Commercial dossier. 2020 Revision

GREEN Roofs

singular green

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Our goal is the integration of vegetation in buildings as a way to improve the quality of life in cities.

Our vertical garden systems offer multiple possibilities for the integration of vegetation on both exterior facades or roofs; from self-sufficient gardens with rainwater storage systems and installation of photovoltaic panels, to gardens that contribute to the capture of pollutants thanks to the selected vegetation.

SingularGreen offers comprehensive advice, starting from the kind of system and the best species that suit your project, up to its complete execution and integral maintenance.

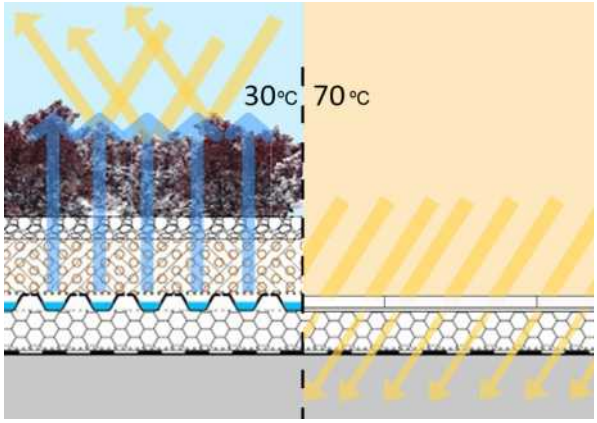
With this document we seek to bring our clients the world of green roofs and publicize our systems and projects.

How can we help you?

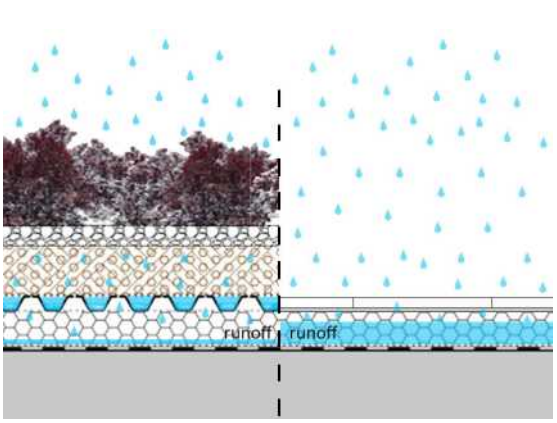
SingularGreen Group

info@singulargreen.com

Benefits of Green Roofs



Green Roof Conventional roof



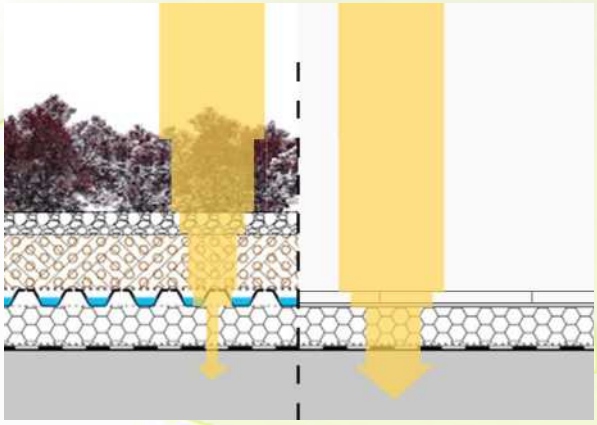
Green Roof Conventional roof

Reduce heat island effect

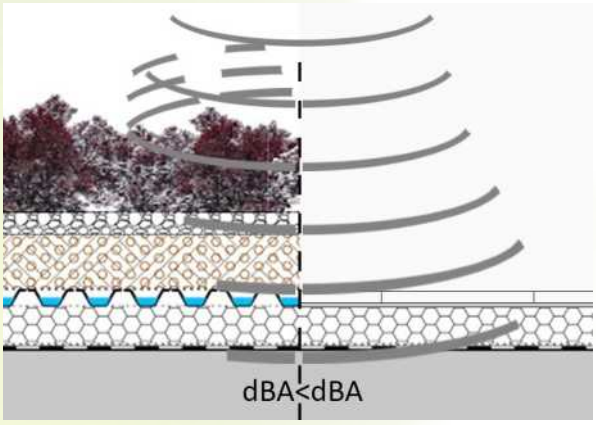
The temperature of the surfaces of green roofs does not usually exceed 30°C, compared to 70°C for conventional ones.

