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Agrément Certificate
03/4009
Product Sheet 3

PERMATEC HOT MELT ROOFING AND WATERPROOFING SYSTEMS

PERMATEC ECOWRAP AND PERMATEC ANTI-ROOT HOT MELT GREEN ROOF WATERPROOFING SYSTEMS

This Agrément Certificate Product Sheet(1) relates to PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems for use as waterproofing layers in flat roofs (including zero fall), green roofs, biodiverse roofs, roof gardens, and blue roof specifications in combination with a storm water attenuation system(2).

(1) Hereinafter referred to as 'Certificate'.
(2) The attenuation system is outside the scope of this Certificate.

CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Weathertightness — the systems will resist the passage of moisture into the building (see section 6).
Properties in relation to fire — the use of the systems may enable a roof to be unrestricted under the national Building Regulations (see section 7).
Adhesion — the systems will resist the effects of any wind suction likely to occur in practice (see section 8).
Resistance to mechanical damage — the systems will accept the limited foot traffic and loads associated with installation and maintenance (see section 9).
Resistance to root penetration — the systems will resist the effects of root penetration from green roof and roof garden specifications (see section 10).
Durability — under normal service conditions, the systems will remain waterproof for the design service life of the roof in which they are incorporated (see section 13).

The BBA has awarded this Certificate to the company named above for the systems described herein. These systems have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

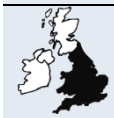
Date of Seventh issue: 12 November 2021

Originally certificated on 27 April 2010

Hardy Giesler
Chief Executive Officer

Regulations

In the opinion of the BBA, PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement: **B4(2)** **External fire spread**
Comment: Roofs incorporating the systems, when used with suitable surface protection, may be unrestricted under this Requirement. See sections 7.1 and 7.2 of this Certificate.

Requirement: **C2(b)** **Resistance to moisture**
Comment: The systems will enable a roof to satisfy this Requirement. See section 6 of this Certificate.

Regulation: **7(1)** **Materials and workmanship**
Comment: The systems are acceptable. See section 13 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation: **8(1)(2)** **Durability, workmanship and fitness of materials**
Comment: The use of the systems satisfies the requirements of this Regulation. See sections 12.1 and 13 and the *Installation* part of this Certificate.

Regulation: **9** **Building standards applicable to construction**
Standard: 2.8 Spread from neighbouring buildings
Comment: Roofs incorporating the systems, when used with suitable surface protection, may enable a roof to be unrestricted under clause 2.8.1[(1)(2)] of this Standard. See section 7.1 and 7.2 of this Certificate.

Standard: 3.10 Precipitation
Comment: The use of the systems will enable a roof to satisfy the requirements of this Standard, with reference to clauses 3.10.1[(1)(2)] and 3.10.7[(1)(2)]. See section 6 of this Certificate.

Standard: 7.1(a) Statement of sustainability
Comment: The systems can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.

Regulation: **12** **Building standards applicable to conversions**
Comment: Comments in relation to these systems under Regulation 9, Standards 1 to 6 also apply to this Regulation, with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation: **23(a)(b)(i)** **Fitness of materials and workmanship**
Comment: The systems are acceptable. See section 13 and the *Installation* part of this Certificate.

Regulation: **28(b)** **Resistance to moisture and weather**
Comment: The systems will enable a roof to satisfy the requirements of this Regulation. See section 6 of this Certificate.

Regulation:	**36(b)**	**External fire spread**
Comment:		The systems, when used with suitable surface protection, may enable a roof to be unrestricted under the requirements of this Regulation. See sections 7.1 and 7.2 of this Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See sections: 3 *Delivery and site handling* (3.1, 3.3 and 3.4) and 15 *Procedure* (15.2) of this Certificate.

Additional Information

NHBC Standards 2021

In the opinion of the BBA, the PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 7.1 *Flat roofs, terraces and balconies*.

In addition, in the opinion of the BBA, the system when installed and used in accordance with this Certificate can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards for Conversions and Renovations*, taking account of other relevant guidance within the chapter and the suitability of the substrate to receive the system.

