

Q37 Green roofs

Specification Reference: Q37-BDN-NM

GENERAL

130 EXTENSIVE GREEN ROOF

- Roof type: Blackdown Naturemat® Sedum Roof.
 - Substrate: Root-resistant waterproofing or aluminium (by others).
 - Slope: 0 – 8 degrees.
- Waterproofing: As J41 or H31.
- Thermal insulation: As J41 or H31.
- Protection: Root resistant waterproofing (by others)
- Moisture control layers:
 - Blackdown 300PF Protection Fleece as Clause 340.
 - Blackdown 20 Drainage/Retention Layer as Clause 350.
 - Blackdown 150FF Filter sheet as Clause 360.
- Growing medium: Blackdown Sedum Substrate as Clause 390.
 - Depth: 50mm + settlement factor.
- Vegetation: Blackdown Naturemat® as Clause 400.
- Accessories:
 - Edge retaining profile – as Clause 420.
 - Inspection chamber – as Clause 430.
 - Vegetation barrier – as Clause 440.

PERFORMANCE

210 GENERAL DESIGN

- Green roof and associated features: Complete the detailed design.
- Proposals: Submit drawings, technical information, calculations and manufacturer's literature.
- Performance criteria: Instant green coverage on roof.

255 CHARACTERISTIC ROOF LOADS

- Dead loads:
 - Roof structure, screed and waterproofing: _____.
 - Green roof layers: 1.15 kN per square metre (saturated).
- Imposed roof loads:
 - Activity: _____.
 - Vegetation: _____.
 - Allowance for additional loads during construction: _____.
- Service loads: _____.
- Long term dynamic wind loads: _____.
- Snow loads: _____.
- Other loads: _____.
- Requirement: Restrict site activities to ensure that design loads are not exceeded, or submit proposals for temporary supports.

Q37 Green roofs

PRODUCTS

340 MOISTURE RETENTION/PROTECTION MAT

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
- Product reference: Blackdown 300PF.
 - Material: Non-rotting, bitumen-compatible geotextile fleece-backed, recycled polypropylene mat.
- Capacity: 0.7 l/m²

350 DRAINAGE LAYER

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: Blackdown 20
- Material: Thermoformed recycled polypropylene
 - Depth: 20 mm
 - Capacity: 3 l/m²
- Infill: Not required.

360 FILTER MEMBRANE

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: Blackdown 150FF Filter Sheet
- Material: Thermally-strengthened polypropylene.
 - Mass: 0.15 kg/m²

390 EXTENSIVE GROWING MEDIUM

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: Blackdown Sedum Substrate.
- Material: Specialist blend of crushed brick and selected mineral aggregates, enriched with mature compost
- Depth: 50 mm (plus settlement allowance of 12%)
- Ameliorant/conditioner: Blackdown nutrients
 - Coverage: 25 gm/m²

Declaration of analysis: Submit.

- Parameters: Porosity: 63%
Water Holding Capacity: 25%
Density: 870 kg/m³ (dry); 1120 kg/m³ (saturated)

Q37 Green roofs

400 VEGETATION BLANKET

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: NatureMat®.
- Planting mix: Pre-cultivated, tightly-rooted plant mats, containing a minimum of 4 varieties of sedum on a bio-degradable carrier.
 - Thickness: Approx 20 mm plus vegetation (i.e. 30-40 mm)
- Vegetation coverage (minimum): 90%.

420 EDGE RETAINING PROFILE

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: Blackdown 115 Edging.
- Material: Aluminium
- Height: 115 mm

430 INSPECTION CHAMBERS

- Manufacturer: Blackdown Horticultural Consultants Ltd, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.
Web: www.blackdown.co.uk.
 - Product reference: Blackdown KS8.
- Material: Black, plastic-coated steel
- Size: 250x250 mm
 - Depth: 80 mm
- Access covers: Black, plastic coated steel with handle
- Features: 500x500 mm flange attached for stability and to lap filter sheet

440 VEGETATION BARRIER

- Material: Rounded pebbles (20 – 40 mm)
- Depth: 70 mm
- Width: 300 mm

EXECUTION

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.
- Contamination: Do not use materials detrimental to healthy plant growth.
- Storage: Do not overload.
 - Point loads: Avoid.
- Outlets: Do not block.
 - Outlet grilles: Installed.

Q37 Green roofs

720 ADVERSE WEATHER

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

760 MOISTURE RETENTION MAT INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): 150 mm.
- Upstands: Blackdown 300 UPF fleece to fit closely around penetrations and outlets.

770 DRAINAGE LAYER INSTALLATION

- Extent: Loose lay continuously over entire roof area.
- Fitting: Closely butt-joint boards.
- Upstands: Cut to fit closely around penetrations and outlets, using a heavy duty knife or small-toothed saw.

780 FILTER MEMBRANE INSTALLATION

- Joints: Minimize.
 - Overlaps (minimum): 150 mm.
- Fitting: Loose laid
- Upstands: Extend to top of growing medium. Where necessary, cut to suit using scissors (Note: Avoid using a knife).

790 GROWING MEDIUM INSTALLATION

- Handling: Minimize handling. Deliver to roof in big bag or pump, spreading the specified depth on to filter sheet, allowing the settlement factor of 1.12.
 - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
 - Depth (maximum): 56 mm.
 - Sequence: Install substrate in a single layer.

Q37 Green roofs

800 VEGETATION BLANKET INSTALLATION

- Handling blankets:
 - Timing: Mats should be installed immediately following delivery, but certainly within 36 hours of lifting from growing position.
 - Excessive stacking: Not permitted.
 - Material loss (maximum): 3% of total surface area.
- Growing medium condition: Thoroughly watered.
- Laying blankets:
 - Dry, damaged, frosty or waterlogged blankets: Do not lay.
 - Orientation: Diagonal or perpendicular to slope of roof.
 - Joints: Closely butt adjoining mats, staggering joints. Do not stretch blankets.
 - Edges: Finish with whole blankets.
 - Consolidation: Firm as laying proceeds to ensure sedum mats are in full contact with the growing medium. Do not use rollers.
 - Application: Brush in to fill joints.
- Watering: Irrigate to saturation immediately after laying and dressing. Keep moist until sedum carpets are established (typically a minimum of 4 – 6 weeks following installation)
- Ameliorant/ conditioner: Blackdown nutrients
 - Coverage: 25 gm/m²

820 EDGE RETAINING PROFILE INSTALLATION

- Cutting: Neat, accurate and without spalling.
 - Junctions: vertical, secured using proprietary connectors.
- Position: True to line and level. Smooth continuous lines.
- Fixing: To waterproofing manufacturer's details.

830 INSPECTION CHAMBER INSTALLATION

- Location: Install centrally over drain outlet.
 - Orientation: Align parallel with adjacent features.
- Bedding: Position flanges on to crowns of drainage layer.
- Backfill: Ballast flanges with pebbles.
- Surround: 300 mm diameter circle / square of 20-40 mm round pebbles.

COMPLETION

910 INSPECTION

- Timing: Before handover.
 - Give notice (minimum): 3 days.

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.

Q37 Green roofs

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: _____.