Reduce surface runoff

The green roofs can store the rainwater in the layers with a retention function, reducing the number of liters to be evacuated at the time of precipitation.



Green Roof Conventional roof



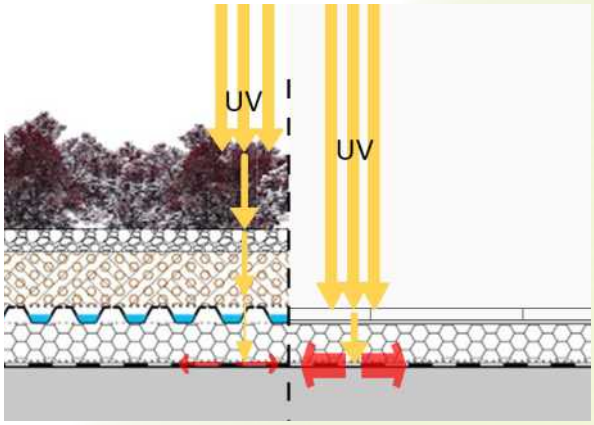
Green Roof Conventional roof

Improve thermal insulation

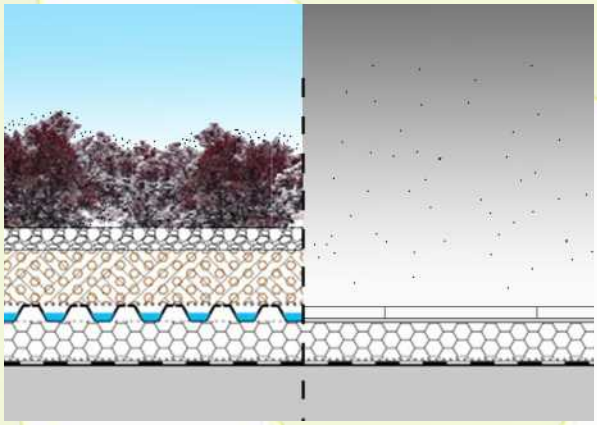
Green roofs have great thermal inertia thanks to the water in the substrate, the protection against the wind and the shade produced by the vegetation itself.

Improve sound insulation

The vegetal finish (plants + substrate) reduces noise by absorbing waves in the substrate, and reflection in the vegetation.



Green Roof Conventional roof



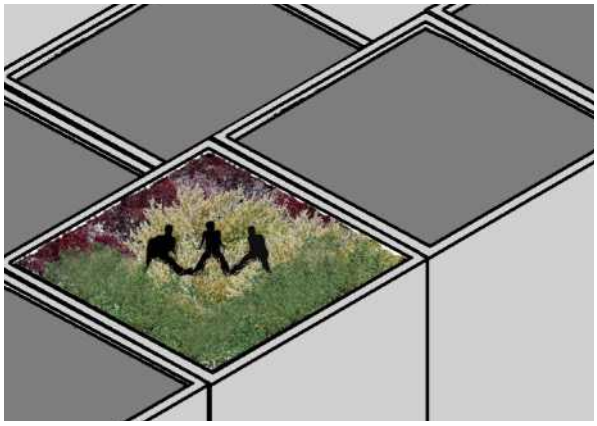
Green Roof Conventional roof

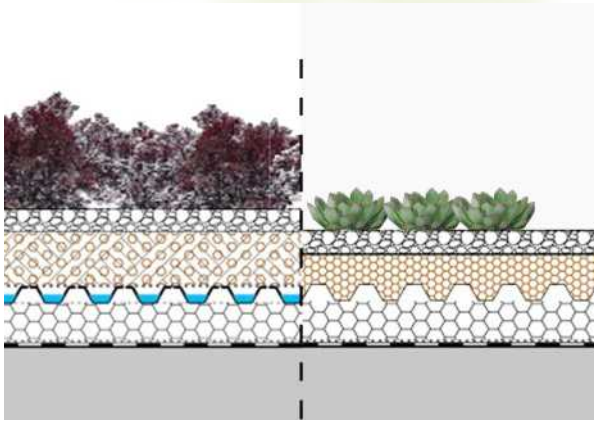
Extend the life of roofs

The movements due to dilations and contractions are reduced and, on the other hand, the substrate protects the sheet from ultraviolet rays.

