

AXTER

Q37 HYDROSOIL®

PROJECT NAME

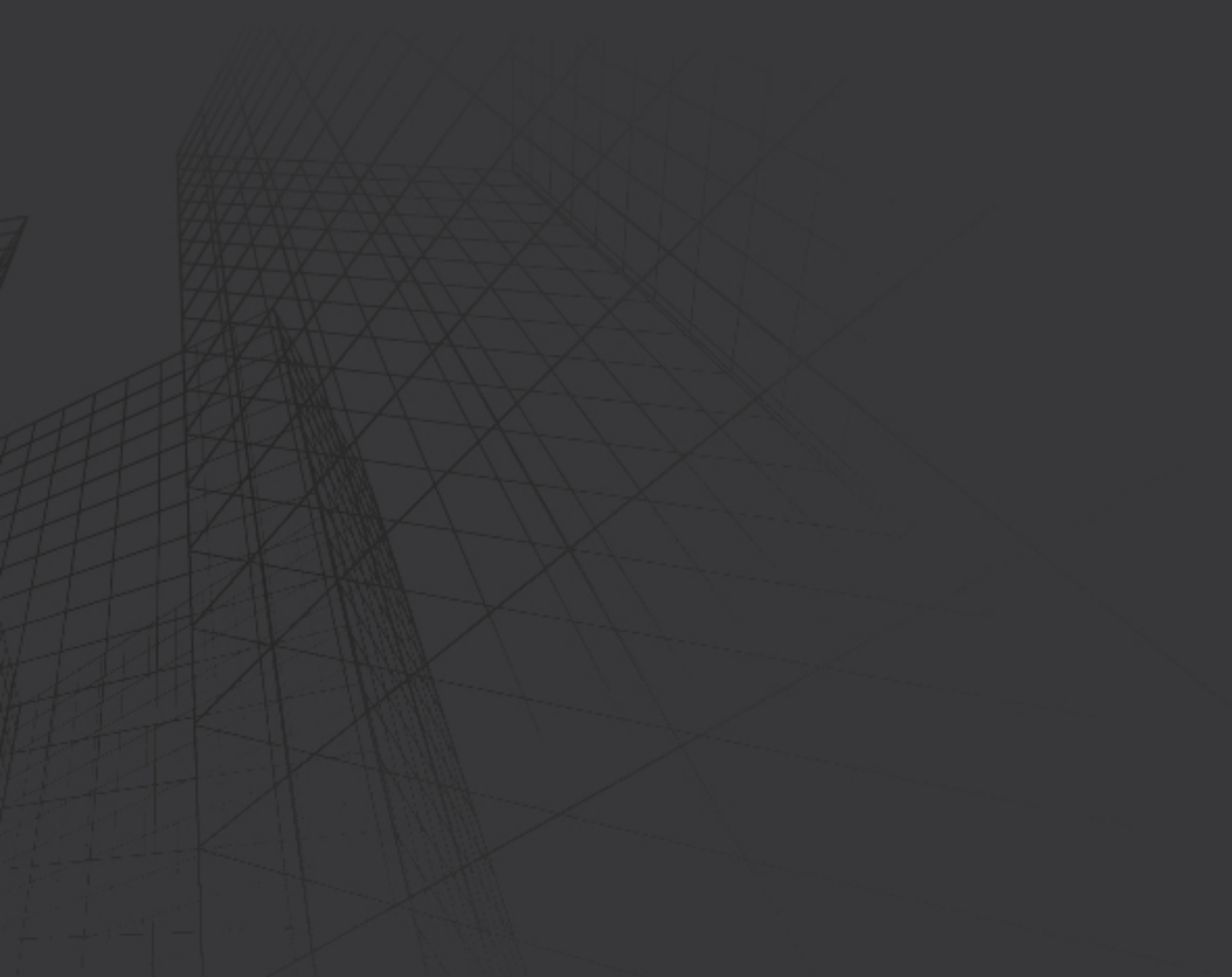
RHYD Y GRUG SCHOOL

PROJECT ID

18200

SPECIFICATION REF.

