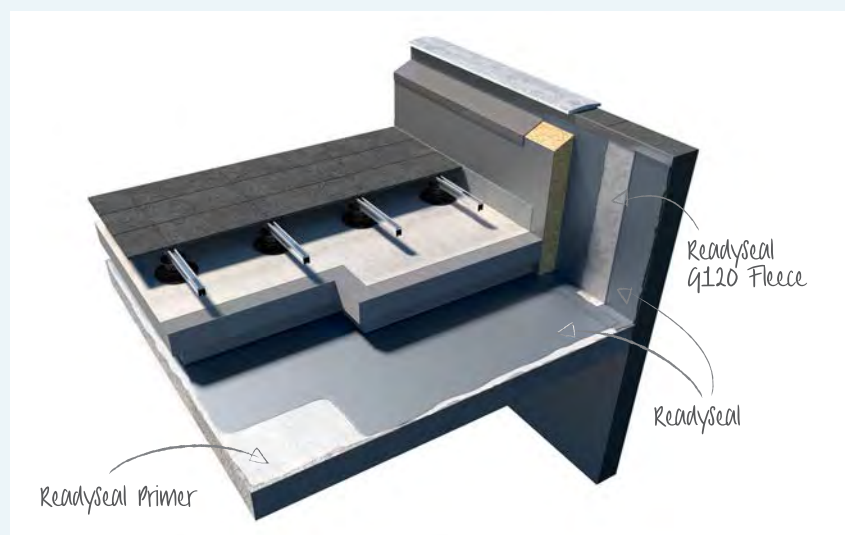
APPLICATION

- New Build and Refurbishment applications
- Inverted roof specification on flat and zero fall roofs with limited access or pedestrian access
- Protected warm and cold roof specifications e.g. covered by pavers or other suitable protection on flat and zero fall roofs with limited or pedestrian access
- Green roof specifications (extensive) on pitched, flat and zero fall roofs with limited access
- Exposed warm and cold roof specifications on flat and pitched roofs with limited access
- Roof terraces
- Podium decks
- Protected enclosed balconies over heated space
- Protected Insulated walkways
- Protected Specified Attachments such as projecting open balconies, projecting enclosed balconies, recessed open balconies or recessed enclosed balconies
- As an overlay waterproofing to existing asphalt and bitumen felt roofs (may require priming)
- As the primary waterproofing or to upgrade roof gutters, metal or fibre cement sheeting and cement particle panels.



Above: ReadySeal can be applied to steel supports and pipework as part of the waterproofing system

RAL 7046



ReadySeal – one component liquid applied waterproofing membrane system

Components:

- **ReadySeal** – a single part, solvent free, silane-terminated polyether liquid applied waterproofing membrane
- **Radmat G120 Fleece** - a needle punched glass fibre reinforcement for embedding into ReadySeal to aid in the reinforcement of construction details, flashing joints, cracks and gaps
- **ReadySeal Concrete Primer** – a one-part primer for concrete
- **ReadySeal Blocker Primer** – a two-part primer used to prepare new and old reinforced bitumen membranes, dry and wet concrete and steel substrate prior to the installation of ReadySeal
- **ReadySeal Surface Primer** – a one-part primer used to prepare part cured ReadySeal for the application of a new coat of ReadySeal
- **ReadySeal Pre-Wipes** – pre-wetted wipes used to prepare part cured ReadySeal for the application of ReadySeal Surface Primer

EshaPlan is suitable for flat, pitched, curved or geometrically shaped roofs in both new and refurbishment applications.

Used widely throughout Europe and the UK since the 1970's, **EshaPlan** single ply membranes provide design freedom whilst achieving long term waterproofing integrity and high levels of environmental performance.

Suitable for flat, pitched, curved or geometrically shaped roofs in both new build and refurbishment applications, EshaPlan membranes are BBA Certified for 'in excess of 30 years', can achieve a BRE Green Guide to Specification A+ ratings and incorporate factory recycled production waste.



Below: EshaPlan MF was used to cover the large flat roof on this building in Grand Couronne, France.



Available in Light Grey (RAL7001) and Lead Grey (RAL7015) as standard, other colours available to order, EshaPlan membranes are completed by a range of compatible accessories including; unreinforced detailing membrane (EshaPlan D), membrane coated metal (EshaMetal) and a range of adhesives, compatible rainwater outlets and lightning conductor clips.