The NHBC Standards do not cover the use of the system in the refurbishment of existing roofs.

Technical Specification

1 Description

1.1 PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems include PermaTEC EcoWrap and PermaTEC Anti-Root membranes, and are formulated from a combination of refined bitumen, synthetic rubbers and other additives. PermaTEC Anti-Root membrane also incorporates a root inhibitor. The membranes are applied in two layers to provide a waterproofing layer with a nominal coating thickness of 6 mm.

1.2 The two main system build-ups used for green roof and roof garden applications are:

- PermaTEC EcoWrap membrane incorporating PermaFLASH-R reinforcement finished with a layer of IKO Roofgarden 4APP AD/F 7.5 m
- PermaTEC Anti-Root membrane incorporating PermaFLASH-R reinforcement finished with a layer of PermaGUARD F.

1.3 The membranes are used in conjunction with a range of reinforcement membranes, protection membranes and boards, including:

- PermaFLASH-R — a 55 $g \cdot m^{-2}$ polyester reinforcing scrim
- PermaFLASH-D150 — a 1.25 mm thick and 150 mm wide flexible detailing sheet, used as a reinforcement layer over cracks, construction joints and changes in materials, and where minor movement may occur
- PermaFLASH-D500 — a 1.25 mm thick and 500 mm wide flexible detailing sheet, used as a reinforcement at rainwater outlets
- PermaGUARD-F — a 180 $g \cdot m^{-2}$ sand-surfaced, polyester-based bitumen membrane protection layer
- PermaGUARD-M — a 180 $g \cdot m^{-2}$ slate-surfaced, high-performance torch-applied bitumen membrane protection layer for use on details which will not be covered by the surface finishes
- PermaGUARD-HDPB — a 3 mm thick high-density polymeric protection board
- PermaGUARD-PB — a 3.2 mm thick protection board fabricated with a bituminous core sandwiched between two layers of non-woven glass-fibre reinforcement

- IKO Roofgarden 4APP AD/F 7.5 m — a slate-surfaced, polyester-based, APP modified bitumen containing a root inhibitor, installed as a protection layer in PermaTEC Ecowrap green roof specifications
- IKO PermaTEC High Penetration Primer — a brush- or roller-applied bituminous priming solution used in the preparation of cementitious surfaces prior to the application of the membrane
- IKO PermaTEC Polymer Primer — a brush- or roller-applied synthetic rubber-based priming solution used in the preparation of cementitious surfaces prior to the application of the membrane.

1.4 Other products which may be used with the systems, but which are outside the scope of this Certificate, include:

- Foamglas insulation(1) – cellular glass insulation slabs with a minimum compressive strength of 400 kPa
- IKO Plasdrain — a range of drainage boards
- Inverted Roof Insulation Board — insulation used in inverted/protected roofs including intensive/extensive green roofs
- proprietary expansion joint systems
- IKOgreen Vegetation — for use in roof garden applications
- IKOgreen Growing Medium — for use in roof garden applications
- IKOgreen Plasfeed — a range of drainage/moisture retention layers for use in roof gardens applications
- Upstand Insulation Board — insulation with a weather-resistant facing board, used for upstand detailing
- PermaFLASH-UN — a 1.5 mm thick and 300 mm wide un-cured neoprene rubber reinforcement sheet used at construction joints and where minor structural movement is anticipated.

(1) Foamglass Insulation (with a minimum compressive strength of 400 kPa) has only been assessed as a substrate for the system and its performance is outside of the scope of this Certificate.

2 Manufacture

2.1 The PermaTEC EcoWrap and PermaTEC Anti-Root compounds are manufactured by heating and blending bitumen, process oils, fillers and other additives in a temperature-controlled cycle. Protection membranes are manufactured by traditional continuous coating processes, and other components of the system are purchased to agreed specifications.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of IKO PLC has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate Q05233), BS EN ISO 14001 : 2015 by Lucideon (Certificate 24709) and BES 6001 : Issue 3.1 by Lucideon (Certificate 24703).