18200-2/50/CD



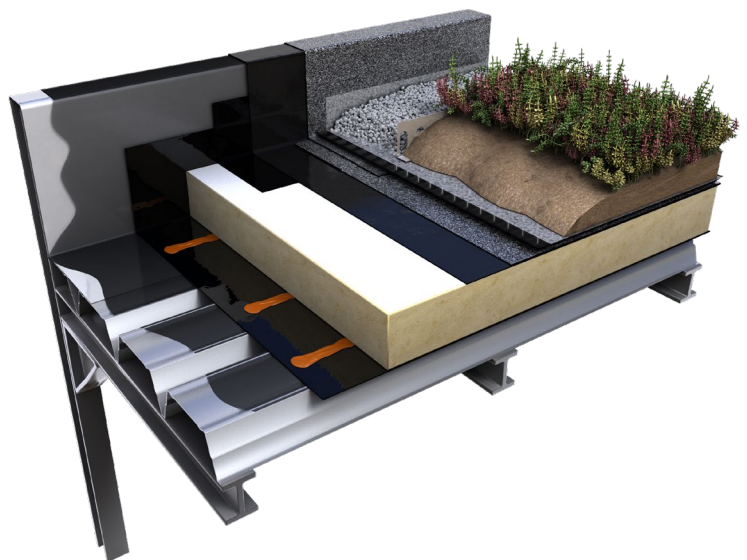
AXTER Q37 HYDROSOIL[®]

ROOF AREA	ROOF STRUCTURE	DATE	
Green roof	Metal deck	28/08/2024	

PREPARED BY	EMAIL
Chloe Davis	cdavis@axterltd.co.uk

HYDROPACK EXTENSIVE LIVING ROOF FINISH

An Extensive living roof finish can be laid on top of a variety of waterproofing systems and provides a great variety of flora and fauna for visual and biodiverse interest.



Q37 EXTENSIVE GREEN ROOF COVERING

To be read with Preliminaries/ General Conditions.

GENERAL HYDROSOIL EXTENSIVE GREEN ROOF SYSTEM

130A EXTENSIVE LIVING ROOF COVERING

To be read with Section J41 CITYFLOR cold/inverted/warm roof specifications for Living Roofs.

HYDROSOIL® SEDUM

HYDROSOIL® sedum extensive living roof system comprising a water retention and drainage layer, integral filtration membrane, engineered growing medium and mixed sedum planting to suit the building design requirements.

Installation of Axter living roof systems is carried out by accredited Axtershield Installers / approved living roof installation teams. All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.

System manufacturer: Axter Ltd, Harbour Landing, Fox's Marina, The Strand, Wherstead, Ipswich, IP2 8NJ Tel: 01473 724056, email: info@axterltd.co.uk, website: www.axter.co.uk

- Roof Type and thermal insulation as per J41/ J31
- Moisture control layers: HYDRODRAIN 20
- Filter layer: as per HYDRODRAIN 20
- Growing medium: Axter HYDROSOIL substrate, above the HYDRODRAIN 20.
 - Depth: HYDROSOIL SEDUM: 80mm
- Vegetation: Axter pre-grown mixed sedum.vegetation blanket. Refer to clause 400A or 400B or 400C.
- Installation as clause 801A.

