



ROOFS WITH A FUTURE

## Urban rooftop farming

Life on Roofs



# Growing Benefits



In this “Age of Less” and of the “Slow Food Movement”, local and seasonal produce are more popular than ever before. A representative survey carried out by the Forsa Institute on behalf of the Federal Department of Agriculture showed that, when purchasing groceries, 65% of consumers usually or always ensure that the produce is sourced regionally. The market desires regionality.

Long supply routes and consequently costs and emissions are minimized as the produce is produced close to the consumer. Produce can be sold when very fresh and is, therefore, marketable for a longer period of time. Besides, freshly-harvested agricultural produce is much richer in vitamins

and is tastier.

Thinking in terms of the circular economy that incorporates urban vegetable production is lucrative, as rooftop farming uses local resources: rain water and filtered waste water from the households; solar energy and the heat generated by the building. Conversely, the urban garden can be of benefit to the building, as the plants provide cooling in the summer and thermal insulation in the winter: it’s good for the building climate and just as good for the roof waterproof membrane, which is then exposed to less severe temperature fluctuations. In addition, plants help to improve the urban climate.

## Technology for a fruitful harvest

In order for market gardening to work in an extreme location such as a rooftop, however, all relevant factors must be taken into consideration. For this reason, ZinCo has created the permanent reliable System Build-up “Urban Rooftop Farming”. The drainage element Floradrain® FD 40 is at the heart of this build-up. With about 200 mm of ZinCo system substrate, this Build-up is suitable for growing many different types of vegetable and fruit for example lettuce, onions, herbs, courgettes, aubergines, pumpkins, cabbage, melons and strawberries. A somewhat deeper substrate layer (300 to 400 mm) is required for tomatoes, French beans, raspberries, blackberries,

currants and the like. The level of irrigation and fertilisation required will depend on the vegetables to be grown and local climate conditions.

Generally speaking, pathways are useful in a vegetable garden. The ZinCo System Build-up “Urban Rooftop Farming” provides for drainage throughout the entire green roof, even where there is a combination of surfaces, with the result that roof run-offs can be situated in places where they are least disruptive.

The specific requirements of a rooftop location (for example in terms of wind, structural requirements, water run-off) must be taken into consideration during the

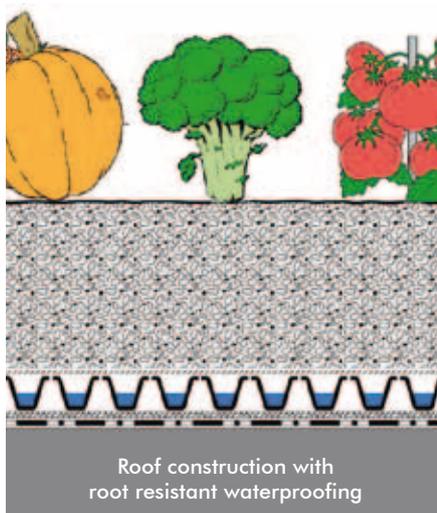
planning phase. As is the case with all roofs that are going to be used by people, fall-protection measures must be included. ZinCo provides suitable systems and rail solutions, all of which can be installed without penetrating the roof membrane. In any case, it is important to ensure safe access to and on the roof area.

We recommend installing a tap for easy roof-top irrigation.





| Weight<br>kg/m <sup>2</sup> |                 | Height<br>mm |
|-----------------------------|-----------------|--------------|
| dry                         | water-saturated |              |
| 190                         | 280             | 200          |
| 380                         | 560             | 400          |
| 3                           | 11              | 50           |
| 193                         | 291             |              |
| 383                         | 571             |              |



Fruits and vegetables

System Substrate "Lawn", 200–400 mm

Filter Sheet TG

Floradrain® FD 40-E

Protection Mat ISM 50

Root Barrier WSB 100-PO,

if waterproofing is not root-resistant

**Build-up height:** ab ca. 250 mm  
**Weight, saturated:** ab ca. 300 kg/m<sup>2</sup>  
**Water retention capacity:** ab ca. 100 l/m<sup>2</sup>

## Description

- With 200 mm ZinCo System Substrate, this Build-up is suitable for fruit and vegetables such as lettuce, onions, squash, zucchini, eggplant, cabbage, melons, strawberries, herbs and such like.
- For vegetables and fruits such as green beans, tomatoes, raspberries, blackberries, currants and such like a substrate depth of 300 to 400 mm is recommended.
- The amount of fertilizer and irrigation depends on the requirements of the Description cultivated fruit and vegetable species and on local climate conditions.

The use of an organic fertilizer is recommended. To minimize the impact on the runoff avoid over-fertilizing.

- The specific conditions of a roof location (e.g. wind, structural requirements, water run-off) must be observed when planning.
- Can easily be used in combination with roof gardens, patios, walkways and other uses.
- When working on rooftops personal safety equipment is to be used wherever risks cannot be avoided.

- Please note: the Build-up described above is suitable for the moderate continental climate of Central Europe. For information on possible adaptations for other climates please contact the ZinCo Technical Department.
- According to European Technical Approval "Roof Garden".

[http://www.zinco-greenroof.com/EN/greenroof\\_systems/index.php](http://www.zinco-greenroof.com/EN/greenroof_systems/index.php)



# Roofs with a future



What may initially appear to be futuristic can become reality if the correct technical expertise is applied – growing vegetables on a roof. Urban roofs are providing new fields of activity – as farmland or gardens where we can experience nature at first hand or social areas where the community can come together. Whether it's on a small or a grand scale, for private or commercial use, there are many benefits to urban farming. It is also a way of addressing the lack of resources and farmland that has resulted from increasing urbanization.



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