3 Delivery and site handling

3.1 The PermaTEC EcoWrap and PermaTEC Anti-Root compounds are delivered to site in 12 kg blocks covered with EcoWrap heat-dispersible film.

3.2 Reinforcing and protection layers are packaged with labels bearing the product trade name and should be stored under cover and kept dry.

3.3 IKO PermaTEC High Penetration Primer and IKO PermaTEC Polymer Primer are delivered to site in 25 litre cans.

3.4 The Certificate holder has taken the responsibility of classifying and labelling the system components under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems.

Design Considerations

4 Use

4.1 PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems are satisfactory for use in flat (including zero falls):

- roof gardens
- green roofs
- biodiverse specifications
- blue roofs in combination with a storm water attenuation system(1).

(1) The storm water attenuation system is outside the scope of the Certificate.

4.2 The system is suitable for use on in-situ concrete, precast concrete, concrete block, timber substrates, Foamglas insulation (with a minimum compressive strength of 400 kPa), modified screeds and levelling compounds. The substrates must comply with the relevant requirements of BS 6229 : 2018 and, where appropriate, *NHBC Standards* 2021, Chapter 7.1.

4.3 The following terms are defined for the purpose of this Certificate as:

- roof garden (intensive) — a roof with a substantial layer of growing medium with planting that can include shrubs and trees, generally accessible to pedestrians
- green roof (extensive) — a roof with a shallow layer of growing medium planted with low-maintenance plants such as mosses, sedums, grasses and some wild-flower species
- biodiverse living roof — a roof with a growing medium selected to allow indigenous plant species to inhabit the roof over time
- blue roofs – a zero fall roof designed to allow controlled attenuation of rainfall during heavy storm events, as part of Sustainable Urban Drainage Systems (SuDS). Reference should be made to the appropriate clauses of the NFRC Technical Guidance Note for the construction and design of Blue Roofs.

4.4 Limited access roofs are defined for the purpose of this Certificate as those subjected only to pedestrian traffic for maintenance of the roof covering, cleaning of gutters, etc. Where traffic in excess of this is envisaged, additional protection to the systems must be provided (see section 10).

4.5 Flat roofs are defined for the purpose of this Certificate as those having a minimum finished fall of between 1:80 and 1:6. For design purposes, twice the minimum fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls etc.

(1) *NHBC Standards* 2021 require a minimum fall of 1:60 for green roofs and roof gardens.

4.6 Zero fall roofs are defined for the purpose of this Certificate as those having a finished fall which can vary between 0 and 1:80(1). Reference should also be made to the appropriate clauses of the *Liquid Roofing and Waterproofing Association* (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls*.

(1) *NHBC Standards* 2021 require a minimum fall of 1:60 for green roofs and roof gardens.

4.7 Structural decks to which the system is to be applied must comply with the relevant requirements of BS 6229 : 2018 and must be suitable to transmit the dead and imposed loads experienced in service. Allowance needs to be made for loading deflections to ensure that the free drainage of water is maintained.

4.8 Imposed loads, dead loads and wind loading are calculated by a suitably experienced and competent individual in accordance with BS EN 1991-1-1 : 2002, BS EN 1991-1-3 : 2003 and BS EN 1991-1-4 : 2005, and their UK National Annexes.

4.9 Recommendations for the design of green roof and roof garden specifications are available within the latest edition of *The GRO Green Roof Code – Green Roof Code of Best Practice for the UK.*

4.10 The drainage system for inverted and zero fall roofs must be correctly designed, and the following points should be addressed:

- provision made for access for maintenance purposes
- for zero fall roofs, it is particularly important to identify the correct drainage points, to ensure that drainage is sufficient and effective
- dead loads for green roofs and roof gardens can increase if the drains become partially or completely blocked causing waterlogging of the drainage layer.

4.11 Insulation materials used in conjunction with the systems must be either:

- suitable for use within inverted roofs in accordance with the manufacturer's instructions or
- Foamglas insulation(1) (with a minimum compressive strength of 400 kPa) used in accordance with the Certificate holder's instructions.

