

Q37 Green Roofs

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Date of Issue:  
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Q37  
Green Roofs

Inverted Intensive Green Roof Inc. Tree

**Blackdown Greenroofs**

**Address:** 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset TA13 5LR

**Tel:** 01460 234582 **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

### 110 INTENSIVE GREEN ROOF

- Roof type: Blackdown Intensive Tree.
- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Substrate: Root-resistant waterproofing (by others).
  - Slope: 0 degrees.
- Waterproofing: As specification.
- Root barrier: As per waterproofing / insulation specification.
- Thermal insulation: As per waterproofing / insulation specification.
- Protection: Root resistant waterproofing (by others)
- Moisture control layers:
  - Blackdown BHC 60+RS Drainage/Retention Layer as Clause 350.
  - Blackdown FF120 Filter sheet as Clause 360.
- Growing medium: Blackdown Intensive Substrate or Proprietary tree planting compost / topsoil as Clause 370.
  - Depth: mm (tbc) + 30% settlement factor.
- Growing medium: Root zone substrate as Clause 370A.
  - Depth: mm (tbc) + 20% settlement factor.
- Vegetation: Specimen tree as per Landscape Architects specification. 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 tree to become established.
- Accessories:
  - Upstand protection fleece: – as Clause 330.
  - Nutrient – as Clause 380.
  - Tree anchoring system - as Clause 410
  - Irrigation system - as Clause 420

## 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: Installation of Tree.
- 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.
- 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.

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## 255 CHARACTERISTIC ROOF LOADS

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

### 310 INVERTED ROOF INSULATION

- Manufacturer:
  - Product reference:
- Type:
  - Compressive Strength
- Edges:
- Integral topping:
- Thickness:

### 330 UPSTAND PROTECTION MAT

- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, 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>

### 335 SEPERATION LAYER

- Manufacturer:
  - Product reference:
- Material:
  - Thickness:

### 350 DRAINAGE LAYER

- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: 60+RS
- Material: Thermoformed recycled polypropylene
  - Depth: 60 mm
  - Retention volume (when empty of lightweight drainage aggregate: 23 l/m<sup>2</sup>)
  - Retention volume (when filled with lightweight drainage aggregate: 11 l/m<sup>2</sup>)
  - Compressive strength: (without infill 50 kN/m<sup>2</sup>)
  - Compressive strength: (with infill 250 kN/m<sup>2</sup>)
  - Water flow at 50mm head 110 l/m<sup>2</sup>/s
- Infill: clean blended crushed brick 15-0mm.

### 360 FILTER MEMBRANE

- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown FF120 Filter Sheet
- Material: Thermally-strengthened polypropylene.
  - Mass: 0.120 kg/m<sup>2</sup>

### 370 INTENSIVE GROWING MEDIUM OR PROPRIETARY TREE PLANTING COMPOST / TOPSOIL

- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: Blackdown Intensive Substrate or Proprietary tree planting compost / topsoil
- Material: Lightweight site formulated, mineral & pumice growing substrate. Mineral & organic substrate consisting of, amongst other components, crushed clean aggregates, expanded clay, bark compost & greenwaste.
- Depth: tbc mm (plus settlement allowance of 30%)

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- Ameliorant/conditioner: Osmocote 12-14 months fertiliser by Blackdown
  - Coverage: 25 gm/m<sup>2</sup>
- Declaration of analysis: Submit.
  - Parameters: Porosity: 61.5%  
Water Holding Capacity: 49%  
Weight by max water capacity: 1.15 to 1.67 /m<sup>3</sup>

#### 370A TREE PLANTING COMPOST

- Manufacturer: TBC
  - Product reference: Tree Planting Compost.
- Material: Formulated, mineral & inorganic growing substrate.
- Depth: (tbc) mm (plus settlement allowance of 20%)
- Declaration of analysis: Submit.

#### 400 VEGETATION

- Manufacturer: Blackdown Greenroofs, 3 Waggon Shed, Flax Drayton Farm, South Petherton, Somerset, TA13 5LR. Tel: 01460 234582, Web: [www.blackdown.co.uk](http://www.blackdown.co.uk).
  - Product reference: n/a.
  - As per Landscape Architects specification

#### 410 TREE ANCHORING SYSTEM

- Manufacturer: Playipus Tree Anchoring Systems
- Product reference: Deadman Fixing System – Plati-Mat
  - RF1RDMP (suitable for trees 2.5-4.5m in height and 12-25cm girth)
  - RF2RDMP (suitable for trees 4.5-7.5m in height and 25-45cm girth)
  - RF3RDMP (suitable for trees 7.5-12m in in height and 45-75cm girth)

#### 420 IRRIGATION SYSTEM

- Manufacturer: TBC

### 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.

#### 755 SEPERATION LAYER INSTALLATION

- Extent: Extent: Loose lay continuously over entire roof area.

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- Joints: Minimize.
- Overlaps (minimum): 150 mm

#### 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.
  - Conditions: Handle in the driest condition possible. Do not handle or install when wet or frozen.
- Layers:
  - Depth: 100mm
  - Settlement factor: 30% post installation.
- Sequence: Gently firm each layer before spreading the next. Gently firm each layer before spreading the next. Avoid compaction of the layers.

#### 800 VEGETATION INSTALLATION

- Handling as per Landscape Architect's instructions

### 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 Greenroofs 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 Greenroofs.

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

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