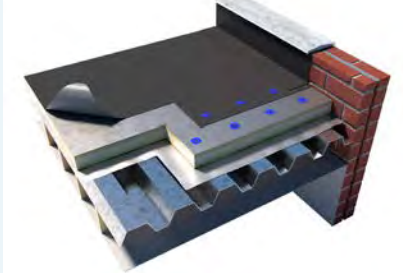
Top Right: EshaPlan B

Bottom Right: EshaPlan B with Profile 25



Single Layer Overlay Systems for existing roofs

EshaPlan MF

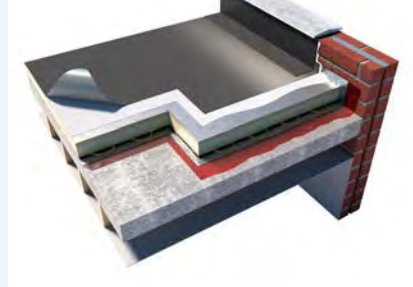


EshaPlan MF is a polyester carrier reinforced mechanically fastened PVC-P single ply membrane that is typically installed on larger scale warm roof constructions where speed of installation is a key requirement on projects where wind uplift is high. Available in rolls up to 2.12m wide and 20m long, and a range of thicknesses from 1.2mm to 2.0mm, EshaPlan MF is attached to the substrate using thermally broken fasteners installed at project specific pre-determined centres to achieve a fast method of attachment without

thermal bridging. Subsequent rolls will overlap the fastening zone and be hot air welded together to produce a sealed seam that is stronger than the membrane itself.

Fully Bonded

EshaPlan B



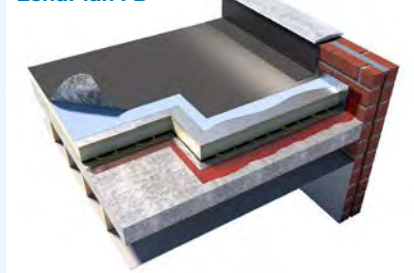
EshaPlan B and EshaPlan FB are glass fibre reinforced bonded PVC single ply membranes typically used on smaller scale warm roofs.

Where aesthetics are a key requirement fleece backed EshaPlan FB should be used as it helps to hide irregularities in the surface such as insulation board joints and tolerances.

Available in rolls up to 2.12m wide and 20m long, and a range of thicknesses from 1.2mm to 2.0mm, EshaPlan adhered membranes are attached to the substrate using EshaBond CA or EshaBond PU adhesive depending on application. As they are installed subsequent rolls are overlapped and hot air welded in the same way as EshaBond MF.

EshaPlan can also be used to mimic the appearance of a traditional Lead roof by adding decor porofile, an extruded profile that is simply hot air welded to the finished membrane to imitate the appearance of a traditional lead standing seam.

EshaPlan FB



EshaUniversal can be applied rapidly to insulation, timber or concrete decks or used as an overlay to existing bituminous roofing.

Right: *EshaUniversal* was used for the 850m² roof area, for the **Knauf Cube Learning Centre**. The membrane was installed over both metal and concrete decking along with an *EshaBase* vapour control layer and *ProTherm* thermal insulation. The mid-level roof incorporates a 250m. *MedO Extensive Sedum* green roof.

**Below: The Walkie-Talkie
20 Fenchurch Street, London**

EshaUniversal was used in the roof garden as part of a comprehensive range of products using *PermaQuik* and *ParaFlex* for the waterproofing element.

EshaUniversal is a low mass, lightweight, strong, flexible, and extremely stable single layer roof covering manufactured from polyolefin copolymerisate bitumen (POCB).

This special compound creates a 3.2mm thick heat weldable membrane, reinforced with polyester and glassfibre, suitable for new build or refurbishment applications on flat or pitched roofs.

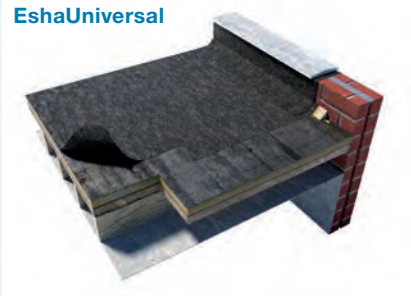




Newbuild and refurbishment

UV resistant, without the need for surface protection, *EshaUniversal* can be applied rapidly to insulation, timber, concrete decks, or used as an overlay to existing bituminous roofing systems.