4.12 The NHBC requires that the waterproofing membranes, once installed, be inspected in accordance with of *NHBC Standards* 2021, Chapter 7.1, Clause 7.1.12, including the use of an appropriate integrity test, where required. Any damage to the membrane is repaired in accordance with section 16 of this Certificate and reinspected.

5 Practicability of installation

The systems should only be installed by contractors who have been trained and approved by the Certificate holder. Details of these are available from the Certificate holder.

6 Weathertightness

The systems will adequately resist the passage of moisture into the interior of a building and enable a roof to comply with the relevant requirements of the national Building Regulations.

7 Properties in relation to fire

7.1 In the opinion of the BBA, a roof incorporating the system will be unrestricted with regard to proximity to a boundary under the national Building Regulations in the following circumstances:

- a roof garden covered with a drainage layer of gravel 100 mm thick and a soil layer 300 mm thick,
- irrigated roof garden and green roofs
- when protected by an inorganic covering (e.g. gravel or paving slabs) listed in the Annex of Commission Decision 2000/553/EC.

7.2 The performance of other specifications must be established in accordance with the documents supporting the national Building Regulations.

7.3 If allowed to dry, the plants used may allow flame spread across the roof. This should be taken into consideration when selecting suitable plants for the roof. Appropriate planting irrigation and/or protection should be applied to ensure the overall fire-rating of the roof is not compromised.

8 Adhesion

8.1 PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems will resist the effects of wind suction likely to occur in service.

8.2 The growing medium used in roof gardens must not be of a type that will be removed, or become delocalised, owing to wind scour experienced on the roof.

8.3 It should be recognised that the type of plants used in roof gardens could significantly affect the expected wind loads experienced in service.

9 Resistance to mechanical damage

9.1 The systems can accept the limited foot traffic and light concentrated loads associated with installation and maintenance. Reasonable care should be taken to avoid puncture by sharp objects or concentrated loads. Where traffic in excess of this is envisaged, such as for maintenance of lift equipment, a walkway should be provided.

9.2 The systems are capable of accepting minor structural movement while remaining weathertight.

10 Resistance to root penetration

10.1 The PermaTEC Anti-Root system, including joints, is resistant to root penetration and can be used in a roof waterproofing system for roof gardens and green roofs.

10.2 Tests on IKO Roofgarden 4APP AD/F 7.5 m indicate that it is suitable for use as a root-resistant membrane and, when used with the systems in roof garden applications, will provide adequate protection from penetration by roots.

10.3 Advice on suitable planting specifications must be sought from the Certificate holder.

11 Environmental information

11.1 The PermaTEC EcoWrap and PermaTEC Anti-Root waterproofing membrane compounds have a recycled content of 45% by mass of the total product.

11.2 The recycled materials are described as limestone filler and ground rubber crumb, the latter manufactured from post-consumer vehicular tyres. Post-consumer material is defined in BS EN ISO 14021: 2016, and the Waste & Resources Action Programme (WRAP) '*Rules of Thumb' Guide to Recycled Content in Construction Products*.

11.3 The recycled content has been calculated in accordance with BS EN ISO 14021 : 2016 by expressing the input mass of recycled material as a percentage of the total input mass for the product.

11.4 The source and quantity of recycled material added to the product is verified by the BBA as part of post-Certification auditing.

12 Maintenance

12.1 Roofs covered with the systems must be the subject of six monthly inspections and maintenance in accordance with BS 6229 : 2018, Chapter 7, to ensure continued satisfactory performance.

12.2 Green roofs, biodiverse roofs, and roof gardens must be the subject of regular inspections, particularly in autumn after leaf fall and in spring, to ensure unwanted vegetation and other debris are cleared from the roof and drainage outlets (see section 4.10). Guidance for the maintenance of roof gardens and green roofs is available within the latest edition of *The GRO Green Roof Code — Green Roof Code of Best Practice for the UK*.

12.3 Where damage has occurred it should be repaired, at the earliest opportunity, in accordance with section 16 and the Certificate holder's instructions.

