Roof trees

Roof gardens are very popular. Where city dwellers have been using their roofs as gardens for a long time, more and more businesses and public buildings have started creating roof gardens over the last few years. Especially when locations in cities are renovated, planners often choose to combine functional purposes. Roofs of e.g. parking garages are transformed into park-like gardens with lunch spots for employees. This way, the available space is used as efficient as possible, while at the same time the necessary amount of green is created.

Ginkel Groep about the criteria

Enough reason to talk to a roof garden specialist. We asked Bertus van den Dikkenberg and Walter van de Werken of the Koninklijke Ginkel Groep what the criteria are for roof trees. 'You have to start with the supporting power of the roof. This is the most important restrictive factor. If you are working with an existing roof, you will have to adjust your plans to what the roof can carry. In the case of new builds, there are more possibilities, because the construction can take into account where and what trees will be placed on the roof. The bigger the load that the roof can carry, the larger the trees that can be planted. Planners do need to take into account the weight of the mature tree. It is possible to plant (small) trees on a roof with carrying power from around 1000 kg/m2,' says Bertus van den Dikkenberg.

Root space

There are different types of green roofing, which can be split into the categories of extensive (sedum roofs), semi-intensive and intensive. This last category, which requires the highest supporting power, not only comprises herbs and shrubs, but also trees. A combination of extensive and intensive roof planting is also possible. In these cases, a tree can be planted on the roof on places supported by a pillar, while the rest of the roof is only suitable for sedum matting. Walter van de Werken: 'In these cases, there is a difference in height with regard to the structure of the roof garden. Sedum matting only requires a few centimetres of substrate, while you need at least 70-80 cm root space for trees.


Gleditsia triacanthos 'Elegantissima'


Malus 'Mokum'


Parrotia persica


Taxus cuspidata

A tree can then be placed on a mound or in a container.'

Water balance

Containers do restrict the growth of trees, which means they will always be a bit smaller than normal. The best results can be achieved when trees are planted in high-quality substrate with the right oxygen and water balance, and where they have enough room, also widthwise, to take root.
'It is important that a system is selected which imitates the normal water level. A float system ensures that the artificial water balance is kept at the right level, and trees do not dry out. This is very important, because it can all go wrong very quickly. And if it goes wrong, you're in trouble, because replanting trees on a roof can be extremely complicated.'

A bespoke job

When all the technical requirements have been met, there are many possibilities and trees can thrive well on a roof. 'In principle, a roof garden, if designed well and created in accordance with the guidelines (e.g. FLL guidelines, Groenkeur, BDA notices, SBR guidelines etc.), has the same economic lifespan as the building itself.' Of course, the choice of tree is an important factor in the success of a project. Firstly, you have to look at the size and sensitivity to wind. 'Size 2 or 3 trees, which do not have too much foliage and which have a compact root system, are best suited for roofs. The smallest trees can be secured with counterweights and the larger trees will have to be attached to an underground reinforced netting. Size 1 trees can be used in some situations, but do require special provisions. In reality, each roof garden is bespoke, because there are so many factors to take into account.'

The higher the roof garden is, the more important the wind factor gets. In high gardens, but also in roof gardens on ground level which are susceptible to descending wind and whirls, trees that are sensitive to breaking branches should be avoided. Types of trees that are especially susceptible to aphids or mildew in draughty conditions should also be avoided. 'I also prefer not to use trees with long, straight trunks,' adds Van den Dikkenberg.

Hippophae salicifolia 'Robert'

Experience with trees

Luckily, there is plenty of choice. Multi-trunk trees are not only trendy, but also very suitable for roof gardens. Topiary trees (not to be confused with trained trees) are often also a good option. Because they are constantly pruned into shape, they stay relatively small. The tree type obviously has to be suitable for use on a roof. 'From experience, we know that grey-leafed trees are extremely suitable. They can withstand heat, drought and wind,' says Van den Dikkenberg, but there are many more options. Our tree specialists have compiled a list of trees for roof gardens, which can be found on our website. The list is not complete, and, of course, every roof garden requires its own bespoke solution. You can always ask us for our advice!

www.vdberk.co.uk/range/trees-for-roofs


Pinus parviflora 'Glauca'


Acer monspessulanum


Nothofagus antarctica


Cladrastis kentukea


Tree rhododendron


Carpinus japonica


Taxodium distichum 'Nutans'


Betula pendula


Zelkova serrata


Sophora japonica 'Regent'


Castanea sativa 'Annys Summer'


Pyrus salicifolia 'Pendula'