EshaUniversal



Fully Bonded

Standard EshaUniversal is fully bonded to a suitable insulation board or suitably prepared existing waterproofing using an EshaBond adhesive, either roller or spray applied. Subsequent rolls of EshaUniversal overlap by 80mm and are hot air welded

EshaUniversal Mechanically Fixed



Mechanically Fixed

Standard EshaUniversal is mechanically fastened along one edge, through a suitable insulation board or suitably prepared existing waterproofing, using the appropriate Radmat ProFast fasteners. Subsequent rolls of EshaUniversal overlap the fastening zone by 130mm and are hot air welded together.

Inverted, Paved and Ballasted systems for new or existing roofs

Standard EshaUniversal can be loose laid, mechanically attached or fully bonded prior to the application of the desired surface finish. In an inverted roof Radmat ProTherm insulation and Grey Thermal Sheet are installed prior to application of the roof finish. In a warm roof the finish is applied directly over the completed roof membrane.

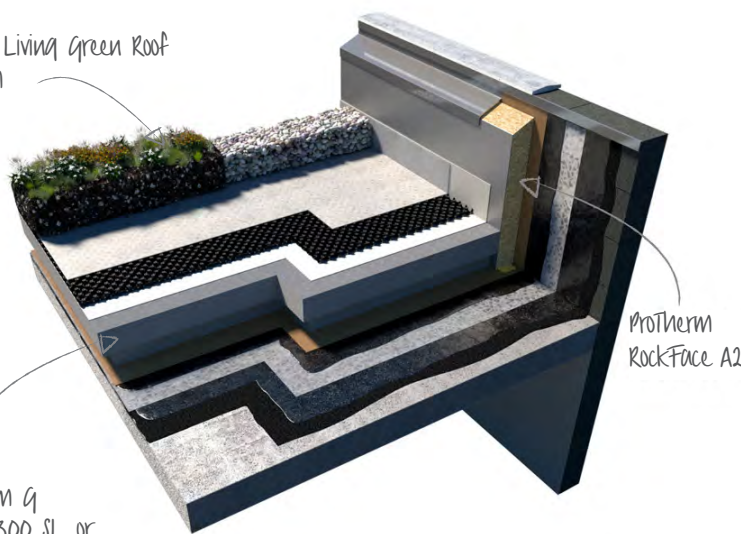
EshaUniversal has a life expectancy of up to 30 years and is fully recyclable producing a favourable Life Cycle Assessment, and meeting the strictest standards for sustainable construction; contributing to Green Guide to Specification A+ ratings and reducing the building's environmental impact.

A range of thermal insulants guaranteed as part of the Radmat Roofing system, eliminating conflict between different suppliers' guarantees.

ProTherm thermal insulation boards provide a range of solutions for both warm and inverted roof applications in both new build and refurbishment projects.

Whether meeting or exceeding the thermal requirements of the Building Regulations, or tackling the conflicting requirements of Part L, Part M and NHBC Chapter 7.1 in inverted roof applications, Radmat's technical expertise can help tailor a project specific solution.

Medo Living Green Roof System



ProTherm G XPS X 300 SL or ProTherm XPS X ULTRA 300 SL

ProTherm RockFace A2

ProTherm Rockface A2 Non-Combustible Uprand Insulation Board

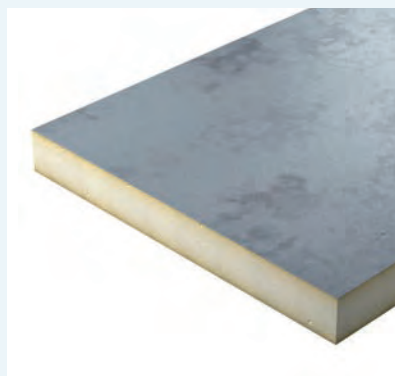
is used to thermally insulate and protect upstand walls. Manufactured with non-combustible stonewool it will not develop smoke or promote flame spread, even when directly exposed to fire. ProTherm Rockface A2 has a Zero Ozone Depletion Potential (ODP), a Global Warming Potential (GWP) of less than 5 and an A rating in accordance with the Green Guide to Specification. ISO 9001@2008 Quality Management System, ISO 14001:2004 Environmental Management System, EPD as per ISO 14025 and EN 15804.