13 Durability

The PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems, when protected and subjected to normal service conditions, will provide an effective barrier to the transmission of moisture for the design service life of the roof in which it is incorporated.

Installation

14 General

14.1 PermaTEC EcoWrap and PermaTEC Anti-Root Hot Melt Green Roof Waterproofing Systems must be installed in accordance with the *Liquid Roofing and Waterproofing Association* (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls,* the Certificate holder's instructions, and this Certificate, on a dry and frost-free substrate. After rain or snow, the substrate must be allowed to dry before installation can commence. The installer can aid drying by any suitable means approved by the Certificate holder. Once applied, the membranes are not affected by rain, snow or frost.

14.2 To assess the suitability of a substrate to receive the systems, bond tests must be carried out to ensure that adequate adhesion can be achieved. If bonding problems occur, advice must be sought from the Certificate holder.

14.3 Prior to application of the systems, defects in the substrate such as cracks, irregularities and other areas of potential weakness must be repaired using an approved repair mortar, and the substrate cleaned in accordance with the Certificate holder's instructions. Additional membrane may be used to fill minor depressions in the substrate.

14.4 Cementitious substrates must be coated with IKO PermaTEC High Penetration Primer or IKO PermaTEC Polymer Primer in accordance with the Certificate holder's instructions and allowed to dry before application of the systems.

14.5 The systems are covered by a protective layer immediately after installation, in accordance with the Certificate holder's instructions.

14.6 Soil or other bulk material should not be stored on one area of the roof prior to installation, to ensure that localised overloading does not occur.

14.7 Detailing must be formed in accordance with the Certificate holder's instructions.

15 Procedure

15.1 Blocks of the membrane compound are heated in a mechanically agitated melter, which must have a double jacket containing either air or a heat-transfer mineral oil and be fitted with thermometers to measure the melt and air/oil temperatures.

15.2 The nominal temperature range for the molten membrane is 160 to 180°C. The temperature of the melt must not exceed 190°C.

15.3 The molten membrane is discharged from the melter into a suitable container and applied to the roof, using a long-handled squeegee for horizontal surfaces and a suitable spreader for vertical surfaces.

15.4 At structural movement joints between 12 and 50 mm (maximum 50% total movement), a proprietary joint system must be installed. The Certificate holder should be consulted for suitable products.

15.5 At all non-monolithic changes in substrate materials, at structural/shrinkage cracks between 3 and 6 mm wide, at structural joints between 6 and 12 mm wide and where minor movement may occur, a reinforcement layer of PermaFLASH-D150 should be applied prior to applying the PermaTEC EcoWrap Anti-Root system.

15.6 At all board joints in plywood, calcium silicate and composite metal decks, a reinforcement layer of PermaFLASH-D150 or a minimum 150 mm wide strip of PermaFLASH-R must be applied prior to applying the membrane. The advice of the Certificate holder should be sought.

15.7 The first layer of the molten membrane should have a nominal thickness of 3 mm.

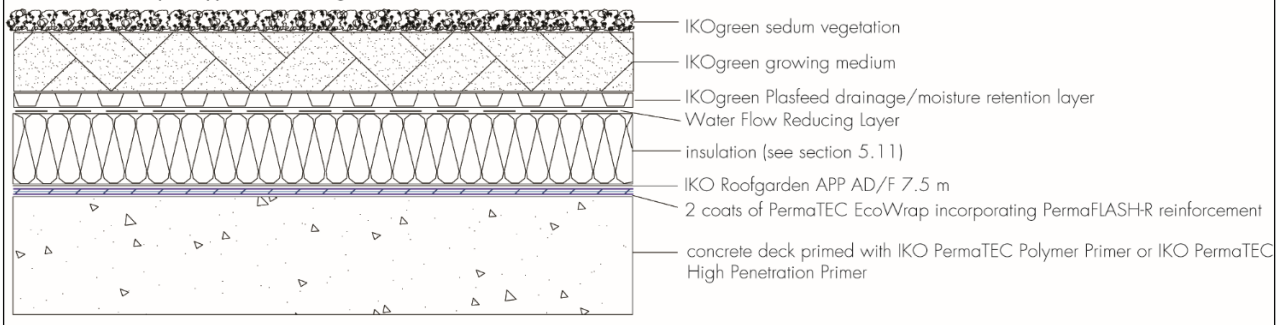
15.8 PermaFLASH-R polyester reinforcing scrim is embedded by lightly brushing it into the first layer of the membrane whilst it is still hot and tacky. The reinforcement overlaps must be at least 75 mm and fully sealed by the membrane.