IMPORTANT DESIGN NOTES:

- Maintenance and irrigation strategy designed in accordance with Axter Living Roof maintenance guide and implemented by Axter Ltd maintenance partners and /or the building owner or facilities maintenance operator.
- Watering points must be provided to all living Roof areas.
- Roof Access strategy must be determined by the project architect

ACCESSORIES

- AXTER RETAINING ANGLE 100mm perforated edge retaining profile, corners and connectors.
- AXTER Rainwater Outlet Inspection Chambers.
- 20 mm to 40 mm rounded washed river gravel to all abutments, perimeters and protrusions (maintain a minimum 500mm wide sterile margin).
- 500 x 500mm square micro habitat areas to be created in 20mm to 40mm rounded washed river gravel / shingle to same depth as brown roof system

PERFORMANCE

210 GENERAL DESIGN

- Green roof and associated features: Complete the detailed design.
- Proposals: Submit drawings, technical information, calculations and manufacturers' literature.
- Performance criteria: as required.
- Installation of Axter living roof systems is carried out by accredited Axtershield Installers. All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.

255 MAXIMUM PERMITTED GREEN ROOF LOADS:

- Dead loads:
 - Total Saturated weight: (sedum80) 126 kg/m²

PRODUCTS

340A DRAINAGE/ MOISTURE CONTROL LAYER

- Manufacturer: Axter Ltd.
 - Product reference: HYDRODRAIN 20.
- Material: Recycled HDPE.
 - Capacity: 5.5 litres/m²
 - Depth: 20mm

390 GROWING MEDIUM

- Manufacturer: Axter Ltd.
 - Product reference: Axter HYDROSOIL substrate.
- Material: Moisture retentive, low nutrient and free draining; made from 100% recycled material. Organic material PAS100 certified.
- Material: Substrate comprises lightweight clay aggregates, recycled brick/mineral and organic material (green waste)
- Depth: HYDROSOIL SEDUM: 80mm
- Weight (dry): approx. 750kg/m³
- Weight (saturated): approx. 920kg/m³.
- Tested in accordance with BS 8616

400A PRE-GROWN MIXED SEDUM VEGETATION BLANKET

- Manufacturer: Axter Ltd.
 - Product reference: Axter Mixed Sedum vegetation blanket.
- Planting mix: Several varieties of indigenous sedum – subject to seasonal variations, including *Sedum Selskianum*, *Sedum Hybridum*, *Sedum Montanum*, *Sedum Pulchellum*, *Sedum Ellacombianum*, *Sedum Acre*, *Sedum Album*, *Sedum Sexangulare*, *Sedum Spurium*, *Sedum Floriferum*, *Sedum Reflexum*, *Sedum Middendorffianum*
- Vegetation coverage (minimum): 80%.
- Substrate base: 25mm for instant vegetative cover.
- Maximum height of plants: 20-50mm
- Size: 1m x 2m roll
- Weight: (dry) 15kg/m², (saturated) 20kg/m²

420 EDGE RETAINING PROFILE (to exposed edges of greening)

- All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.
- Manufacturer: Axter Ltd.
 - Product reference: Axter edge profile.
- Material: Aluminium.
- Height: Choose an item.

430 INSPECTION CHAMBERS (to all internal rainwater outlets)

- Manufacturer: Axter Ltd.
 - Product reference: Axter inspection chamber.
- Material: Polyester powder coated steel.
- Size: 300 x 300 mm.
 - Depth: To suit planting.
 - The lid of the chamber must be level with, or higher than, the surrounding landscaping. For landscaping exceeding 100mm, additional height adaptor units (available in 50mm or 100mm depths) must be used to achieve the required chamber depth, with the chamber lid at least level with the surrounding landscaping or higher.
- Access covers: integral into the unit.
- Features: perforated base.

470 STONE BALLAST TO MARGINS AND FIRE BREAKS

- All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.
- Condition of substrate: Clean.
- Type: Washed, round aggregate.
- Supplier: Contractor's choice.
- Size: Graded 20-40mm, free from fines and sharps.
- Previously laid materials: Protect during laying of ballast.
- Laying: Spread evenly. Do not pile to excessive heights.
 - Depth (minimum): to suit green roof system
 - Width (minimum): 300mm to 500mm
 - A 500mm fire break is required where the green roof is adjacent to: opening roof lights, opening doors, opening windows.