ProTherm G XPS X 300 SL / ProTherm XPS X ULTRA 300 SL Inverted Roof Insulation

A unique range of rigid, closed cell type extruded polystyrene board with integral high density skin. This board utilises infra-red blocking particles to scatter and reflect heat radiation. For use with inverted roof waterproofing such as PermaQuik PQ6100, EshaFlex, EshaUniversal and ParaFlex. XPS X 300 SL has a Zero Ozone Depletion Potential (ODP), a Global Warming Potential (GWP) of less than 5 and a Green Guide to Specification A+ rating. ISO 9001:2008 Quality Management System, ISO 14001:2004 Environmental Management System, EPD as per ISO 14025 and EN 15804, Green Guide to Specification Certificate No. 508c, BBA Certificates 21/5902 and 21/5952.

ProTherm PIR

A range of BS EN 13165:2012 compliant, ISO 14001 certified polyurethane foam insulation boards. Available as uniform thickness or tapered boards with foil, bitumen coated or mineral coated glass fibre facings. Thermal conductivity from 0.022 W/mk to 0.026 W/mk.



ProTherm ROCKWOOL® HARDROCK Multi-fix (DD)

A multi-purpose mineral wool insulation compliant with BS EN 13162:2012, ISO 14001 certified and LPS1181:Part 1 EXT – A rating. Available as uniform thickness or tapered boards. Thermal conductivity of 0.039 W/mk.

ProTherm FOAMGLAS®

Cellular glass insulation compliant with BS EN 13167:2012, and ISO 14001 certified. Available as uniform thickness or tapered boards. Thermal conductivity from 0.045 W/m²k to 0.041 W/mk.

ProTherm Quantum PLUS⁺



The depth of board to achieve an R-value of 6,250m²K/W – rounded up to the nearest standard depth.

With the limitation of traditional products it can be difficult for a designer to insulate above a habitable space against the backdrop of increasing thermal requirements.

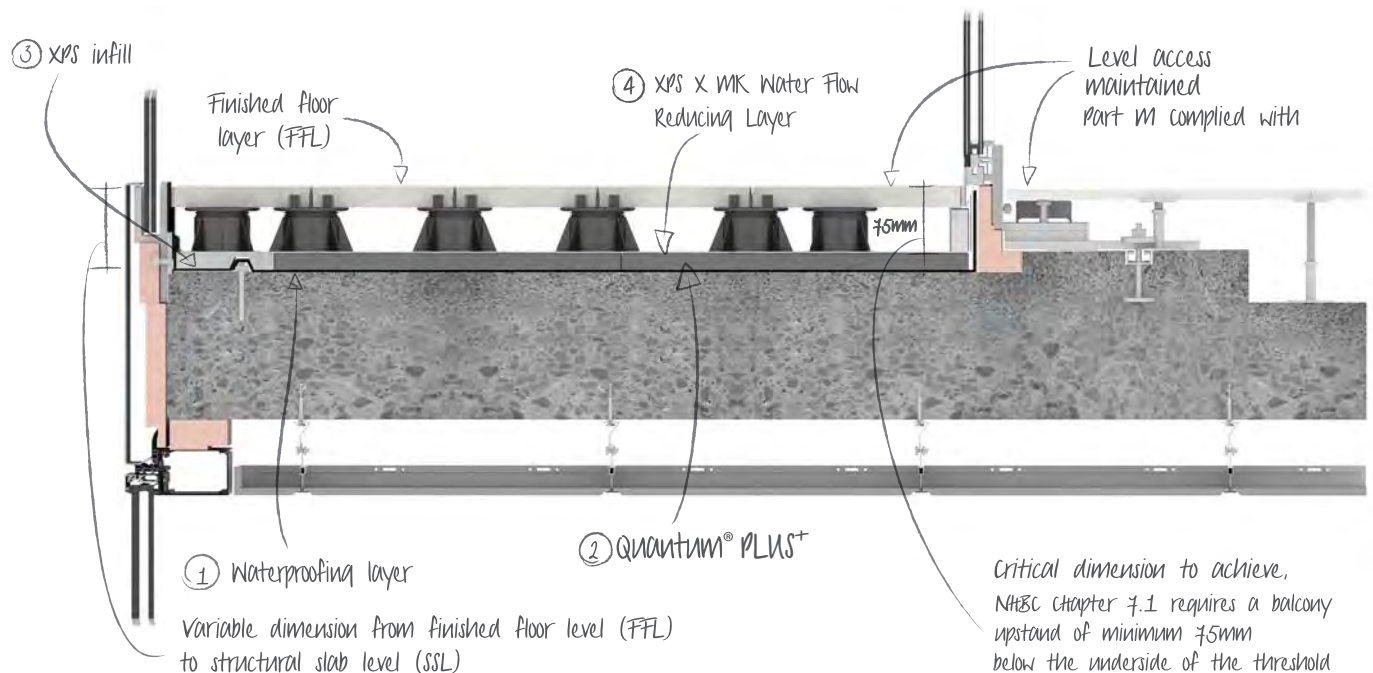
This, together with the desire to maximise the glass facade and cater for a level threshold has created a near impossible task.