Improve air quality

Plants are capable to absorb a certain amount of volatile toxic elements from the air, converting them into organic matter.





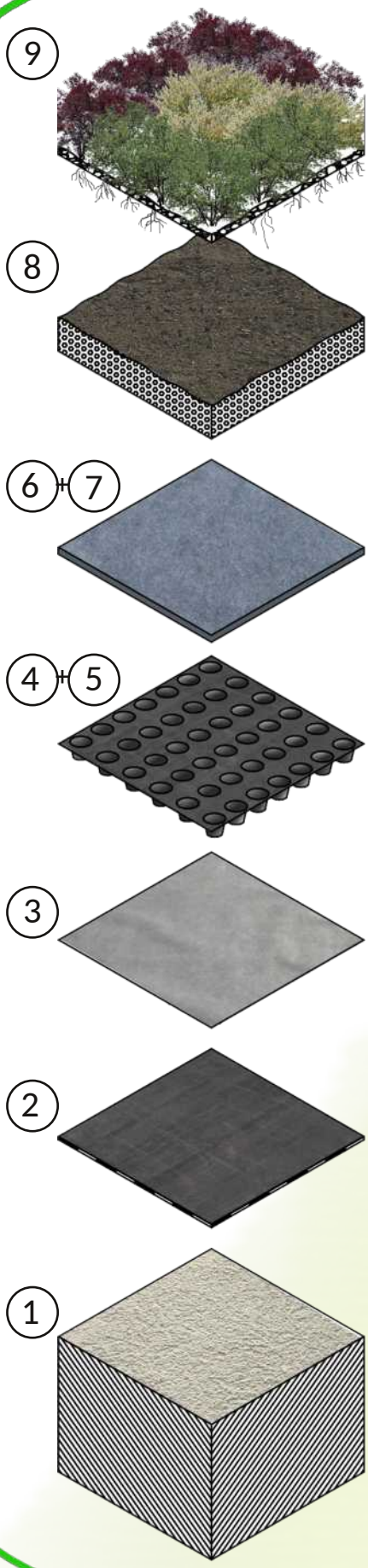
They enable unused urban spaces

Thanks to green roofs, unused spaces in buildings can have a second green opportunity.

Recovery of autochthonous species

The green roofs allow the use of almost all the vegetal species, including the autochthonous ones.

Generic composition



9. Vegetation
Finishing layer with the possibility of containing different species.

8. Substrate
Support layer of the vegetation where the work of the roots takes place.

7. Absorbent layer
Layer formed by materials that retain water and release it slowly.

6. Filter layer
Layer that prevents the loss of fine particles.

5. Retention layer
Layer that aims to store part of the water in the roof.

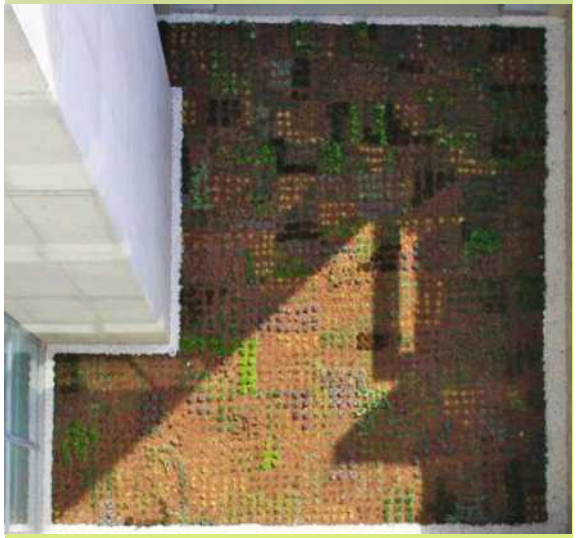
4. Draining layer
Layer that creates an air chamber through which water is evacuated from the roof.

3. Anti-punching and separating layer
Layer that protects the waterproofing from possible damage.

2. Waterproof membrane
Layer that prevents the penetration of water into the support.

1. Support layer
Layer or set of layers on which the green roof rests.

Our systems



FITUM

The most competitive and low maintenance solution. The recommended vegetation for this system are varieties of crass or sedum.

CÁNTIR

Simple and versatile system. The solution incorporates a drip irrigation that allows expanding the options of vegetable finish.