EXECUTION GENERALLY

710 INSTALLATION GENERALLY

- Preparation: Clear all surfaces of debris.
 - Timing: After certification of waterproof membrane integrity.
 - Surface condition: Visually inspect waterproof membrane, report any damage.
- Faults in waterproof membrane: Report and remediate as in accordance with Axter's QA /Guarantee requirements prior to covering. Evidence of all remedial works to be provided to Axter Ltd.
- Contamination: Do not use materials detrimental to healthy plant growth.
- Storage: Do not overload.
 - Point loads: Avoid.
- Outlets: Do not block.
 - Outlet grilles: Installed.
- Installation of Axter living roof systems is carried out by accredited Axtershield Installers. All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.

715 QUALITY AUDIT INSPECTIONS

Quality audit inspections are required to demonstrate that the installation has been completed in compliance with the project specification.

Inspections: To obtain an Axter Silvershield, Goldshield or Platinum Guarantee, Quality Audit (QA) inspections must be completed by Axter QA Management during the installation process and in accordance with the system specific QA sequence procedure. QA inspections must be completed with the roofing contractor (Accredited Installer) in attendance to ensure the installation is proceeding in accordance with Axter's specification, guarantee requirements and relevant codes of practice. A structured QA report combined with supporting photographs will be issued to the roofing contractor following each inspection. QA reports will seek to identify good and bad practice and monitor the works progression. QA Reports will, where appropriate, make recommendations for remedial works that the roofing contractor must complete in order to satisfy Axter system guarantee requirements. QA inspections are not required to obtain an Axter Bronzeshield Guarantee or material Warranty, but are mandatory to obtain all other guarantee types.

Self-Certification: On small projects (projects with a combined total area <50m²) that require a Silvershield Guarantee it may not be practical for Axter to complete QA inspections. In such instances the roofing contractor may apply to Axter to self-certify the installation. Self-certification applications must be received in writing from the roofing contractor, and client approval should be obtained in writing by the roofing contractor prior to commencement of the works. Silvershield guarantees on self-certified projects will not be issued without a self-certification form having been successfully completed and issued to Axter by the roofing contractor. It is the responsibility of the roofing contractor to comply with Axter's self-certification process. Failure to comply will result in a Bronzeshield guarantee or a material warranty being issued.

Planning inspections: The roofing contractor must assist in the planning of all QA inspections and ensure their representatives are available to accompany Axter QA Management on the day of inspection.

Guarantee: Sequential and final QA inspections are mandatory on all Silvershield, Goldshield and Platinum guaranteed works. Depending on the size (>50m²) and complexity of the roof Silvershield, Goldshield and Platinum guarantees are required to be electronically tested. Silvershield, Goldshield and Platinum guarantees will not be issued without a sequential QA record and a final QA inspection report having been successfully completed. On projects >50m² electronic test reports must also be provided to Axter as part of the guarantee application.

715A FINAL QUALITY AUDIT INSPECTIONS

Timing of final inspection: Once practical completion of the waterproofing works has been achieved all areas should be clear of stored material, site operations and all protection. A thorough visual and recorded inspection of all areas must be carried out by Axter QA with representation from the accredited installer (roofing contractor), main contractor, developer and/or client in attendance.

Conditions: All non-compliant items must be resolved or recorded as a reserved matter within the final QA report. Reserved matters are items that are removed from guaranteed works. Please refer to Axter Guarantee information sheets for further reference.

720 ADVERSE WEATHER

- Unfinished work: Secure from damage and wind uplift.
- Conditions: Do not install or work with frozen materials
- Do not install during periods of drought or frost and/or any other extreme weather conditions.

790 GROWING MEDIUM INSTALLATION

- Handling: Minimize
 - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen or during extreme heat or drought.
- Layers:
 - Depth: HYDROSOIL SEDUM: 80mm
 - Sequence: Gently firm each layer before spreading the next.

