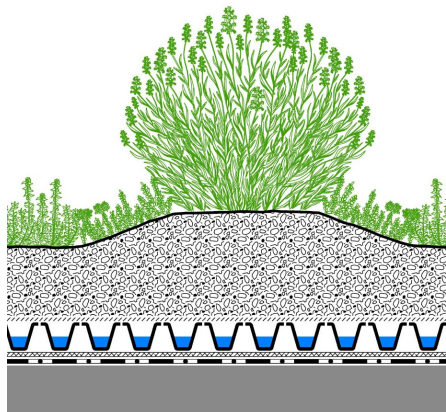


# Installation Instructions

## System Build-up “Heather with Lavender” with Floradrain® FD 40-E

### Preliminary Remarks



- The following installation instructions describe the essential steps of applying this system build-up. Please note, however, the relevant standards and guidelines.
- Please be aware of this being a multi-layer build-up applicable up to a roof inclination of approx. 8°.
- When working on roofs, which also includes the installation and maintenance of a green roof, applicable accident prevention regulations must be observed. Required fall protection devices need to be used according to site conditions.
- Before starting the installation works the roof surface needs to be cleaned and checked for any kind of damages or leakages (visual inspection, possibly testing the waterproofing seams with a scribe ...). Any damage or leaks must be repaired immediately.
- During the construction works any damage to the roofing, as by falling objects, structural overload by material storage, walking, etc. is to be avoided. Appropriate safety devices are to be provided and to be taken into account.
- If material is to be stored on the roof, make sure that the roof is not statically overloaded at any point.
- Please also note that the green roof materials are very light (except for the system substrate) and thus installation at risk of storm not recommendable is.
- If the roof is already equipped with a root resistant waterproofing, point 1 (Root Barrier WSB 100-PO) can be skipped and you can go straight to point 2 (Protection Mat SSM 45).

### Examples



# Installation Instructions

## System Build-up "Heather with Lavender" with Floradrain® FD 40-E

### 1. Root Barrier WSB 100-PO

In case of a waterproofing which is not root resistant the Root Barrier WSB 100-PO (Order No. 1084) is to be applied over the entire roof surface.

On any vertical building components, the Unsupported flashing (Order No. 1195) can be used. It is to be fixed at its upper end using the Clamping Profile AP 60 (Order No. 7625) or the Clamping and Protection Profile AP 150 (Order No. 7640). It is recommendable for the unsupported flashing to be installed by a roofer along with the waterproofing works. The prefabricated corners (Order No. 1192) can be used both as internal and external corners.

#### Laying:

The WSB 100-PO is to be laid with an overlap of ca. 75 mm. In case of automatic welding the seams need to be at least 38 mm wide whereas for manual welding a width of at least 50 mm is necessary. The root barrier is to be hot air welded homogeneously either manually or automatically.

#### Cutting:

The Root Barrier WSB 100-PO can be cut using a cutter (with a hard blade) or a pair of stable utility scissors. When cutting, make sure not to damage the waterproofing under any circumstances!

However, in case of any damage, this must be reported and repaired immediately.

A circular piece of the root barrier needs to be cut out around roof outlets, approx. 10 mm larger than the outlet itself (a simple cross cut is not enough!).

*Should you require comprehensive instructions on how to weld the Root Barrier WSB 100-PO, please contact the ZinCo Technical Department.*



### 2. Protection Mat SSM 45

#### Laying:

The Protection Mat SSM 45 (Order No. 2045) is to be laid loosely with approx. 100 mm of overlap either on top of the Root Barrier WSB 100-PO (Order No. 1084) or directly over a root resistant waterproofing. At roof edgings and other vertical building components it is to be taken up at least to the finished surface. A temporary fixation with a double-sided adhesive tape is possible.

To protect the mat from UV-radiation or from wind uplift it is to be covered immediately after installation. Short-term protection against wind uplift can also be accomplished by moistening the mat.

#### Cutting:

It is recommended to cut the mats with a pair of stable utility scissors. When cutting, make sure not to damage the waterproofing under any circumstances!

However, in case of any damage, this must be reported and repaired immediately.

A circular piece of the protection mat needs to be cut out around roof outlets, approx. 10 mm larger than the outlet itself (a simple cross cut is not enough!).



ZinCo Green Roof Systems Ltd.

Wittas House · 2 Rivers Industrial Estate · Station Lane · Witney OX28 4BH · United Kingdom

Phone +44 (0)1993 229700 · Fax +44 (0) 2031 631915

office@zinco-greenroof.co.uk · www.zinco-greenroof.co.uk



Life on Roofs



# Installation Instructions

## System Build-up “Heather with Lavender” with Floradrain® FD 40-E

### 3. Floradrain® FD 40-E

#### Laying:

The Floradrain® FD 40-E elements (Order No. 3041) are to be laid loosely either butt-jointed or with 1–2 stud rows of overlap over the protection mat ISM 50. If installed butt-jointed the single elements can be stabilized additionally using connectors (Order No. 9620) which are to be pressed into the diffusion openings (holes in the studs).

If applied in green roof build-ups the elements are installed with their openings facing upwards. In case of paved walking areas the holes are facing downwards to prevent water storage within the elements.



To protect the drainage elements from UV-radiation it is to be covered immediately after installation. Furthermore a protection against wind up-lift is necessary. If the further build-up is not to be applied right afterwards the elements can be weighed down temporarily by filling them with water.

