

## **Q37 Sedum Roof**

### **MATERIALS**

#### **MOISTURE RETENTION & DRAINAGE LAYER**

- Manufacturer - Essex Green Roofing Ltd, Address: Suite D, The Business Centre, Farringdon Avenue, Romford, Essex RM3 8EN Website: [www.essexgreenroofing.co.uk](http://www.essexgreenroofing.co.uk)
- Material: ESGR PRO300 Essex Green roofing 300g/m<sup>2</sup> protection Fleece (if required)
- Material: ESGR DRAIN20 rigid compression cell multi flow drainage layer, with mechanically bonded
  - 150g/m<sup>2</sup> filtration fleece
  - Manufactured containing recycled plastics
  - 20mm nominal thickness
  - Inflow system storage of circa 8.6l/m<sup>2</sup>
  - Compressive strength 400 kN/m<sup>2</sup>

#### **EXTENSIVE GROWING MEDIUM**

- Manufacturer - Essex Green Roofing Ltd, Address: Suite D, The Business Centre, Farringdon Avenue, Romford, Essex RM3 8EN Website: [www.essexgreenroofing.co.uk](http://www.essexgreenroofing.co.uk)
- Material: ESGR BIOSUB British Standard 8616 engineered lightweight biodiverse green roof substrate
- Minimum of settled thickness: 50mm
- Declaration of analysis:
  - Porosity: 63%
  - Water Holding Capacity: 25-30%
  - Bulk Density DIN EN 1097-3: 1 T/m<sup>3</sup>
  - Density at Max Water Holding Capacity: 1.25 T/m<sup>3</sup>
  - PH Value: 7.0 – 8.0

#### **VEGETATION**

- Manufacturer - Essex Green Roofing Ltd, Address: Suite D, The Business Centre, Farringdon Avenue, Romford, Essex RM3 8EN Website: [www.essexgreenroofing.co.uk](http://www.essexgreenroofing.co.uk)
- Material: ESGR SEDMAT Sedum blankets with up to 12 different species of sedum grown on a matting base to encourage root establishment.

#### **STONE BALLAST / WHERE REQUIRED AS A VEGETATION BARRIER**

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- Material: ESGR PEB2040 Washed, rounded aggregate

- Graded 20/40mm free from fines and sharp angles
- Spread evenly to a minimum depth of 50 mm

## INSPECTION CHAMBERS

- Manufacturer - Essex Green Roofing Ltd, Address: Suite D, The Business Centre, Farringdon Avenue, Romford, Essex RM3 8EN Website: [www.essexgreenroofing.co.uk](http://www.essexgreenroofing.co.uk)
- Material: ESGR INSP150 Inspection Chambers
  - Mill finish aluminium
  - Height: 120mm
  - Size: 315mm x 315mm
  - Access covers: Removable Lid
  - Features: Perforated base to allow drainage via channels
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## PERIMETER TRIM

- Manufacturer - Essex Green Roofing Ltd, Address: Suite D, The Business Centre, Farringdon Avenue, Romford, Essex RM3 8EN Website: [www.essexgreenroofing.co.uk](http://www.essexgreenroofing.co.uk)
- Material: ESGR ST080 slotted trim, once bent Aluminium slotted edge trim to allow free drainage of system
  - Height: 80mm (Dependent on system build up/depth)

## EXECUTION

### INSTALLATION

- Before commencement of the install clear all surfaces of debris
- Visually inspect waterproofing looking for obvious signs of damage and report any apparent defects or damage
- Keep drainage outlets clear of obstruction and protect from debris
- Do not store materials which may be too heavy for the anticipated roof loadings

### ADVERSE WEATHER

- Secure all unfinished work or loose materials and protect from wind uplift
- Do not install in frozen weather conditions
- Take care during period of dry weather to ensure that any planting structure is kept sufficiently moist

### DRAINAGE AND FILTER LAYER INSTALLATION

- Loose lay drainage board overlapping the filter fleece by 100mm minimum

- Leave a minimum (depending on spec) 300mm gap around outlets and other penetrations
- Keep cuts to a minimum

#### SUBSTRATE INSTALLATION

- Minimise handling where possible
- Deliver the materials to the roof in small bags or bulk bags
- Spread the substrate not exceeding 50mm
- Rake the substrate flat

#### VEGETATION INSTALLATION

- Minimise handling where possible
- Lay sedum blankets in a staggered formation to prevent lines of joins
- Not to be completed if the temperature is under 0 degrees
- Blankets to be saturated upon completion of the installation where a water source is available at roof level