BAOBAB

Great water storage capacity system that allows the suppression of the use of irrigation. Suitable solution for sedum or succulent vegetation.

GAROÉ

Cistern roof with high water storage capacity. Ideal for weathers with episodes of intense rain and long periods of drought. Compatible with extensive plant finish options.

RIZOMA

Ultralight system. Ideal for roofs with low resistance floors. Quick installation solution.

RUPÍCOLA

Lightweight ultralight system, which does not require the use of irrigation thanks to the incorporation of a retaining layer.

Our works

Fitum Green Roof in Alicante

Construction year: 2010.

Type of building: Apartments building.

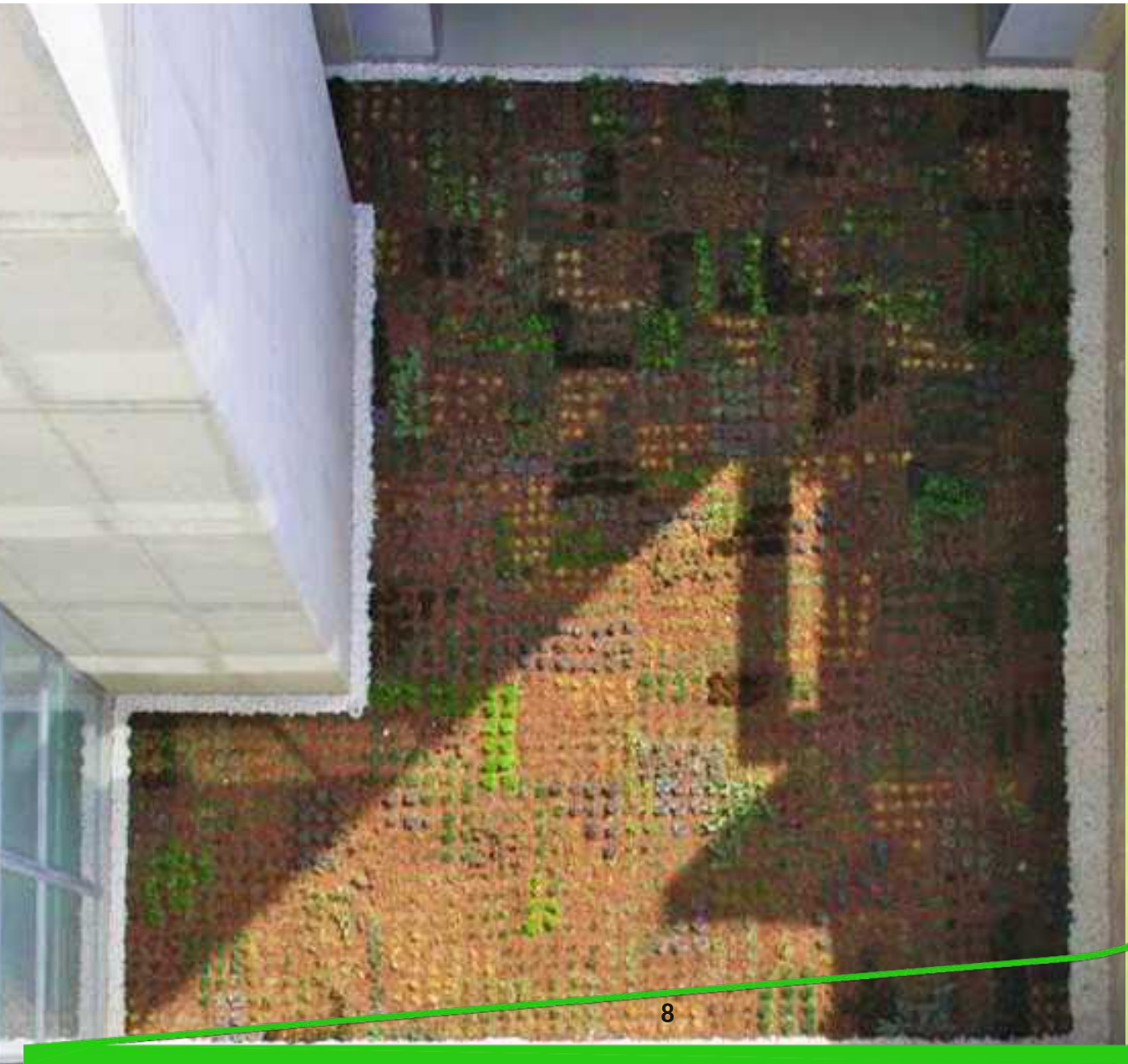
Location: On the roof floor of the underground parking.

