

## Q37 Green Roofs

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Q37  
Green Roofs

Semi-Intensive Green Roof Inc. Wildflower Plugs & Seed

### **Blackdown Greenroofs**

**Address:** Street Ash Nursery, Lisieux Way, Combe St Nicholas, Chard, St Nicholas, Chard, Somerset TA20 3HZ

**Tel:** 01460 234 582 **Email:** [enquiries@blackdown.co.uk](mailto:enquiries@blackdown.co.uk) **Web:** [www.blackdown.co.uk](http://www.blackdown.co.uk)

A trading division of Alumasc Exterior Building Products Ltd - **Company Registration No.** 2992960 **VAT Reg No.** 395941796 **UTR:** 67545 65326

All clauses with the suffix 'A' are either NBS Plus non-standard clauses and/or amended by Blackdown Greenroof.

**Q37** Green roofs: To be read in conjunction with related Architectural Sections, Preliminaries, and Contract Conditions.

## GENERAL

### 120 SEMI-INTENSIVE GREEN ROOF

- Roof type: Blackdown Wildflower Plugs & Seed Plant 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 PF300 Moisture Retention/Protection Mat as Clause 340.
  - Blackdown 40DWR920 Drainage/Retention Layer as Clause 350.
  - Blackdown FF250 Filter sheet as Clause 360.
- Growing medium: Blackdown Semi-intensive Substrate as Clause 380.
  - Depth: 170mm + 20% settlement factor.
- Vegetation: Blackdown Wildflower, grass and herb plugs & seed, 5% minimum coverage on installation as Clause 400.
  - Irrigation: Plant material is to be thoroughly watered in and the substrate kept moist for a minimum of 6 to 8 weeks following installation, or longer if necessary, to allow the plants to become established
- Accessories:
  - Upstand protection fleece: – as Clause 330.
  - Nutrient – as Clause 380.
  - Edge retaining profile – as Clause 420.
  - Inspection chamber – as Clause 430.
  - Vegetation barrier – as Clause 440.

## PERFORMANCE

### 210A GENERAL DESIGN

- Green roof and associated features: Complete the detailed design.
- Proposals: Submit drawings, technical information, calculations, and manufacturer's literature.
- Performance criteria: Green coverage within 9-12 months
- The design must ensure that the continuity of the waterproof covering is maintained for a vertical height of at least 150mm above the finished roof level at all abutments, parapets etc.

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- It is the responsibility of the client and/or their design professional to assess wind uplift forces ensuring that sufficient dead load is applied over extruded polystyrene insulation in accordance with all relevant standards and codes of practice, for final sign off prior to design approval.
- The building owner or their appointed design professional must have satisfied themselves that the roof structure and deck are suitable to receive the dead load of the proposed specification.
- It is strictly the responsibility of the client and/or their design professional to ensure compliance of the proposed specification with all relevant Building Regulations by consultation with Building Control. In the event of any doubt about the interpretation or application of the Building Regulations in relation to any particular new build or refurbishment works, clarification must be sought directly from Building Control.

## 255 CHARACTERISTIC ROOF LOADS

- Dead loads:
  - Roof structure, screed and waterproofing: \_\_\_\_\_.
  - Green roof layers: 2.33 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.

## PRODUCTS

### 330 UPSTAND PROTECTION MAT

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown 300UPF.
- Material: Blended polyester mat.
  - Thickness: 2mm
  - Weight: 300g/m<sup>2</sup>

### 340 MOISTURE RETENTION / PROTECTION MAT

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown PF300.
- Material: Non-rotting, bitumen-compatible geotextile fleece-backed, recycled polypropylene mat.
  - Capacity: 2 l/m<sup>2</sup>

### 350 DRAINAGE LAYER

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: 40DWR920
- Material: Thermoformed recycled polypropylene
  - Depth: 45 mm
  - Retention volume: 14 l/m<sup>2</sup>
  - Horizontal flow rate: 2.0 l/s/m<sup>2</sup>
  - Vertical flow rate: 1.4 l/s/m<sup>2</sup>
  - Compressive strength: 150 kN/m<sup>2</sup>
- Infill: Not required.

### 360 FILTER MEMBRANE

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown FF250 Filter Sheet
- Material: Thermally-strengthened polypropylene.
  - Mass: 0.250 kg/m<sup>2</sup>

### 380 SEMI-INTENSIVE GROWING MEDIUM

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard,

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Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.

Web: [www.blackdown.co.uk](http://www.blackdown.co.uk)

- Product reference: Blackdown Semi-intensive Substrate.
- Material: Lightweight site formulated, crushed brick & expanded clay growing substrate. In-organic & organic substrate consisting of crushed brick, expanded clay & organic matter of composted bark fines.
- Depth: 170 mm (plus settlement allowance of 20%)
- Ameliorant/conditioner: Osmocote Pro 8-9 months fertiliser by Blackdown
  - Coverage: 25 gm/m<sup>2</sup>
- Declaration of analysis: Submit.
  - Parameters: Porosity: 63%  
Water Holding Capacity: 35-45%  
Weight by max water capacity: 1,100 kg/m<sup>3</sup>
- Supply: 1m<sup>3</sup> bulk bag or 25 litre sack.