#### Cutting:

The drainage elements can be cut using a cutter (with a hard blade) or a hot wire. When cutting, make sure not to damage any of the previously installed layers under any circumstances! However, in case of any damage, this



must be reported and repaired immediately.

A hole which matches the aperture of the inspection chamber in size is to be cut into the drainage board at every roof outlet.

#### Installation Inspection Chamber:

Prior to the installation the flanges of the inspection chamber need to be pulled out in the direction of the arrows until it clicks. Then one inspection chamber is placed above each roof outlet usually on top of the drainage element. Previously, a hole of the diameter of the outlet is to be cut in all layers of the build-up. A simple cross-cut is not sufficient.



### 4. Filter Sheet SF

#### Laying:

The filter sheet is laid loosely over the drainage element Floradrain® FD 40-E with some 200 mm of overlap. Along rising walls and other building components the Filter Sheet SF can be taken up.

To protect the filter sheet from UV-radiation or from being blown away it is

to be covered immediately after installation.

#### Cutting:

The filter sheet can be cut using a cutter (with a hard blade) or a pair of stable utility scissors. When cutting, make sure not to damage any of the previously installed layers under any circumstances!

However, in case of any damage, this must be reported and repaired immediately.

A circular piece of the filter sheet needs to be cut out around roof outlets, approx. 10 mm larger than the outlet itself (a simple cross cut is not enough!).



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# Installation Instructions

## System Build-up “Heather with Lavender” with Floradrain® FD 40-E

### 5. Application of System Substrate “Heather with Lavender”

Depending on the size, accessibility and load bearing capacity of a roof one of the methods of substrate application listed below is particularly suitable.

*Regardless of the method, make sure that the roof is not structurally overloaded at any point (for example, by substrate mounts)!*

*Slabs or Big Bags can only be placed on sufficiently stable ground.*

#### 20 litre bags:

Little bags are especially suitable for smaller areas. The bags are piled on pallets and can be lifted on the roof by crane, inclined elevator or by hand, where they are to be distributed, opened and emptied.

These bags are also advantageous if substrate needs to be refilled during maintenance works (e.g. in case of wind erosion).



#### Big Bag:

Big Bags are suitable for middle size and larger roof areas if a crane is available. They are hung with their four loops on the crane and are emptied directly on the roof surface – without being placed

on the roof – by opening the outlet valve on their lower side. By swinging the crane boom a rough distribution can already be made. The levelling is then carried out with a rake.



#### Silo Trailers:

The system substrate “Rockery Type Plants” can be “blown” directly from a silo trailer on the roof surface. This method is particularly suitable for large areas and those which are not accessible by crane.

Using this method the substrate can be very well distributed during application. However you have to make sure that sensitive building components (e.g. facades, skylights, ...) are protected from possible dirt during application.



#### Bulk Material:

Bulk material is suitable wherever material can be applied with a chute. By

swinging the crane boom the substrate can already be distributed roughly.





# Installation Instructions

## System Build-up “Heather with Lavender” with Floradrain® FD 40-E

### 6. Plant Application

#### Preliminary Note:

The plant community “Heather with Lavender” belongs to the type of “Simple Intensive Green Roofs”. For good ground coverage a balanced distribution of plants is recommended. Please note that many plants will develop their full visual effect only with appropriate “space” and therefore don’t plant the plug plants too densely. A possibility for additional manual irrigation during long dry periods needs to be given.

To achieve an appealing visual appearance a substrate depth of 100 to 120 mm is preferable. Furthermore the drainage layer needs to provide a sufficient drainage capacity to avoid substrate wetness. Little mounts of 150–200 mm of substrate will provide even better conditions e.g. for Lavender and will expand the design possibilities regarding the use of other suitable plant species.

#### Plant Application:

Prior to planting the plug plants need to be watered. Then they are to be distributed evenly on the surface to be

greened and to be taken out of their pots. If desired for reasons of design, single species can be planted in lines or larger groups. Once all the plants are laid out professional planting can begin. The root balls are to be buried in a depth so that they are covered with a thin layer of substrate. Then the surface needs to be irrigated thoroughly. Make sure that the area doesn’t get too dry until the plants have taken root (first 4–6 weeks).

#### Planting Period:

Generally the green roof build-up can be applied throughout the whole year. The application of plants is more or less seasonally determined depending on the kind of application. Planting is possible from spring to autumn, while plantings in May / June will provide the best results.

Late plantings could result in damage by frost, especially if the plants are insufficiently rooted in the substrate.

#### Requirements:

The number of plug plants per m<sup>2</sup> depends on the plant species and the pot size. For perennials in pots of 90 mm of diameter about 6–10 pcs per m<sup>2</sup> are recommended. If faster ground coverage is desired, the plant density needs to be increased accordingly.

#### Maintenance:

According to the FLL Green Roof Guideline object-based maintenance goals are to be defined, tailored to the application type, the type of vegetation, and the development status and development direction. A general goal for the green roof type “Heather with Lavender” is to achieve and maintain an appealing greening.

This does not necessarily include a high effort – but it requires knowledge of plants and intervention at the right time. 3–4 maintenance visits per year should be foreseen. Simple intensive green roofs need to be fertilized in spring time. In case of drought irrigation may be necessary.

