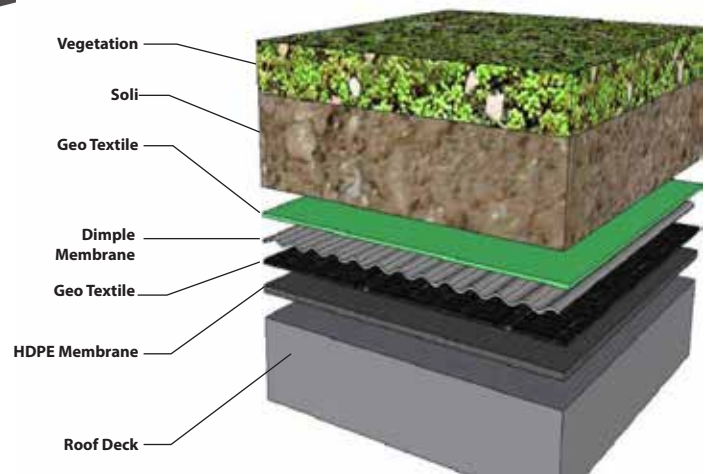




ROOF GARDEN



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ROOF GARDEN

TERRACE/ROOF GARDEN CONSTRUCTION.

Roof garden construction can be done by three methods: First method is to make a container garden on terrace, second one is to make a lot of raised beds to grow plants, either permanent made of concrete or wooden. The last and third method is to make your whole roof or some selected part, a vegetation ground like a regular garden. This educative article is based on this third method: It has five layered structure, you'll see below in this step by step guide.

1. WATERPROOFING HDPE MEMBRANE LAYER

HDPE Membrane a strong and durable material, perfect for areas that need to be waterproofed such as basement, balconies, terraces and green roofs. HDPE membrane is also commonly used in many underground structures due to its exceptional root resistance to prevent moisture, underground water seepage to basement floor. Roof must be waterproofed, durable and frost resistant, if you're growing plants on it, whether you will grow plants on containers, raised beds or on the roof itself, roof waterproofing is must and should be the first step of terrace garden construction as it protects the roof from leaking. HDPE Membrane covers up the entire surface of the roof, most importantly those spots where the plants will be planted.

2. DRAINAGE DIMPLE MEMBRANE LAYER

Drainage Dimple membrane layer on the roof garden is used to quickly discharge the rainwater from the vegetation layer into the drainage system, as well as to collect excess water.

3. GEO TEXTILE LAYER

Geo Textile layer is used to separate drainage layer and plants growing in soil. It prevents depositing of soil and other fine particles that clogs the drainage system.

It also counteracts the reduction of water rapidly from the vegetation layer by circulating the moisture. Geotextile should be waterproofed and vapor-permeable, chemically and biologically resistant and mechanically robust.

4. VEGETATION LAYER

Vegetation layer means the growing medium (soil), the surface where you'll grow plants and greenery. Growing medium should have good air circulation and it should have to be water permeable. Soil preparation is done according to the plants you're growing. Generally plants require fertile and slightly acidic soil, which can be prepared by mixing garden soil, humus, farm manure or compost and organic matter.

Thickness of the growing medium depends on the type of the plants you will grow in it.

STRUCTURAL / LOAD BEARING

Structural engineers divide loads into two categories: "dead loads" and "live loads".

The Dead Load- Refers to the weight of the weight of the roof structure itself and any permanent functional element.

The Live Load- Includes element such as human occupant, rain, maintenance equipment and other items of a transient nature.

Component of eco roof assert that these systems lightweight generally requires little additional load bearing capacity from most buildings structural systems, and in some cases may be installed on existing buildings with no structural modification.

The Roof Garden system manufacturers that suggest that extensive landscape systems need not be heavier than gravel covering used on some roofs. According to Kolb's article in Anthos, a German are covered with gravel (approximately 5cm), which has a load about 100 kg / m². Using this load as guideline for an extensive system, Kolb suggests that many gravel roofs might be greened, without additional load reserves.