



Our Green Roof Services

- Green roof consultations
- Award-winning green roof design service, taking into account pitch, aspect, weight loading, local climate and aesthetic requirements
- Green roof planting design service, taking into account roof aspect, microclimates, substrate and rainfall to ensure the success of the plants
- Sourcing and supply of materials/plants for DIY green roofs – contact us for a price list
- We work with a team of professional, experienced contractors to install your green roof system if required

Green roofs can be added to existing sheds, garages, flat or sloped roof extensions, offices, car parks, bus shelters, bike shelters, car ports... and can even be used for growing vegetables. Contact us for an informal chat about the possibilities for your roof.

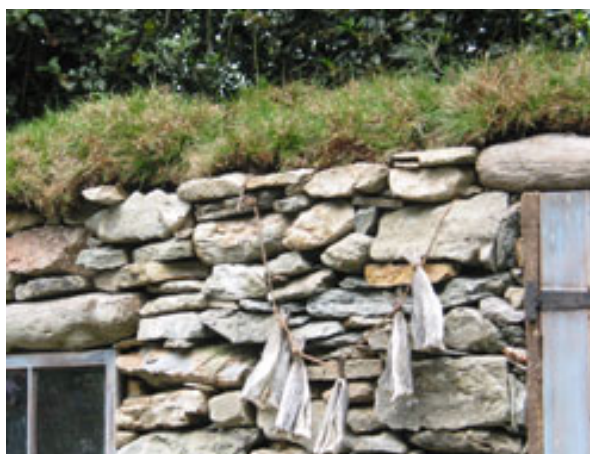
What is a Green Roof?

Green roofs are becoming more common in the UK. In other parts of Europe, particularly Germany, they can already be found on a variety of large buildings, from offices and schools to factories and hospitals. In some countries it is even a legal requirement to have a green roof on all new buildings. There are many interesting opportunities to create smaller living roofs around your house and garden such as on sheds, garages and roof terraces.

Green Roof Overview

At its simplest, a green roof is a raised surface that forms the roof of a building or other structure and has plants growing on it. Many green roof 'systems' are now available and are made up of layers performing different roles (waterproofing, protection, drainage, growing medium) to form a fully functional green roof. The layers you include, and the type/depth of layer, depend on the pitch of the roof and what is to be grown on it.

In the past, green roofs occurred by accident, with mosses or grasses self-seeding onto mud roofs. In Scandinavia, turf roofs with an underlying birch bark waterproofing are traditional. Green roofs became more prevalent from the early 1800s, with the advent of concrete as a roofing material.





Today, a green roof can be as simple or complex as you like, from a piece of old carpet underlay with soil thrown on top - not necessarily recommended! - to a professional, reliable system designed to the high standards of the FFL (German Landscape Development Research Society).



Why should I think about having one?

Green roofs have many money-saving and environmental benefits, including:

- Protection of roof waterproofing from UV and temperature changes, increasing it's lifespan
- Significant money savings on energy bills – green roofs keep a building warmer in winter and cool in summer
- Lowering the immediate air temperature, so reducing the urban 'heat island' effect and improving efficiency of any solar panels on the roof
- Aesthetic value in improving views and city spaces
- Adding valuable wildlife habitat and biodiversity in urban and rural areas
- Absorbing and filtering impurities in the air and water run-off
- Reducing rainwater run-off helping to prevent flash flooding (up to 60% of rainfall is retained)

What is an 'intensive' or an 'extensive' green roof?

Depending on the depth of the growing medium (the soil or 'substrate' that the plants are grown in), green roofs are either described as intensive or extensive.

Extensive roofs are lightweight and easily maintained, so currently are the most common. The growing medium is shallow (30-100mm), and so can only support plants that are tough and drought tolerant (see planting section below). The low weight makes extensive roofs suitable for sheds, garages and extensions as well as for large expanses of roof. These roofs are not designed to give the lush appeal of a planted garden – because of the shallow soils, they can be susceptible to drought and patches of dryness, and are more limited in their visual appeal – being a carpet of colour rather than swathes of planting.

Intensive roofs have very deep substrates and are only suitable for roofs which have been specifically designed to support their weight.

There is also a roof type known as 'semi-extensive' or 'semi-intensive'. The substrate depth on these is 100-200mm, so they are heavier than extensive roofs but able to support a greater range of planting. They therefore have a longer flowering season and more variety, but also require more maintenance than the extensive roofs, as weeding and control of plants needs to be undertaken.



What plants will grow up there?

Extensive green roofs use a shallow depth of growing medium and so the plants used need to be tough, hardy, drought tolerant and able to withstand wind. Examples of plants that have been used successfully on this type of roof include Sedum (Sedum acre – a UK native, S. album, S. hispanicum and S. reflexum), low growing drought tolerant perennials, grasses, alpines and small bulbs.

Intensive roofs allow the growth of pretty much any plant you will find in a garden, including large shrubs and trees. They need regular irrigation and maintenance.

Semi-extensive roofs can support wildflower meadows, low-medium perennials, grasses, bulbs and some drought tolerant annuals. Small hardy shrubs can also be used.

Planting can be undertaken in different ways – either by seeding, plug planting of small plants, or using commercially grown biodegradable blankets already covered in sedum or wildflowers for instant effect.

As in a garden, the direction the roof faces, microclimates, substrate and rainfall all need to be taken into account to ensure the success of the plants.

What is a 'brown' or 'biodiverse' roof?

It is possible to design a green roof so that it attracts and provides habitat for specific wildlife – these spaces are sometimes also called brown or biodiverse roofs. They may include substrate from the local area, old wood and stacked stones which provide considered areas of habitat, and are allowed to colonise with plants naturally. Examples include roofs created by Dusty Gedge to provide habitat for Black Redstarts in London.

Can green roofs be built on any roof?

Yes, subject to a structural assessment to ensure the current roof can support the weight of the proposed green roof system. Ideally, a green roof would be designed into the build of a new house rather than retro-fitted (added later). However the majority of green roofs in this country have been added to existing roofs, either pitched or flat. Planning permission may be required in some areas.

Walking or having seating areas on green roofs is possible, as most drainage layers can support the weight. You may want to consider having unplanted pathways to allow access. In some situations it is possible to install paving on a green roof but this is not always recommended as it detracts from the original purpose and benefits of creating green space. Bear in mind that your presence on the roof (apart from for necessary maintenance) may have an effect on the wildlife present.

Before beginning any major green roof project, the importance of taking expert advice on the state of the existing waterproofing and the structural load that the building can support cannot be overstated; neither can the benefits of having an extra green space.

Bibliography:

www.livingroofs.org; Snodgrass, E and Snodgrass, L (2006). Green Roof Plants. Timber Press

Dunnett, N and Kingsbury, N (2008) Planting Green Roofs and Living Walls. Timber Press.

Gedge, D; Dunnett, N; Grant, G and Jones, R (2007). Living Roofs. Catalogue code NE30, Natural England. Company literature from the following: Bauder, Alumasc, Langley.

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