15.9 The second layer of membrane, applied over the top of the reinforcement, should have a nominal thickness of 3 mm.

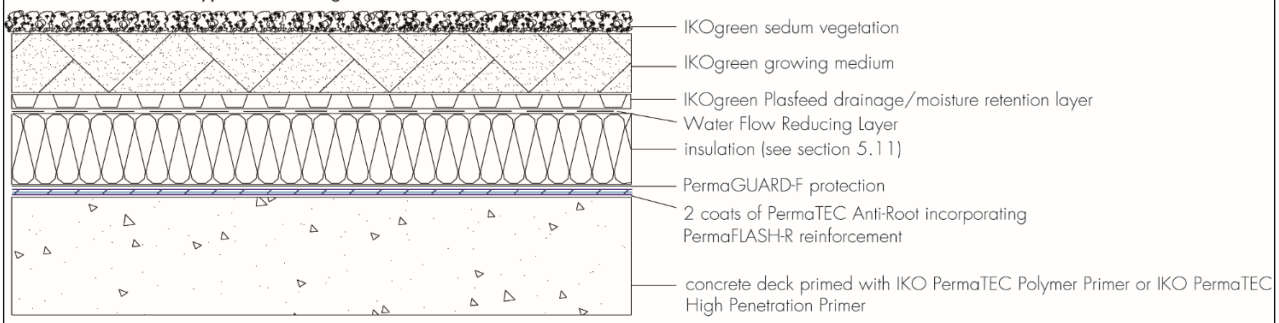
15.10 The membrane must be protected immediately with the specified PermaGUARD or IKO Roofgarden 4APP/F 7.5 m protection layer. This is carried out prior to applying the insulation, water control layer and the protective layer or other specified surface finish (see Figure 1 for typical design specifications).