Area: 60 m^2, divided into 2 roofs.

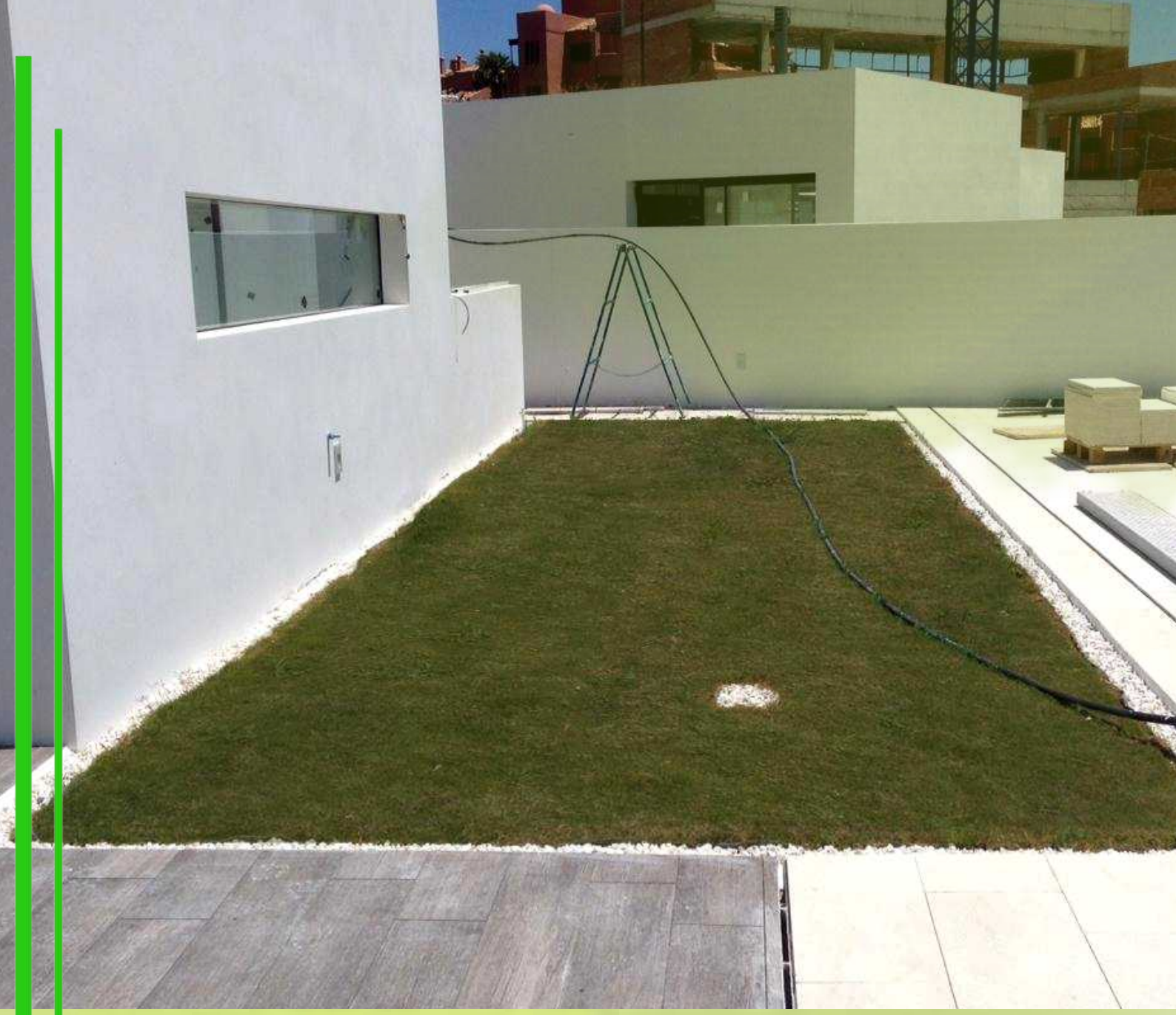
System Applied: Fitum.

Species: 37 different species of succulent plants of different genera, with a density of 50 plants / m^2.

