

Q37 Green roofs

General

100 General

1. To be read in conjunction with Section J41.

130 Extensive green roof

1. Description: To main roof
2. System Manufacturer: Axter Ltd, West Road, Ransomes Euro Park, Ipswich, IP3 9SX
Tel: 01473 724056, Fax 01473 723263, email info@axterltd.co.uk
www.axter.co.uk
3. System: **HYDROSOIL® SEDUM/60**
A traditional built-up extensive sedum green roof system comprising of a water retention / drainage board layer, integral filter layer, growing medium and planting to suit the build requirements.
4. Roof type: Warm roof with modified bitumen sheet covering as J41/110C
5. Thermal insulation: As J41/110C
6. Moisture control layers: Hydrodrain 20
7. Filter layer:: As Hydrodrain 20
8. Growing medium:

Axter Hydrosoil Substrate, above the Hydrodrain 20 or as shown on the drawings.
 - 8.1. Depth: 60mm
9. Vegetation: Axter pre-grown Mixed Sedum vegetation blanket.
 - 9.1. Installation: As clause 801A
10. Accessories:

AXTER RETAIN 120 perforated edge retaining profile, corners and connectors.
AXTER Rainwater Outlet Inspection Chambers.
20 to 40 rounded washed river gravel to all abutments, perimeters and protrusions (maintain a minimum 500mm wide sterile margin).
11. Other requirements: Maintenance and irrigation strategy designed in accordance with Axter Green/ Brown Roof maintenance guide and implemented by Axter Ltd maintenance partners.

Performance

210 General design

1. Green roof and associated features: Complete the detailed design.
2. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.
3. Performance criteria: As J41.

255 Maximum permitted green roof loads

1. Permanent loads
 - 1.1. Green roof layers: 102 kg/m² (wet)
2. Imposed loads
 - 2.1. Actions: Submit proposals
 - 2.2. Vegetation: Submit proposals

- 2.3. Allowance for additional loads during construction: Submit proposals
3. Service loads: Submit proposals
4. Requirement: Restrict site activities to ensure that design loads are not exceeded, or submit proposals for temporary supports.

Products

340 Drainage / Moisture control layer Type A

1. Manufacturer:

Axter Ltd
 - 1.1. Product reference:

HYDRODRAIN 20
2. Material: Recycled HDPE
 - 2.1. Capacity: 5.5 litres/m²
 - 2.2. Depth: 20mm.

390 Extensive Green Roof Growing Medium

1. Manufacturer: Axter Ltd.
 - 1.1. Product reference:

Axter Hydrosoil substrate
2. Material: Crushed virgin recycled brick, pumice and organic compost substrate to a depth of approximately 60mm graded
3. Ameliorant / conditioner: As Axter standard
 - 3.1. Coverage: As required.
4. Declaration of analysis: Submit
 - 4.1. Parameters: pH Value

400 Pre-grown Mixed Sedum Vegetation blanket Type A

1. Manufacturer: Axter Ltd.
 - 1.1. Product reference: Axter Mixed Sedum vegetation blanket
2. Planting mix: Several varieties of indigenous sedum
3. Vegetation coverage (minimum): 80%.

420 Edge retaining profile

1. Description: Perforated aluminium to edge of planting.
2. Manufacturer: Axter Ltd.
 - 2.1. Product reference: Axter edge profile
3. Material: Aluminium
4. Height: 120mm / depth of planting

430 Inspection chambers

1. Description: Steel inspection chamber to all rainwater outlets
2. Manufacturer: Axter Ltd.
 - 2.1. Product reference: Axter inspection chamber
3. Material: Polyester powder coated steel.

4. Size: 300x300mm
 - 4.1. 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.
5. Access covers: Integral into the unit.
6. Features: Perforated base.

470 Stone ballast to margins

1. Manufacturer: Contractor's choice
 - 1.1. Product reference: Submit proposals
2. Type: Washed, round aggregate
 - 2.1. Size: Graded 20-40mm, free from fines and sharps
3. Previously laid materials: Ensure substrate is clean and protected during laying of ballast.
4. Laying: Spread evenly. Do not pile to excessive heights.
 - 4.1. Depth: To suit green roof system.

Execution

710 Installation generally

1. Preparation: Clear all surfaces of debris.
 - 1.1. Timing: After certification of waterproof membrane integrity.
 - 1.2. Surface condition: Visually inspect waterproof membrane, report any damage.
2. 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.
3. Contamination: Do not use materials detrimental to healthy plant growth.
4. Storage: Do not overload.
 - 4.1. Point loads: Avoid.
5. Outlets: Do not block.
 - 5.1. Outlet grilles: Installed.

720 Adverse weather

1. Unfinished work: Secure from damage and wind uplift.
2. Conditions: Do not install or work with frozen materials.

780 Filter membrane installation

1. Joints: Minimize.
 - 1.1. Overlaps (minimum): 150mm
2. Fitting: Loose laid
3. Upstands: Extend to top of growing medium.

790 Growing medium installation

1. Handling: Minimize.
 - 1.1. Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
2. Layers

- 2.1. Depth (maximum): 60 mm.
- 2.2. Sequence: Gently firm each layer before spreading the next.

801 Vegetation blanket installation A

1. Handling blankets
 - 1.1. Timing: Lay within 36 hours of lifting from growing position.
 - 1.2. Excessive stacking: Not permitted.
 - 1.3. Material loss (maximum): 3% of total surface area.
2. Growing medium condition: Thoroughly watered.
3. Laying blankets
 - 3.1. Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - 3.2. Orientation: Diagonal or perpendicular to slope of roof.
 - 3.3. Joints: Stagger. Butt together or slightly overlap to prevent gaps. Do not stretch blankets. Secure with biodegradable pegs.
 - 3.4. Edges: Finish with whole blankets.
 - 3.5. Consolidation: Firm as laying proceeds to ensure full contact with the growing medium. Do not use rollers.
4. Dressing: 2-5mm horticultural grit.
 - 4.1. Application: Brush in to fill joints.
5. Watering: Thorough, immediately after laying and dressing.

820 Edge retaining profile installation

1. Cutting: Neat, accurate and without spalling.
 - 1.1. Junctions: vertical, secured using proprietary connectors.
2. Position: True to line and level. Smooth continuous lines.
3. Fixing: Overlapped by roof coating.

830 Inspection chamber installation

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

840 Stone ballast installation A

1. Condition of substrate: Clean.
2. Gravel guards: Fit to outlets.
3. Laying: Spread evenly. Do not pile to excessive heights.
 - 3.1. Depth as required.

Completion

910 Inspection

1. Timing: Before handover.

No landscaping work should be installed 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.

1.1. Give notice (minimum): 3 days.

910 Establishment Watering Requirements A

1. 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.
2. 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.
3. 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

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

930 Documentation

1. **Timing:** Submit at handover.
2. **Contents**
 - 2.1. Growing medium declaration of analysis.
 - 2.2. Manufacturers' guarantees and warranties.
 - 2.3. Procedures for maintenance of the green roof.
 - 2.4. Record drawings showing the location of planting and associated features.
3. **Number of copies:** Submit electronically

Ω End of Section