Figure 1 Typical design specifications

PermaTEC EcoWrap — Typical extensive green roof



PermaTEC Anti-Root — Typical extensive green roof



PermaTEC EcoWrap— Typical intensive roof garden

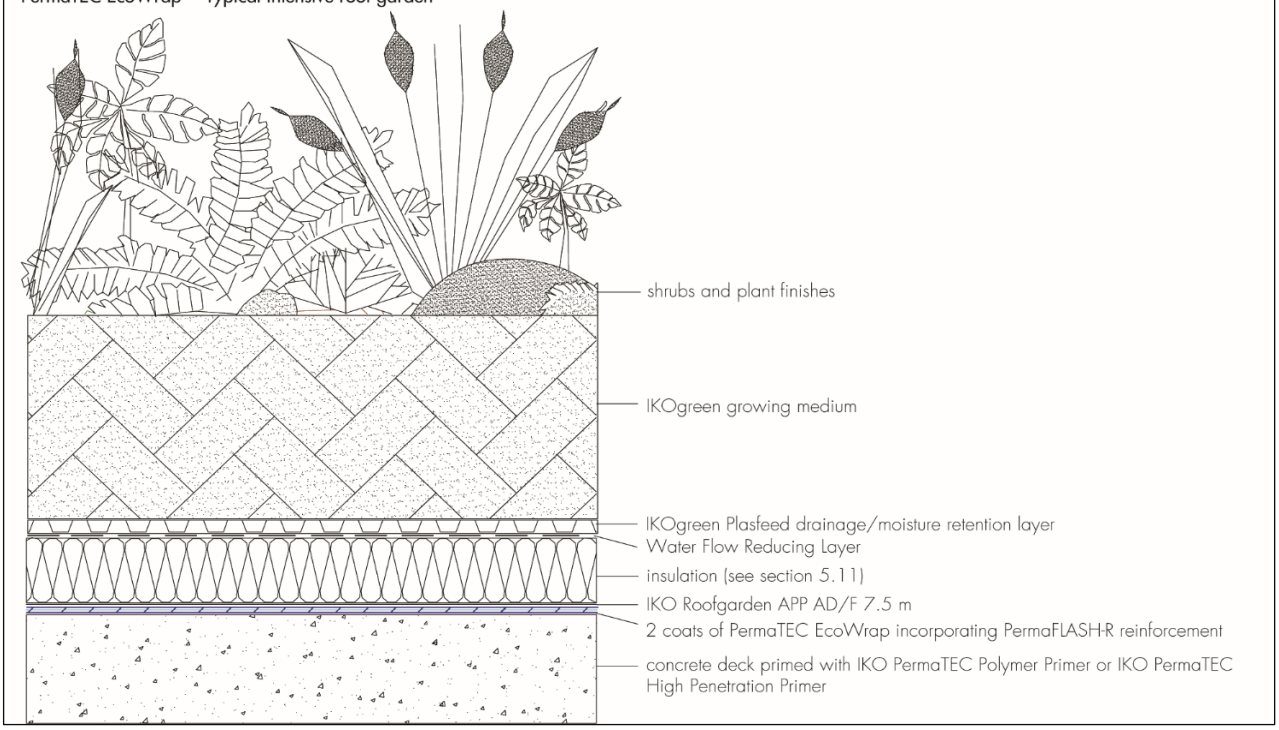
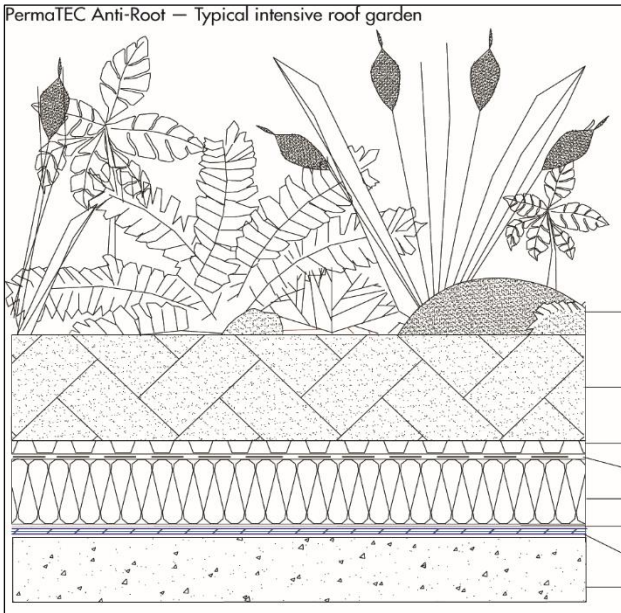
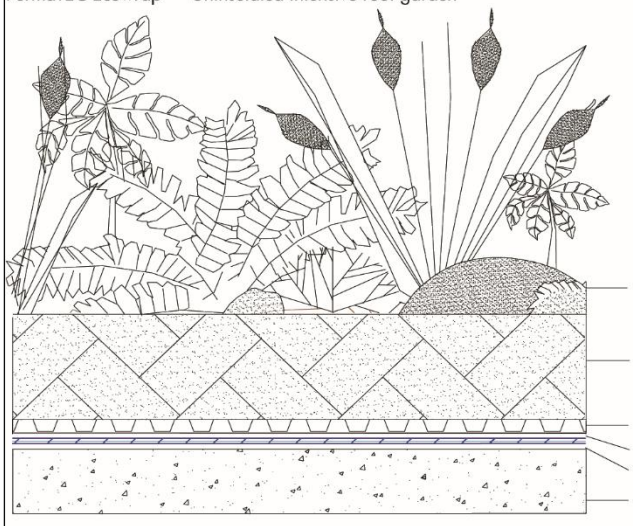