The **ProTherm Quantum[®] PLUS⁺** system provides a unique method of meeting the requirements of Building Regulations Part L, Part M and NHBC Chapter 7.1 whilst achieving a level threshold.

When constructing balconies or terraces in new build situations, or refurbishing them in existing buildings, there is a requirement for both low U-values and the thinnest possible construction. Very often the insulation must be installed both on top of and on the underside of the balcony or terrace. Not only can this be time-consuming but it can also pose a condensation risk. The same is also true when refurbishing existing balconies and terraces and trying to improve thermal performance.

Developed by Radmat's roofing experts to solve regularly occurring challenges created by the drive for more thermally efficient buildings, safer access and more external space, the **ProTherm Quantum[®] PLUS⁺ VIP Inverted Roof Insulation System** enables architects to dramatically reduce the depth of a finished roof system; providing the solution to counter low upstands against the increasing thickness of traditional EPS & XPS products specified in order to meet more stringent thermal demands.

The power behind the elastomeric coated high thermal efficiency ProTherm Quantum PLUS⁺ VIP Inverted Roof Insulation System is a rigid Vacuum Insulation Panel (VIP). Consisting of a compressed fumed silica sand microporous core which is evacuated of air and moisture the core is encased in a special thin, gas-tight, hybrid aluminium foil envelope before having all air removed and the overlap joints sealed. The resulting VIP panel gives an outstanding thermal conductivity, providing the thinnest possible Inverted Roof insulation solution currently available.





St Pancras Place (above) and **Anchorage House, London** (below right) both use **Radmat Blue Roof systems** finished with either green roofs or paving and planters.

The management of rainfall within the built environment is an important task for the construction industry, with correct and sympathetic source control and attenuation being key to Sustainable Urban Drainage System (SuDS) design.

SuDS demands that water falling across a development site is not simply channelled into storm water drains and discharged into the local river. Instead the drainage is designed to mimic that found in nature where water is attenuated, treated and infiltrated through natural processes. In many cases the Environment Agency is involved in limiting the site discharge through a Limited Discharge Consent Notice, which may be related to the natural drainage rate of 5 litres per second per hectare of site, or lower.

Managing inner city and urban rainwater

Whilst a variety of SuDS systems can easily be integrated into large scale out of town developments managing rainwater in an inner city or urban location provides a greater challenge, particularly on brownfield sites where the land may be contaminated.

A modern method of source control and attenuation is the Blue Roof, where the roofing system is explicitly designed to attenuate rainwater rather than drain it as quickly as possible, as in traditional roof drainage design.

Blue Roofs can significantly contribute to the SuDS requirements within a development by collecting and temporarily retaining rainfall (for a maximum of 24 hours) within the roof finishes before discharging at a controlled rate. This is particularly beneficial on constrained sites, such as in urbanised areas, or brown field sites, where the use of underground tanks are difficult and/or costly.



Typical finishes above a Radmat Blue Roof include:

