

Q37 Green Roofs

Project: Camden Care Homes, Maitland Park

To be read with Preliminaries/General conditions

GENERAL

Nature Roof Solution

- High diversity of flora and fauna species
- Green roofing with high ecological value
- Habitat for wild bees and butterflies
- Long lasting and colourful blooming effect

130 EXTENSIVE GREEN ROOF

- Roof type: Nature Roof Solution
 - Substrate: Concrete
 - Slope: 0-5°
- Waterproofing: Flag-Soprema Duoflex system (inverted roof)
- Thermal insulation: TBC
- Drainage layer: FKD 40, see clause 350
- Filter layer: Filter Mat Type 105, see clause 360
- Growing medium: Substrate Type E, see clause 390
 - Depth: 80-110 mm
 - Vegetation: Wildflower Seed Mix, see clause 400
- Accessories: Inspection chambers, Edge Trims, vegetation barriers, see clause 430/420/440
- Water for irrigation to be provided on site

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 supports.

PRODUCTS

350 DRAINAGE LAYER

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Drainage Board FKD 40**
- Material: Recycled HDPE
 - Depth: 40 mm

360 FILTER LAYER

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Filter Mat 105**
- Material: PP
 - Mass: 105 g/m²

390 EXTENSIVE GROWING MEDIUM

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Extensive Substrate Type E**
- Material: Brick, expanded clay, pumice, green compost, blend depending on regional availability
 - Depth: 80-110 mm
- Declaration of analysis: Submit
 - Parameters: According to current FLL-Guidelines

400 VEGETATION

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Wildflower Seed Mix Type E (herbs only)**
- Vegetation: Approximately 25 types of herbs

420 EDGE RETAINING PROFILE

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Edge Trim ZP 100**
- Material: Aluminium
 - Thickness: 1 mm
 - Height: 100 mm

430 INSPECTION CHAMBERS

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
 - Product Reference: **OPTIGREEN Triangle Inspection Chamber ABS**
- Material: ABS-plastic
 - Size: 350x350 mm

- Depth: 100 mm (100 mm increments to suit build up)
- Cover: Lockable
- Features: Side panels and cover with drainage slots, capability of connecting drainage channels

440 VEGETATION BARRIER

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
- Product Reference: Gravel 20-40 mm
- Material: Gravel
 - Width: 300 mm
 - Depth: 80 mm

450 FERTILISER

- Manufacturer: Flag-Soprema UK Ltd, Unit 640, The Hub, Avenue West, Skyline 120, Great Notley CM77 7AA, Tel: +44 (0)845 1948727
- Product Reference: **OPTIGREEN Opticote Slow release fertiliser**
- Application rate: 50 g/m²

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, butt jointed
- 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

- Extent: Continuous over designated roof area at an approximate rate of 1.5g/m²
- 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 GRAVEL 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 1m wide.
- Depth: as stated in clause 440
- Level according to the depth required

850 FERTILISER APPLICATION

- Spread evenly before or after vegetation application
- Frequency: Once annually dependent on requirement

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

- Period: 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: 1-2 times annually
- Weeding: Removal of undesired growth
- Watering: As required, depending on weather
- Remove dead leaves and any refuse
- Cutting: Mowing or strimming as required
- Re-seeding or re-planting of any bare areas including re-filling of substrate where

required

- Fertilise: Optigreen Opticote as clause 850
- 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