

Q37 Green Roofs

To be read with Preliminaries/General Conditions

GENERAL

130 EXTENSIVE BROWN ROOF

- Roof type: Brown Roof
- Substrate: ____
- Slope: 0-5°
- Waterproofing: ____
- Thermal insulation: ____
- Protection: RMS 300, see clause 330
- Drainage layer: FKD 25, see clause 350
- Filter layer: Filter Mat 105, see clause 360
- Growing medium: Brown Roof Aggregate, see clause 390
 - Depth: 80mm
- Vegetation: ____
- Accessories: Inspection chambers, Edge Trims, vegetation barriers, see clauses 430,420,440
- Water for irrigation to be provided on site, if roof is seeded

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 per manufacturers instructions.

250 CHARACTERISTIC ROOF LOADS

- Roof structure:
- Allowance for additional loads during construction:
- Requirement: Restrict site activities to ensure that design loads are not exceeded, or submit proposals for temporary supports.

255 CHARACTERISTIC ROOF LOADS

Dead loads:

- Roof structure, screed and waterproofing: To be advised by structural engineer.
- Green roof layers:

Imposed roof loads:

- Activity: To be advised by structural engineer
 - Vegetation: Included in Green roof layers
 - Allowance for additional loads during construction: To be advised by structural engineer
- Service loads: To be advised by structural engineer

- Long term dynamic wind loads: To be advised by structural engineer

Snow loads: To be advised by structural engineer

Other loads: To be advised by structural engineer

Requirement: Restrict site activities to ensure that design loads are not exceeded, or submit proposals for temporary support.

PRODUCTS

330 PROTECTION LAYER

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: Optigreen Separation and Protection Mat RMS 300
- Material: Recycled Synthetic Fibre
- Thickness: Approx. 3.6 mm
- Water storage: Approx. 2 litres/m²

350 DRAINAGE LAYER

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: Optigreen Drainage Board Type FKD 25
- Material: Recycled HDPE
- Depth: 25 mm
- Water Storage: Approx. 5 litres/m²

360 FILTER LAYER

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: Optigreen Filter Mat 105
- Material: Polypropylene
- Mass: 105 g/m²

390 GROWING MEDIUM

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: Brown Roof Aggregate
- Material: Recycled and graded site material, actual blend dependant on local availability.
- Depth: 80mm
- Declaration of analysis: Submit
 - Parameters: *Does not comply with FLL/GRO guidelines*

400 VEGETATION (OPTIONAL)

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, United Kingdom, Tel. 0203 589 9400
- Product Reference: Optigreen Seed Mix Type A
- Planting Mix: 19 species of herb

420 RETAINING PROFILE

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: Optigreen Edge Trim ZP 80
- Material: Aluminium
- Thickness: 1 mm
- Height: 80 mm

430 INSPECTION CHAMBERS

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400

- Product Reference: Optigreen Triangle Inspection Chamber ABS
- Material: ABS-plastic
- Size: 350x350 mm
- Depth: 100 mm (Additional 100 mm sections available, as required, to suit build up)
- Cover: Lockable
- Features: Side panels and cover with drainage slots

440 VEGETATION BARRIER

- Manufacturer: Optigreen Ltd, 235 Old Marylebone Road, London, NW1 5QT, Tel. 0203 589 9400
- Product Reference: 20-40 mm pebbles
- Material: Pebbles
- Width: 300 mm
- Depth: 80 mm

EXECUTION

750 PROTECTION LAYER INSTALLATION

- Extent: Continuous over designated roof area
- Joints: Without joints
- Overlaps (minimum): 100 mm
- Upstands: Extend to top of growing medium/vegetation barrier

770 DRAINAGE LAYER INSTALLATION

- Extent: Continuous over designated roof area
- Fitting: Loose laid
- Overlaps: Butt joint boards
- Upstands: Fit closely around penetrations
- Cut out around outlets

780 FILTER LAYER INSTALLATION

- Extent: Continuous over designated roof area
- Joints: Without joints
- Overlaps (minimum): 100 mm
- Upstands: Extend to top of growing medium/vegetation barrier

790 GROWING MEDIUM INSTALLATION

- Extent: Continuous over designated roof area
- Handling: Minimize
- Conditions: Do not handle when frozen
- Depth: as stated in clause 390
- Level according to the depth required

800 SEEDS APPLICATION (OPTIONAL)

- Extent: Continuous over designated roof area
- Level growing medium according to the depth required
- For a more consistent distribution, mix seed with dry sand and spread seed mix evenly
- Keep moist until fully rooted in

820 EDGE RETAINING PROFILE INSTALLATION

- Cutting: Neat, accurate
- Junctions: Vertical, secured using proprietary connectors
- Position: True to line and level. Smooth continuous lines
- Fixing: TBA by waterproofing manufacturer

830 INSPECTION CHAMBER INSTALLATION

- Location: Install centrally over drain outlet
- Orientation: Align parallel with adjacent features
- Surround: As clause 440

840 PEBBLE INSTALLATION

- Extent: Continuous along all edges and around roof penetrations and outlets at a minimum of 300 mm wide. Where installed as preventive fire protection (around all types of openings such as skylights, doors, etc.) at a minimum of 500 mm wide. On large roof areas, install a fire break every 40 metres at a minimum of 1 m wide.
- Depth: as stated in clause 440
- Level according to the depth required

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: As required.

940 COMPLETION CARE AND MAINTENANCE

- Period: Completion Care phase lasts for 12 – 15 months after installation. After the agreed contract period, the ongoing maintenance of the green roof becomes the responsibility of the building owner.
- Frequency: Twice annually
- Weeding: Removal of undesired growth
- Watering: As required, depending on weather
- Remove dead leaves and any debris.
- Cutting: Mowing or strimming as required
- Re-seeding or re-planting of any bare areas including additional substrate where required
- Fertilise: Optigreen Opticote as clause 840

- Removal of plant growth from borders, gravel areas and paved areas
- Clean gutters, control chambers and roof outlets
- Water for irrigation to be provided on site