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Green roofs are slowly beginning to appear in our cities. But a cover can be, should be, much more than a green spot.

We talk in this article about what it is here called 'multifunctionele daken'.

The Dutch 'multifunctionele daken' is an initiative to reduce CO<sub>2</sub> production by working together with the administration, the private sector, citizens, and universities. This initiative has arisen in the face of the fact that in 2025 70% of the world's population will live in cities and our planet is finite.

It is a question of defining a cover through colours according to its functions and capacities. The goal is to build a green, blue, yellow, and red roof at the same time.

Which roofs predominate most in our city? The greens? The greys? The blues? The green and red?

**Green roofs:** These are roofs with vegetation.

- Control of high temperatures inside the building, reducing the use of air conditioning.
- The cover lasts longer as the green layer protects from direct sunlight. They last twice as long as traditional roofs.
- They retain water that does not reach the sewer so directly in a storm. A green roof retains 60 to 80% more throughout the year than a traditional roof.
- Increases the taxable value of the building.
- It is good for biodiversity: insects, birds.
- A hard roof reflects noise, whereas a green roof absorbs it.

**Yellow roofs:** Those that generate energy.

- It can supply all the energy needed for the building
- Using sustainable energy produces less CO<sub>2</sub> emissions
- Accomplishes good sustainability label that increases the value of the building and in case of sale, it can be sold at a higher price.

**Red cover:** Provides more square meters.

- A red roof means that the inhabitants or users of the building can enjoy it.
- It's a business opportunity, because you can rent a recreational space on the roof for use by

third parties or have social functions (games, bar, etc.)

- Combining the red cover with the green one the inhabitants can cultivate their own vegetables and fruit.

**Blue cover:** water management.

- A layer of water on the roof can help keep the temperature inside the building low on hot days.

- Water storage.

- These roofs collect rainwater during storms. Like a green garden, it slows down the time the water reaches the sewer, reducing the risk of flooding. These covers can retain all rainwater and not send it to the sewer.

- Water reuse. Rainwater is relatively clean, which means it can be reused in the sink, for example. And avoid using purified water.

**Orange roof:** they serve for mobility as a connection or a cover that acts as a bridge.

**Lilac cover:** Inhabited roofs.

**Grey roof:** Roofs used for technical installations for ventilation, cooling and chimneys.

Some examples:

In Amsterdam we find the Amsterdam Oost, which is blue, red and green. A 135 m<sup>2</sup> roof that has been designed in three areas: living area (barbecue), garden area and solarium area

In Amsterdam as well, the "Dakpark van het Orlyplein" which collects rainwater and reuses it for irrigation. Orlyplein was a bus station between two parking garages and the train tracks. In 2012 it was decided to move the buses and transform the gray square. It is now a square that collects water, offers a diversity of flowers, plants, insects and has recreational areas with bars.

In Rotterdam we find the "Rotterdamse Plaswijckpark" is a park that rises above a leaf-shaped building. This building has the colours blue, red and green.

Dakakker, also in Rotterdam (blue, red and green), is the largest urban garden in the Netherlands. It was built as a test site for the International Biennial of Architecture. It is part of the Luchtsingel project.

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Bibliography:

<https://www.multifunctioneledaken.nl/> [1]

<https://dakakker.nl/site/> [2]

<https://www.rainproof.nl/dakpark-orlyplein> [3]

<https://www.rotterdam.nl/wonen-leven/multifunctionele-daken/> [4]

<https://www.rainproof.nl/weelderige-daktuin> [5]

<https://www.luchtsingel.org/> [6]



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[5] <https://www.rainproof.nl/weelderige-daktuin>

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