Benefits of the used solution: Minimum cost and absence of irrigation.



Aerial view of the green roof



Green roof with grass finish

Cántir Green Roof in Benidorm

Construction year: 2014.

Type of building: Single family home.

Location: In the pool areas.

Area: 54 m^2, divided in 3 green roofs.

System Applied: Cántir.

Species: Grass.

Benefits of the used solution: The system improves the insulating function of the roof in winter and the cooling effect in summer.

Baobab Green Roof in Valencia

Construction year: 2011.

Type of building: Detached family house.

Location: On the non-walkable roof.

Area: 30 m^2.

System Applied: Baobab.

Species: Crass plants of *Aeonium*, *Crassula*, *Echeveria*, *Sedum* and *Sedeveria*.

Benefits of the used solution: This solution provides the vegetation with a water reserve that allows it to withstand the dry summers of the Mediterranean climate without the need for irrigation.

Crass species detail

Green roof with Mediterranean sub-shrub and flower forest species

Garoé Green Roof in Benidorm

Construction year: 2014.

Type of building: Single family house.

Location: On the non-walkable roof

Area: 405 m^2 dividided in 3 roofs.

System Applied: Garoé.

Species: Different Mediterranean sub-shrub and flower forest species.

Benefits of the used solution: Use of rainwater and better thermal behavior of the roof.

Rizoma Green Roof in Elche

Construction year: 2013.

Type of building: Single family home of wooden structure.

Location: Single family home in Elche, Alicante.

Area: 52 m^2.

System Applied: Rizoma.

Species: Crass plant cuttings planted by the owner.

Benefits of the used solution: Very light system.

Appearance of the green roof before planting

Green roof appearance one day after plantation

Rupícola Green Roof in Jávea

Construction year: 2015.

Type of building: Single family home.

Location: Single family home in Jávea, Alicante.

Area: 28 m^2.

System Applied: Rupícola.

Species: Species of the genus *sedum* supplied in turf.

Benefits of the used solution: Light system without irrigation.

Cántir Green Roof in Alicante

Construction year: 2017.

Type of building: New building.

Location: Labaqua Building, Pla de la Vallonga, Alicante.

Area: 140 m^2.

System Applied: Cántir

Species: *Sedum sp*. suplied in turf.

Benefits of the used solution: Water saving.

Appearance of the finished green roof

Green roof appearance after completion

Cántir Green Roof in Alicante

Construction year: 2017.

Type of building: Metal porch.

Location: Headquarters of Integral Garden in Villena.

Area: 20 m^2.

System Applied: Cántir.

Species: Succulent, aromatic, seed and sedum suplied in turf.

Benefits of the used solution: Considerable water savings.

LeafSkin Green Roof in Cádiz

Construction year: 2018.

Type of building: Wine cellar.

Location: Cellar of Tesalia in Cádiz.

Area: 1600 m^2.

System Applied: LeafSkin (Vertical Gardens System).

Species: Grassy, vivacious and flowering plants.

Benefits of the used solution: Quick and easy installation.

Appearance of the green roof before planting

Appearance of the green roof after it is finished

Rizoma Green Roof in Madrid

Construction year: 2018 and 2019.

Type of building: Housing.

Location: Housing in Madrid.

Area: 200 m^2 (120 + 80).

Sistem Applied: Rizoma.

Species: Species of the genus *Sedum* supplied in turf.

Benefits of the used solution: Reduction of air conditioning and therefore economic savings.

Rizoma Green Roof in Granada

Construction year: 2019.

Type of building: Housing.

Location: Single family home in Granada.

Area: 220 m^2.

System Applied: Rizoma.

Species: Species of the genus *Sedum* supplied in turf.

Benefits of the used solution: Active refrigeration in housing and elimination of the use of air conditioning.

Appearance of the green roof before planting

Appearance of the green roof after it is finished

Cántir Green Roof in Gandía

Construction year: 2020.

Type of building: Public.

Location: Baladre Park Auditorium in Gandía.

Area: 1500 m^2.

System Applied: Cántir.

Species: Grass seeds *(Cynodon dactylon, Festuca arundinacea y Lolium hybridum)*.

Benefits of the used solution: Incorporation of the green roof into the public space of the city.

Frequently asked questions

Which system is the most suitable for my project?

