It is not just beautiful to see, but it is also healthy!

It is the space where we live that allows us to reconnect with Nature. Nature has always characterized the lives of the human beings donating comfort and peace. The place is the one that allows us to recreate the bond we have always had with plants. It protects our home, our family and us and it improves the quality of our lives.

We have worked to let green roof gardens in our life.

The green roof garden is regulated by the Uni norm number 11235: Directives on Design, Execution, Control and Maintenance of the green covering, which gives all the information about the garden and its components, in order to maintain the agronomy capability, the ventilation, the drainage, the water accumulation and the resistance to biological attacks.

The legislation of the 10 of February 2013 and the resolution of the Ministry of Environment and Economic Development of the 14 of April 2014 confirmed the importance of a roof garden in order to accommodate the energy saving. Furthermore it reserves tax incentives for new buildings and restorations.


www.geoplast.it
DRAINROOF is the drainage and accumulation element for the creation of roof gardens on slabs and plates made of concrete. It was specifically designed for green roofs because it offers a high rainwater disposal capability, avoiding stagnation and protecting the waterproofing layer. DRAINROOF high load capacity allows the creation of any type of garden, extensive light gardens and more usable intensive gardens. The panel two different heights, 6 and 2.5 cm, allows the ventilated crawl space to grow and they also help to limit the cover- age thickness.

- ROOF GARDENS
- GREEN TERRACES
- SET OF GREEN ISOLATING PACKAGES
- COVERING OF UNDERGROUND GARAGES
DRAINROOF
ADVANTAGES

the solution for water drainage and accumulation on roof gardens

drainage

DRAINROOF, allows a fast disposal of rainwater thanks to its channels and perforated surface

ventilation

Thanks to its dome structure, DRAINROOF guarantees a separation between the vegetable set and the slab, in order to make it ventilated and eliminate any possible water stagnation

resistance

DRAINROOF load capacity of more than 3,000 kg/m² allows the realization of any stratigraphy and the use of mechanical means

storage

DRAINROOF accumulates the water for the irrigation of the surface plants in the supporting feet

design

DRAINROOF was designed to be installed on coverages; the dry laying is fast and easy; and the coupling facilitates the surface stability

material

DRAINROOF is made of regenerated Polyproplylene, that is a plastic material resistant to chemical attacks and other alkaline and alcholic substances

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### DRAINROOF TECHNICAL DATA

**DRAINROOF H2,5**

- **Material:** Regenerated polypropylene
- **Compression (kg/m²):** 3.200
- **Weight mq (kg):** 2.39
- **Weight per item (kg):** 0.6
- **Drain surface(cm²/m²):** 547
- **Water storage (l/m²):** 1.32
- **Discharge Volume (l/m²):** 17.2
- **Solubility:**
- **Resistance to organic and acidic, alkaline, alcoholic substances:**

<table>
<thead>
<tr>
<th>Packaging dimension (cm)</th>
<th>Items per pallet</th>
<th>m² per pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 x 120 x 230</td>
<td>1.440</td>
<td>360</td>
</tr>
</tbody>
</table>

**DRAINROOF H6**

- **Material:** Regenerated polypropylene
- **Compression (kg/m²):** 6.000
- **Weight mq (kg):** 4
- **Weight per item (kg):** 1
- **Drain surface(cm²/m²):** 318
- **Water storage (l/m²):** 12
- **Discharge Volume (l/m²):** 40
- **Resistance to organic and acidic, alkaline, alcoholic substances:**

<table>
<thead>
<tr>
<th>Packaging dimension (cm)</th>
<th>Items per pallet</th>
<th>m² per pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>124 x 103 x 240</td>
<td>720</td>
<td>180</td>
</tr>
</tbody>
</table>

### DRAINROOF | TECHNICAL DATA

**REAL SIZE (cm)**

- **Material:** Regenerated polypropylene
- **Compression (kg/m²):**
- **Weight mq (kg):**
- **Weight per item (kg):**
- **Drain surface(cm²/m²):**
- **Water storage (l/m²):**
- **Discharge Volume (l/m²):**
- **Solubility:**