#### 400 VEGETATION

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown Meadow Plug & Seed.
- Planting mix: wildflower, grasses & herb species
- Vegetation coverage: 5% minimum.

#### 420 EDGE RETAINING PROFILE

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk)
  - Product reference: Blackdown Aluminium Retaining Detail (BHC/DET/RA200)
- Material: 2mm machine finished aluminium.
- Feature: Perforated, 20mm rolled top
- Height: 200 mm
- Base width: 150mm
- Accessories:
  - Connection plates (BHC/DET/S200)
  - Corner plates (BHC/DET/C200)

#### 430 INSPECTION CHAMBERS

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Standard base (BHC/DET/ICL).
  - Product reference: Lockable lid (BHC/DET/ICL).
- Material: Black, powder-coated steel
- Size: 300 x 300 mm

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- Standard base depth: 50 mm
- Access cover: Black, powder coated steel.
- Features: 500 x 500 mm flange attached for stability and to lap filter sheet
- Accessories:
  - Parapet base (BHC/DET/ICL-B-PARA) depth 100mm.
  - Interlocking extension collars 50mm (BHC/DET/ICL-S50), 75mm (BHC/DET/ICL-S75), 100mm (BHC/DET/ICL-S100) & 200mm (BHC/DET/ICL-S200)

#### 440 VEGETATION BARRIER

- Manufacturer: Blackdown Greenroof, Street Ash Nursery, Combe St Nicholas, Chard, Somerset. TA20 3HZ. Tel: 01460 234582; Fax: 0845 076 0267.  
Web: [www.blackdown.co.uk](http://www.blackdown.co.uk)
  - Product reference: Blackdown Washed Pebble Ballast 20/40.
- Material: Rounded washed pebbles (20 – 40 mm)
- Depth: 70 mm
- Width: 300 mm
- Void filler:
  - 100mm deep
  - 300mm wide

### 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.

#### 720 ADVERSE WEATHER

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

#### 750 UPSTAND PROTECTION MAT INSTALLATION

- Extent: Loose lay continuously around perimeter, upstands & penetrations.
- Joints: Minimize.
  - Overlaps (minimum): 150 mm.
- Upstands: Blackdown 300UPF fleece to fit closely around penetrations and outlets.

#### 760 MOISTURE RETENTION / PROTECTION MAT INSTALLATION

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- Extent: Loose lay continuously over entire roof area.
- Joints: Minimize.
  - Overlaps (minimum): 150 mm.
- Upstands: Blackdown 300UPF 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

#### 790 GROWING MEDIUM INSTALLATION

- Handling: Minimize handling. Deliver to roof in small sacks, bulk bag or pump, spreading the specified depth on to filter sheet, allowing the settlement factor of 20%.
  - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
  - Depth (maximum): 150 mm.

Sequence: Use grading bars to achieve the correct depth. Gently firm each layer before spreading the next. Apply pre-formulated nutrient regime according to planting plan and rake in.

#### 800 VEGETATION INSTALLATION

- Handling Meadow plug & Seed:
  - Extent: Continuous over area to be planted.
  - Timing: To be installed during the Spring or Autumn
  - Storage: must be stored in a cool and shaded area.
- Application:
  - Wildflower and grasses plug plant. To be installed within 48 hours of delivery. Plug plants hand-planted into the growing medium. 20 plugs per sqm. Irrigated to saturation.
  - Wildflower and grasses seed. Seed to be stored in a sealed container in cool, dry conditions until required. 0 - 4g of seed per sqm. Seeds then dispersed evenly into a suitable carrier and spread by hand or mechanically onto the surface of the growing medium.
- Watering: Thoroughly, after laying, account for climatic variation and season.

#### 820 EDGE RETAINING PROFILE INSTALLATION

- Cutting: Neat, accurate and without spalling.

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- Junctions: vertical, secured using proprietary connectors.
- Position: True to line and level. Smooth continuous lines.
- Fixing: Loose laid onto 300g protection fleece, ballasted by weight on foot plate.
- Suitable for pitched roofs of 5 degrees or less.

#### 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.

#### 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: \_\_\_\_\_

Blackdown Greenroof standard NBS specifications are offered on the condition that the customer is responsible for ensuring that each specification is appropriate for its intended purpose and that conditions for its use are suitable. This specification may require adjustment in accordance with specific project requirements.

The substitution of any products (or installation by means other than those described) is strictly prohibited, unless agreed in writing, in advance, with Blackdown Greenroof.

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Blackdown Greenroof will not accept any liability arising from unauthorised variations or un-notified changes in circumstances relating to the application or performance of Blackdown Greenroof products or systems.

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