When considering a green roof we have to take into account the following points:

1. The budget. Depending on the estimated cost, one system or the other will be chosen.

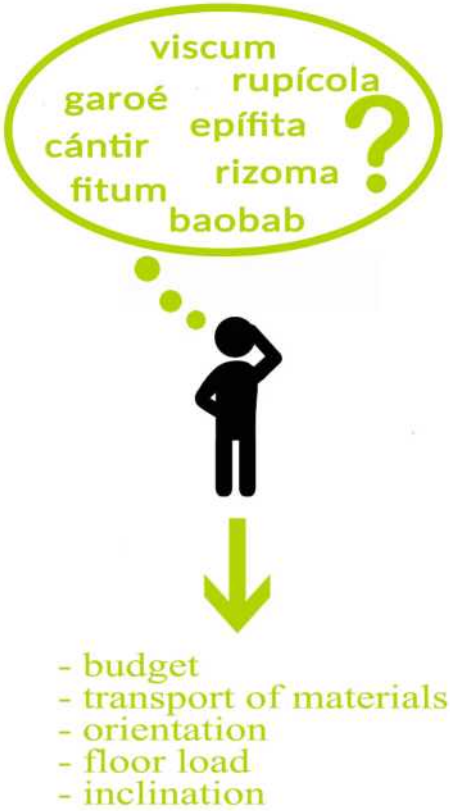
2. The load that supports the slab. If we have a low resistance floor we will look for light solutions.

3. Orientation. It is very important when choosing our vegetable finish.

4. The inclination. If we exceed certain degrees of inclination, additional drainage systems and ground support must be considered.

5. Transport of materials to the green roof. It is important to consider this point to choose easy to transport systems in case of difficult access.

At SingularGreen we will advise you on the best system or design customized solutions for your case.



What is a low-maintenance green roof?

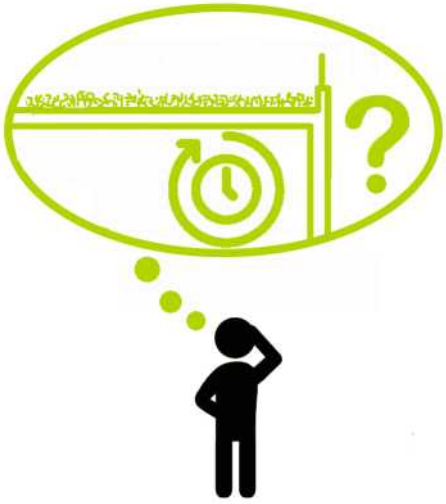
Sedum and succulent species that do not require any type of irrigation are usually used in low maintenance landscaped roofs, however they are usually colonized by invasive species that do not guarantee the initial aesthetic finish, this is solved by removing these species annually.

What use can I give to a green roof?

A green roof is compatible with any type of activity, walks, sports,... we only have to combine, depending on the type of species, the plant surfaces, with surfaces suitable for the existing activity.

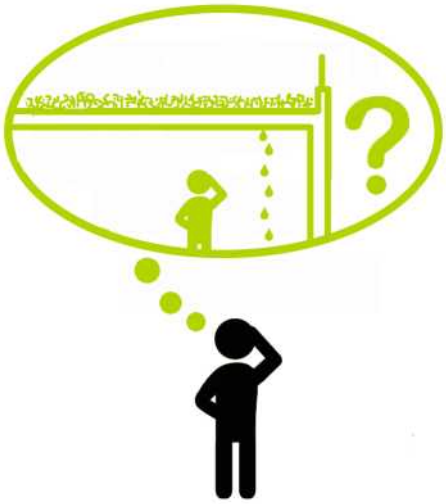
How many years of useful life does a vegetation cover have?

In Germany, according to a report on construction damage, it was revealed that while 80% of flat roofs after 5 years built, show the first damage, a green roof, with a correct choice of waterproofing and a good execution of the unions, it has an almost endless useful life.



Can appear linkings at the building?

No, if a good waterproofing is carried out, with the correct materials. We must bear in mind that asphalt sheets, the most widely used waterproofing products, are susceptible to being pierced by the roots and causing moisture problems. To avoid leaking problems, PVC or EPDM sheets must be installed and the joints must be made correctly.



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We keep at your disposal to answer any questions regarding our systems. Our technical team will guide you in choosing the best solution.

Contact us!

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