#### VEGETATION BARRIER INSTALLATION

- Bags to be distributed around the perimeters or as required, and poured evenly
- All penetrations and outlets to have a 300mm border surrounding them

#### PERIMETER TRIM INSTALLATION

- Trim to be placed at surface finish interfaces as required / indicated
- Trim to be cut and bent for corners or as required to create a continuous edge
- Trim to be joined neatly using butt straps and rivets
- If required, trim shall be secured to substrates / membranes in accordance with the manufacturer's instructions

#### INSPECTION CHAMBER INSTALLATION

- Inspection chambers to be placed centrally over the drainage outlet
- A vegetation barrier shall be installed around the inspection chamber
- Lid shall be locked, and the key handed to the client for later maintenance

#### **COMPLETION**

- Works shall be left in a clean and tidy condition and cleared immediately prior to handover
- All outlets to be cleared of any obstructions, and all accessories secured correctly / as required
- Inspection to be completed by Essex Green Roofing site supervisor and a member of the site team, ensuring EGR sign off sheet is signed by a member of the site team

- Handover documentation shall be submitted in a timely manner to the relevant parties
- O&M documentation shall be submitted in a timely manner to the relevant parties

## **GREEN ROOF MAINTENANCE PROCEDURES**

This set of procedures is a guide outlining the minimum maintenance measures required to keep a green roof in its designed state.

An Essex Green Roofing Ltd system is designed to meet specific client requirements for any project and will provide a long-term solution with varying habitats at roof level. With some basic maintenance, the roof will continue to deliver the intended environmental benefits.

Most living roofs contain a plant community with a variety of native species to meet local planning and building code requirements. However, some roofs can also be designed to meet aesthetic design criteria.

### **GENERAL MAINTENANCE**

The plant selection on each project includes a species mix which will provide a balanced plant community on the roof. This will require basic maintenance to ensure a sustainable system for the long term.

Living roof maintenance is best carried out twice to four times annually, during springtime and in late autumn, or as required. Monitoring/controlling the effect of leaf litter to the vegetation is important; this can be deemed to be beneficial to biodiversity but may need to be removed if this begins to affect plant life.

The following procedures should be carried out to ensure the roof is well maintained. Failure to provide maintenance may result in the invalidation of guarantee(s).

Note: - specifically-designed living roof areas should be disturbed as little as possible whilst maintenance is carried out. This is to try not to upset any microhabitats which may have colonised on the roof.

### **PRELIMINARY MAINTENANCE**

- Ensure safe access can be gained to the roof and that all relevant health and safety procedures are followed at all times.
- Essex Green Roofing Ltd recommends the removal of leaf litter which has fallen from any surrounding trees, particularly during spring and autumn. This is to prevent the leaves from smothering the vegetation.
- To remove excess bio-mass, trim any dead vegetation. This should be subsequently removed and disposed of at ground level.
- Check all trims are fixed securely.
- Ensure any new items of plant or machinery have a necessary fire break between them and the vegetation.
- Should there be any damage to the vegetation or green roof system generally, Essex Green Roofing Ltd should be contacted immediately.

- Ensure all outlets are unblocked and the roof is able to drain freely. This is of particular importance since 'waterlogging' can be as damaging to a wildflower sward as drought. Drainage outlets should be inspected regularly to ensure drainage outlets are working as designed. This will help keep the roof moist but not waterlogged.

### **MAINTENANCE OF THE VEGETATION AND GREEN ROOF SYSTEM**

- Removal of any unwanted vegetation that may have encroached the drainage outlets, walkways or Firebreaks.
- If any movement or settlements to the fire/vegetation break has occurred, these areas should be topped up with more pebbles.
- Remove any tree saplings.
- Green roofs are generally left to grow naturally, taking their own course. If there are certain plant types that are un-desirable, these can also be removed.
- Fertiliser can be added as a last resort if plants are looking distressed.
- We would suggest the removal of invasive plant types, including but not limited to tree saplings, nettles, wild grasses, thistles and buddleia.
- If the vegetation grows in excess of 250-300mm we recommend this should be trimmed back to 75-100mm. High growth suggests a high nutrient level present in the substrate; although this is blended to be low-nutrient or to stop such growth, this must be monitored to keep the biodiversity high (cuttings should be bagged up and removed from the roof to prevent the release of nutrients back into the substrates).
- Although irrigation is not needed regularly, a water point should be present at roof level. During particularly dry periods, watering the system may be necessary to avoid drought stress.

\* These guidelines should be used for reference only. Essex Green Roofing Ltd will not accept any responsibility for a roof which is not under a maintenance contract with Essex Green Roofing Ltd.