- MedO Green and Biodiverse Living Roofs
- Paving on Pedestals
- Gravel Ballast



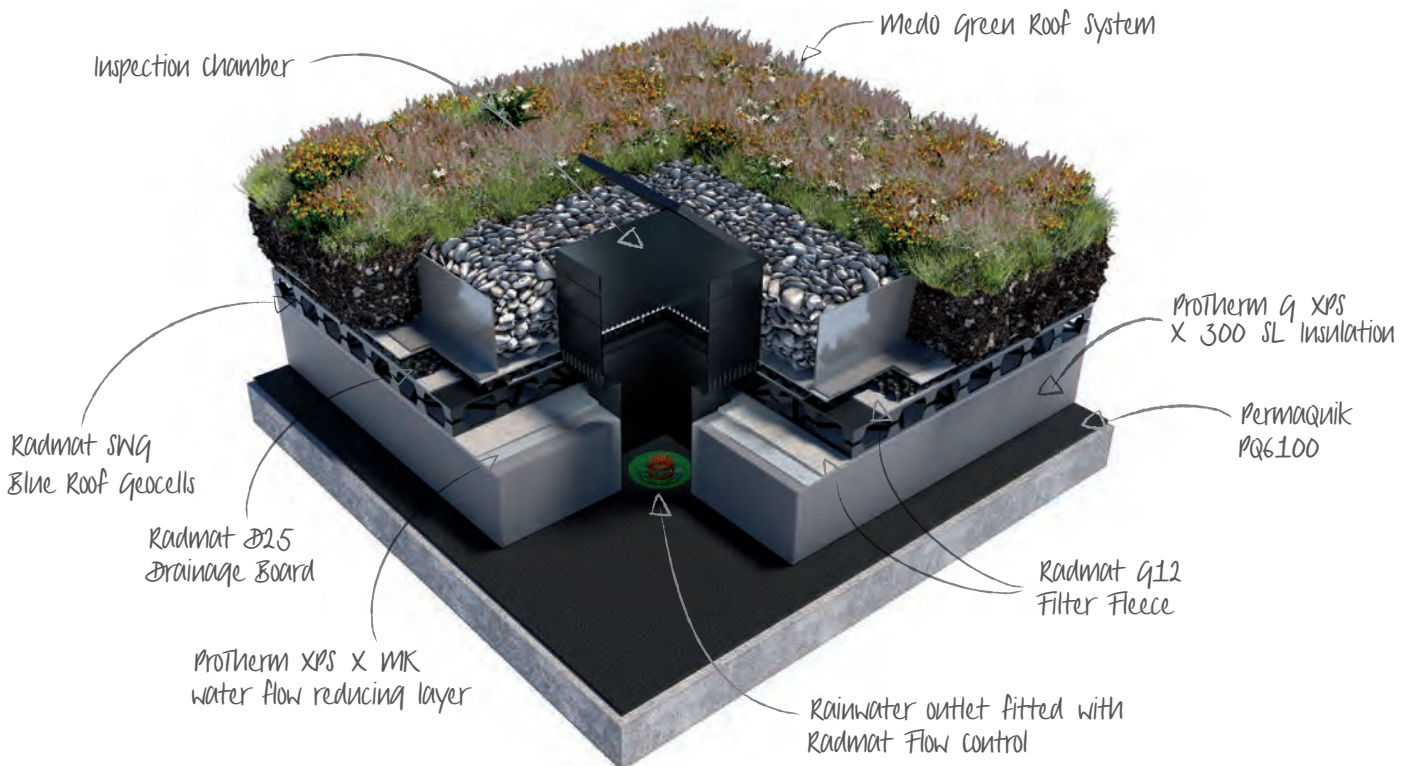
SWB/SWG Geocells provide attenuation as part of a Blue Roof system that is designed to manage and control incident rainfall at a rate in line with the SuDS strategy or the attenuation requirements for a development.

A **Radmat Blue Roof** can be installed at either roof or podium level above the waterproofing membrane or the water flow reducing layer (WFRL) in a PermaQuik or ParaFlex FD inverted application or above an EshaFlex warm roof application. The Radmat Blue Roof will be designed to attenuate water for no more than a 24-hour period from the end of the maximum designed rainfall event. The discharge rate will be calculated to allow the roof to be half empty of attenuated water in a 12-hour period.

Attenuation within a Radmat Blue Roof System is created by either SWG or SWB Blue Roof Geocell elements, which provide a multidirectional free flowing path above the waterproofing membrane, enabling water to reach the rainwater outlets on the roof surface. The depth of the SWG or SWB Blue Roof Geocell will be designed to create a void that contains the desired attenuation capacity for the rainwater. The discharge rate through the rainwater outlet is managed via outlet restrictors sized to control the flow at the required rate. Overflow drainage will be provided by secondary methods to facilitate the removal of excess rainfall if the designed capacity is exceeded.

The roof deck for the Radmat Blue Roof should be designed to the principles of zero fall as outlined in BBA Building Bulletin No. 4. If falls are to be used, these must be taken into account when calculating the effective storage void on the roof design.