### ACCESSORIES

**GEO-TEXTILES**

**GEO-TEXTILE 200 g/m²**
- Protection textile of the layer during the placing
  - 200
  - 1,20
  - 1,8 transv. 2,3
  - 80 transv. 80

**GEO-TEXTILE 150 g/m²**
- Textile separation from the underlayer
  - 150
  - 0,90
  - 11 transv. 11
  - 55 transv. 55

**Weight (g/m²)**
- **Thickness (mm):**
- **Tensile strength (kg/m) long.**
- **Elongation and fracture (%) long.**

[www.geoplast.it](http://www.geoplast.it)
The typical application of the extensive roof garden is the green roof, which is created with plants that do not require maintenance and irrigation as the sedum and other similar species. These plants need a limited thickness underlayer: the set is light and can be installed on any existent roof, both plane and inclined. The extensive set is easy to realize and maintain and guarantees all the advantages of the green roof gardens. It absorbs most of the rainfalls, protects the coverage and isolates the building thermally. Keeping a stable temperature, it can improve the yield of the photovoltaic panels which are generally pulled alongside.

The extensive roof garden can be used with DRAINROOF H6 or DRAINROOF H2,5 cm depending on the project.

### CHARACTERISTICS

- Cost-effective set
- Lower costs of maintenance and realization
- Different biodiversity levels depending on the species

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>WEIGHT</th>
<th>SET THICKNESS</th>
<th>VEGETATION TYPE</th>
<th>WATER RETENTION</th>
<th>STORAGE VOLUME</th>
<th>ECOLOGICAL VALUE</th>
<th>LAYING SAVINGS</th>
<th>MANTEINANCE SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>70 - 250 Kg/m²</td>
<td>8 cm</td>
<td>Sedum - Perennial grass - Turfs</td>
<td>50 - 60%</td>
<td>min 20 l/m²</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EXTENSIVE ROOF-GARDEN

1. UNDERLAYER
2. GEO-TEXTILE 150g/m²
3. DRAINROOF H6 or H2.5
4. VOLCANIC LAPILLUS
5. GEO-TEXTILE 200g/m²
6. ROOT RESISTANCE SHEATH

THE VEGETATION can be realized with seeding, hydro-seeding or can be sod laid.

WATERPROOFING LAYER
The system should be provided with a waterproofing element which resists to the roots and to the microorganisms. These functions can be avoided using various layers (waterproofing sheath-anti-root membrane) or a single system.

GEO-TEXTILE 200g/m²
In order to protect the waterproofing elements more, the installation of a Geo-textile TNT 200 g/m² is recommended.

DRAINROOF H6 or H2.5
DRAINROOF panels can be used both for extensive and intensive roof gardens. The choice of the panel depends on the storage volume of the water, required form the need of limiting the thickness of the finished set.

VOLCANIC LAPILLUS
Filling of DRAINROOF H6 up to a thickness of 12 cm over the edge of the element with pumice stone or volcanic lapillus, grain size 10-12 mm, high water absorption capacity (not required for DRAINROOF H2.5).

GEO-TEXTILE 150 g/m²
Place the TNT di 150 g/m² Geo-textile between the filling material and the sub-layer. The geo-textile works as a filter for the water of dissolved particles.

SUB-LAYER
The thickness varies from the types of plants that are going to be planted on the surface. Thickness 8 and 20 cm.
The intensive roof garden can be used as a real garden. Therefore, it requires a stratigraphy capable of housing high-stem trees because the set thickness is large and the slab can easily sustain an heavy load. It is certainly a more expensive solution in terms of maintenance and realization, but at the same time it guarantees many performance benefits. An intensive roof garden is able to absorb an high quantity of rainwater in order to better manage the water in the housing and urban areas. It can be used as a isolating layer, lowering the peaks of heat during summer and as a thermal insulation coating in winter.

The intensive roof garden can be realized with DRAINROOF H6 or DRAINROOF H 2,5 cm depending on the project.