791 BIODIVERSITY DESIGN REQUIREMENTS

- Give notice of 7 days for approval of proposals in line with this clause
- Submit proposals for areas that will be left to naturally colonise with indigenous flora and fauna.
- Submit proposals if graded shingle is also be incorporated. These areas can be designed to provide raised mounds within the broad design and should be of varying height.
- They should constitute at least one fifth of any roof area where required.
- Submit proposals for wooden elements (e.g. dry logs 100mm x 500mm x 1000mm) to provide an important rotting wood ecological niche for rare invertebrates.
- Weight loadings for any surface landscaping items, such as rocks, logs, undulating areas of growing medium and fully established planting /vegetation, making up the biodiversity landscaping are subject to a structural engineer's approval.

801 SEDUM AND WILDFLOWER PLUG PLANT INSTALLATION

- Sowing rate: 16-20/m²
- Preparation: Growing medium must be free of weeds, have reasonable texture and structure and can retain moisture. A depth of 80 -100mm or more is best for supporting the widest range of plant species.
- Sowing: Plugs are best planted in the autumn or spring but can be planted at other times of the year if there is sufficient warmth and moisture. On shallow growing medium, irrigation may be needed to maintain establishment through dry periods.
- For further information please contact Axter Ltd.
- Watering: before and after planting and kept moist for at least 3 months following installation and in accordance with weather conditions.

SURFACING

820 EDGE RETAINING PROFILE INSTALLATION

- Installation of Axter living roof systems is carried out by accredited Axtershield Installers. All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.
- Cutting: Neat, accurate and without spalling.
 - Junctions: vertical, secured using proprietary connectors.
- Position: True to line and level. Smooth continuous lines.
- Fixing: Overlapped by roof coating.

830 INSPECTION CHAMBER INSTALLATION

- Location: Install centrally over drain outlet.
 - Orientation: Align parallel with adjacent features.
- Bedding: Proprietary support base.
- Backfill: Ballast.
- Surround: Growing medium.

840B LAYING STONE BALLAST AND FIRE BREAKS

- Installation of Axter living roof systems is carried out by accredited Axtershield Installers. All system components are specified and installed to ensure compatibility, single source responsibility, and compliance with Axter recommendations and the Green Roof Organisation (GRO) Code.
- Condition of substrate: Clean.
- Gravel guards: Fit to outlets.
- Laying: Spread evenly. Do not pile to excessive heights.
 - Depth (minimum): 50mm
 - Width (minimum): 300-500mm

COMPLETION

910 INSPECTION

- Timing: Before handover.
- Final roof inspections by AXTER Quality Assurance (QA) personnel are mandatory for guarantee application.
- Inspections to be completed in accordance with AXTER QA Sequence documentation.
- Inspections should be completed with the Roofing Contractor (Ai) and Main Contractor/Developer/Client representative in attendance.
- Submit completed reports to Axtershield Installer (Ai) and all relevant parties as agreed at project pre-start.
- Living roof installation must not commence until Axter Ltd QA have carried out a final inspection to the waterproofing and have passed this as suitable for guarantee. It is the responsibility of the roofing contractor to advise and organise this inspection with Axter Ltd. Please note that we cannot guarantee any waterproofing that has been landscaped without this inspection having been carried out and passed as acceptable.
 - Give notice (minimum): 5 working days.

910A ESTABLISHMENT WATERING REQUIREMENTS

- For vegetation blankets, it will be necessary to keep the blanket substrate damp for a period of at least 10 weeks (subject to type and time of year) during the period of vegetation establishment. It should be established at tender stage, whom should carry out this task and that they have all relevant information available regarding watering requirements.
- It is the responsibility of the roofing contractor to liaise with the main contractor/ building owner to provide water and ensure that the planted growing medium is thoroughly irrigated immediately after installation.
- An adequate mains water supply of sufficient pressure must be available and operational prior to the planting being delivered and installed. Initial watering must be by surface mounted sprinklers. For larger roofs this will likely entail more than one watering point at roof level.