Figure 1 Typical design specifications (continued)

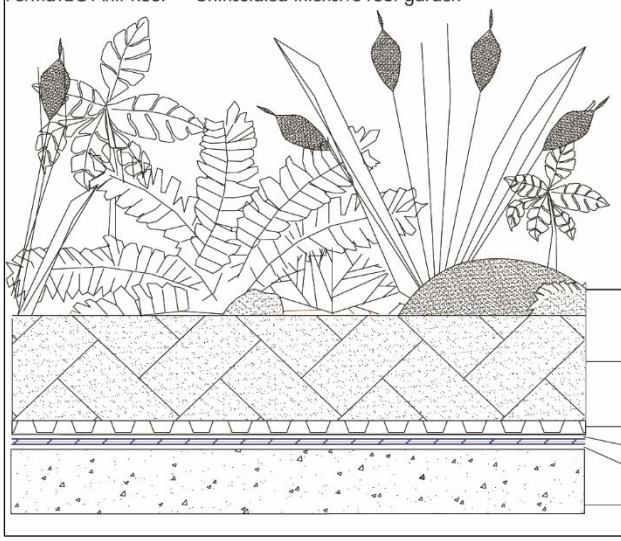
PermaTEC Anti-Root — Typical intensive roof garden



PermaTEC Ecowrap — Uninsulated intensive roof garden



PermaTEC Anti-Root — Uninsulated intensive roof garden



16 Repair

16.1 Any damage to the systems must be repaired as soon as possible to ensure that the integrity of the waterproofing is maintained. The advice of the Certificate holder should be sought.

16.2 Where maintenance or repair of any of the roof components above the waterproofing systems is necessary, care must be taken to avoid damage to the membrane. If damage to the membrane occurs, then it should be repaired in accordance with the Certificate holder's instructions.

16.3 In the event that the systems are contaminated by chemicals, oils and greases, the advice of the Certificate holder should be sought.

Technical Investigations

17 Tests

17.1 Characterisation tests were carried out on the compound to establish:

- fines
- penetration
- flow and resilience.

17.2 Characterisation tests were carried out on PermaFlash-R and Permaflash-D to establish:

- thickness
- mass per unit area
- tensile properties.

17.3 Tests were conducted on samples of the systems and/or systems components, and the results assessed to determine:

- water vapour permeability
- watertightness
- low temperature flexibility
- resistance to fatigue
- resistance to dynamic indentation (system including Permaguard-PB protection)
- resistance to static indentation (system including Permaguard-PB protection)
- effect of heat ageing
- effect of exposure to surface water
- resistance to penetration by roots.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 The results of the root resistance testing to German FLL standard were assessed.

Bibliography

BS 6229 : 2018 *Flat roofs with continuously supported flexible waterproof coverings — Code of practice*
BS EN 1991-1-1 : 2002 *Eurocode 1 : Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*
NA to BS EN 1991-1-1 : 2002 *UK National Annex to Eurocode 1 : Actions on structures — General actions— Densities, self-weight, imposed loads for buildings*
BS EN 1991-1-3 : 2003 + A1 : 2015 *Eurocode 1 — Actions on structures — General actions — Snow loads*
NA + A2 : 18 to BS EN 1991-1-3 : 2003 + A1 : 2015 *UK National Annex to Eurocode 1 : Actions on structures — General actions — Snow loads*
BS EN 1991-1-4 : 2005 + A1 : 2010 *Eurocode 1 : Actions on structures — General actions — Wind actions*
NA to BS EN 1991-1-4 : 2005 *UK National Annex to Eurocode 1 : Actions on structures — General actions — Wind actions*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

BS EN ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

BS EN ISO 14021 : 2016 *Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)*

BES 6001 : Issue 3.1 *Framework Standard for Responsible Sourcing*
The GRO Green Roof Code – Green Roof Code of Best Practice for the UK
Liquid Roofing and Waterproofing Association (LRWA) Note 7 – *Specifier Guidance for Flat Roof Falls*.

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document – it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.