**CHARACTERISTICS**

- Completely usable space
- High energy efficient set
- High level of biodiversity
- An automatic irrigation system is required

<table>
<thead>
<tr>
<th></th>
<th>WEIGHT</th>
<th>SETTHICKNESS</th>
<th>VEGETATION TYPE</th>
<th>WATER RETENTION</th>
<th>STORAGE VOLUME</th>
<th>ECOLOGICAL VALUE</th>
<th>LAYING SAVINGS</th>
<th>MANTEINANCE SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt; 300 - 2000 kg/m²</td>
<td>30 cm</td>
<td>Turfs - Arbusti - Trees</td>
<td>70 - 95%</td>
<td>min 45 l/m²</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

www.geoplast.it
INTENSIVE ROOF-GARDEN

1 UNDERLAYER
2 GEOTEXTILE 150g/m²
3 DRAINROOF H6 or H2.5
4 VOLCANIC LAPILLUS
5 GEOTEXTILE 200g/m²
6 ROOT RESISTANCE SHEATH

THE VEGETATION can be realized with seeding, hydro-seeding or can be sod laid.

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The system should be provided with a waterproofing element which resists to the roots and to the microorganisms. These functions can be avoided using various layers (waterproofing sheath-anti-root membrane) or a single system.

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The thickness varies from the types of plants that are going to be planted on the surface. Thickness 8 and 20 cm.
THE BENEFITS OF ROOF GARDENS

PROTECTION OF THE SHEATH from the sudden temperature changes, from the UV rays and from the atmospheric agents. The coverage grows of the 20%.

LOWERERING OF THE RUN-OFF PEAKS A roof garden absorbs the 50% of rainwater, lowering the quantity to dispose in the urban sewer.

MICROCLIMATE REGULATION through the evaporation and evapotranspiration of the absorbed water, in order to refresh the environment.

INCREASE OF THE PHOTOVOLTAIC PROFIT thanks to the maintenance of a more stable temperature, within the range to obtain a high profit.

INCREASE OF THE COMMERCIAL VALUE The roof garden offers new usable spaces and increases the energy profit of building coating.

THERMAL AND ACOUSTIC INSULATION The green set is used as an insulating layer. In winter it isolates thermally, while in summer it is used as a solar shield.
DRAINROOF is the more efficient system for rainwater disposal. Its dome structure allows the realization of channels which can dispose the water even during heavy rainfalls. The water stagnation is eliminated thanks to the ventilated cavity. DRAINROOF is also designed to make the place safe and easy and can be easily moulded according to the needs.
Extensive garden 
higher efficiency

It is scientifically proven that the roof garden allows the increase of the photovoltaic panels profit. In fact, the vegetation keeps the temperature stable, avoiding the peaks of heat during summer. The photovoltaic panels have the highest profit within a specific temperature range, so the installation is increasingly made on roof gardens. DRAINROOF allows the realization of a light roof garden, ensuring a safe sealing layer in order to increase the duration of the coverage.
DRAINROAD allows the creation of a real protection layer on the roof. The underlayer absorbs almost the 50% of rainwater, favouring the water management and giving back to the surface the initial portion of lawn. In this way, the biodiversity is safeguarded and the energy efficiency standard is reached. The stratigraphy of the roof garden is a real isolating for the coverage. It resists to the UV rays and lowers the temperature during summer, thanks to the evapotranspiration and it keeps the coverage isolated in winter.
Intensive roof garden
High resistance to loads

High resistance
Inerzia chimica del materiale
Set ventilation

DRAINROOF is characterized by high resistance and high load capability and allows the creation of any stratigraphy, housing high-stem trees too. Thanks to its resistance is it possible to use mechanical means without damaging the waterproof sheath. Moreover, thanks to the ventilated separation that DRAINROOF creates, the water stagnation and the roots descendace until the covering layer is avoided.
DRAINROOF was specifically designed for coverings, and it’s very easy to place. The coupling system links the panels with each other, avoiding liftings and moves; moreover, the dome structure made of plastic avoids any flotation phenomenon. DRAINROOF can’t get soaked in water and resists to chemical agents. In the case of sloping roofs, it’s possible to easily hook the panel to the structure.