920 COMPLETION

- General: Leave the works in a clean, tidy condition.
- Surfaces: Clean immediately before handover.
- Outlets: Clean and clear of obstructions.
- Completed green roof: Protect from adjacent or high level working.

920A ROOF WATERPROOFING INTEGRITY TEST

Waterproofing integrity testing is required to demonstrate the integrity of the waterproof membrane at practical completion.

Testing authority: Integrity testing must be undertaken by a suitably qualified and experienced third party certified test agency who is independent of the roofing contractor. Waterproofing integrity testing methods that are not in accordance with The Roofing and Waterproofing Test Association <https://rawta.org.uk/> recommendations for the type of waterproof membrane installed must not be used as these may damage the waterproofing and invalidate Axter system guarantees. Guidance on waterproofing integrity test methods and their application can be found on The Roofing and Waterproofing Test Association website <https://rawta.org.uk/>.

Timing of test: As required, prior to installation of all roof finishes and prior to completion of Axter's final QA inspection.

Testing: The waterproof membrane should be visually inspected, and tested for defects at practical completion. Any defects should be repaired by the accredited installer (roofing contractor), retested, and left in a satisfactory condition. Waterproof membranes on flat roofs, terraces, and balconies greater than 50m² must be subject to visual and recorded inspection by Axter QA Management, and an appropriate integrity test undertaken by a suitably qualified and experienced third party certified test agency who is independent of the roofing contractor. Waterproof membranes under 50m², or roofs which are difficult to access (e.g buildings over 3 storeys), or those unsuitable for electronic testing (e.g. foil-faced bitumen membranes) may be checked for integrity by visual and recorded inspection only. This visual and recorded inspection should be completed by Axter QA Management and include inspection of all membrane laps and seams with suitable probes. On self-certified projects visual and recorded inspection should be completed by the roofing contractor.

Condition of roof prior to testing: Waterproof membrane complete to a stage where system integrity can be tested.

Surface: Clean, clear of all stored roofing material, site operations and protection.

Test results: The testing service provider should provide in their report:

- Date of test
- Project name, address and reference number
- Name, Address and Contact of testing agency
- Description and efficacy of the waterproofing installation.
- Experience and training of test operative.
- Membership of an appropriate trade association, that sets a code of conduct for the service.
- Details and provision of large, clear photographs, of defects identified (When applicable)
- Number of tests undertaken.
- Confirmation of result of testing.

The test report must be sent to Axter prior to guarantee application. The test report should also be made available to the Warranty surveyor (NHBC/LABC) prior to handover where applicable.

Additional testing: May be required if defects have occurred as a result of damage from follow on trades, or the completed waterproofing membrane has been used for storage without adequate protection.

Guarantee: Waterproofing integrity testing is required to obtain Silvershield, Goldshield and Platinum system guarantees. All test reports must be provided to Axter prior to starting a guarantee application. Testing must take place at practical completion (prior to handover), and before the waterproofing works are covered by insulation and roof finishes are installed. Failure by the roofing contractor to provide a detailed test report will prevent Axter's guarantee from being issued. NB - Waterproofing integrity testing is not compulsory to obtain an Axter Bronzeshield Guarantee or a material Warranty.

930 DOCUMENTATION

- Timing: Submit at handover.
- Contents:
 - Growing medium declaration of analysis.
 - Manufacturers' guarantees and warranties.
 - Procedures for maintenance of the green roof.
 - Record drawings showing the location of planting and associated features.
- Number of copies: as required.

Disclaimer

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Axter Ltd
Harbour Landing,
Fox's Marina,
The Strand, Wherstead,
Ipswich,
IP2 8NJ

01473 724056
www.axter.co.uk
info@axterltd.co.uk
registration number: 1446923