To eliminate the risk of the Blue Roof system not being designed to complement the waterproofing system, and to eliminate warranty risk or split liability, a Radmat Blue Roof System is designed to be installed on our PermaQuik, ParaFlex FD or EshaFlex waterproofing systems, which are BBA Certified for zero falls applications. For project specific information, specification and design support please contact Radmat using any of the means shown on the back page of this brochure.



Medo Living Green Roof System



The benefits of a **living green roof system** are widely published; including their contributions to rainfall management, habitat creation aiding biodiversity, CO₂ capture, absorption of solar radiation, amenity provision, improved aesthetics, summer cooling, whole life cost savings, pollution control, oxygenation and noise reduction.

Working with expert horticulturalists, Radmat Building Products have developed the MedO range of living green roofing systems. All systems are suitable for both new and refurbishment projects and are constructed using the appropriate drainage board, filter fleece and growing medium for the planting required.



MedO Extensive

This was used on much of the living green roofs at the Olympic Village Apartments, Stratford, to provide a low maintenance and self-sustaining plant community.



MedO Living Green Roof Systems

Extensive Living Green Roofs

Suitable for flat and pitched roof applications MedO Extensive systems provide a low maintenance, self-sustaining plant community, achieved in one of three ways depending on budget and patience. Pre-grown sedum blankets provide instant cover. Pre-grown sedum plug plants provide greater diversity but only 10% to 20% cover at installation. Seeding is most economic with 40% to 60% cover taking 12 – 18 months. gain plant cover but being entirely natural once established.



Semi Intensive Living Roofs

An intermediate green roof type that can include characteristics of both extensive and intensive roofs. The deeper growing medium enables a wider range of plants to be included compared to extensive sedum green roofs, including wildflowers, shrubs and woody plants. Pre-grown wildflower and sedum blanket, pre-grown wildflower plug plants and wildflower seed mix are all available.

Planted Biodiverse Living Roofs

Typically designed to meet specific requirements, often driven by planning constraints or Biodiversity Action Plans (BAP's), usually to

imitate the original ground conditions. Additional features such as insect houses, boulders, shrubs, tree branches etc, to create habitat for insect and bird species, may be included in the specification.

Brown Biodiverse Living Roofs

Suitable for new and refurbishment projects, MedO Brown living roofs are constructed as per Planted Biodiverse roofs but simply left to nature to seed rather than being forcibly planted at installation. Plant cover will be entirely based on wind-blown and bird brought seed, taking a significant time to gain plant cover but being entirely natural once established.



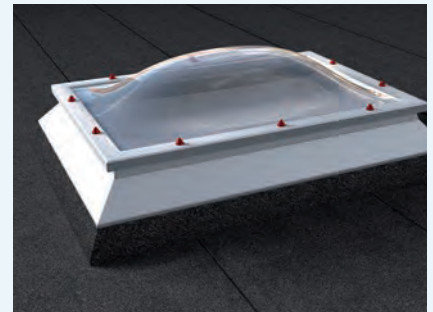
For more information about all our roofing products contact:
Radmat Building Products
 Tel: 01858 410372
 email: sales@radmat.com
www.radmat.com

To complement its waterproofing systems Radmat Building Products supplies a comprehensive range of compatible ancillary components and services, all covered by Radmat's unique system guarantee.



ProFast

Mechanical fastening solutions for Radmat thermal insulation and waterproofing systems, comprising self-coated steel and stainless steel fasteners, thermally broken tube washers, termination bars and specialty fasteners.



ProLight

The ProLight range of rooflight components provides a range of flat roof windows, skylights, modular or specialist rooflights tubular rooflights that are suitable for new and refurbishment projects, and can be fitted with a variety of ventilation, access and security options.

The range includes:

ProDome thermoformed polycarbonate single, double, triple and quadruple skinned lights in domed, pyramid and trapezoidal shapes.

ProCurb a range of thermally broken PVC-u upstand curbs to suit new build and refurbishment applications.

ProGlaze 32mm hermetically sealed Low E, argon filled flat double and triple glazed lights.

ProTube tubular rooflights to transfer light to targeted locations.



ProSafe

Roof safety equipment for maintenance and access, including fall prevention, fall arrest and fall restraint systems.

ProFlow

Gravity and Siphonic Rainwater outlets for roof, parapet wall and balcony applications. Available in a range of sizes and types to suit all Radmat waterproofing systems, and incorporating the range of leafguards.

ProScan

Thermographic and moisture mapping surveys to establish the condition of existing roofs.





Francis Crick Institute, London
Architects: HOK with PLP Architecture



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