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50 Nature Roof questions

Kalzip® Nature Roof

50 Nature Roof questions answered

1. WHAT IS NATURE ROOF?

Nature Roof is a low maintenance, lightweight planted roof system that is made up of a standing seam Kalzip roof fitted with drainage, substrate and plant layers.

2. SO IT'S A ROOF GARDEN?

No. Nature Roof is not designed for recreational use. Nature Roof has been developed as a visually attractive plant system that also offers solutions to some of the environmental and building performance challenges we are facing.

3. DO I NEED TO WATER IT?

No. The only time under normal seasonal conditions that Nature Roof should be watered is if the plants are installed during the Summer. This however is the responsibility of the contractor. Nature Roof plants are selected to survive under the normal environmental conditions that they are likely to experience on the roof

4. HOW MUCH DOES IT WEIGH?

The typical weight of the entire plant layer i.e. all material above the Kalzip top sheet is 75kg per square metre. This is a completely saturated and therefore maximal weight.

5. 75KG SEEMS HEAVY?

Put in context, a simple grass or turf roof build up can have a saturated mass of up to 250kg per square metre. Nature Roof is a lightweight solution to the need for a planted roof system.

6. IS NATURE ROOF ONLY FOR LOW PITCH APPLICATIONS?

No. The plants and growing media will be stable and successful at pitches of up to 30°. Nature Roof is also perfectly suited to curved roof applications.

7. CAN AN EXISTING KALZIP ROOF BE PLANTED?

Yes, providing that the roof is structurally capable of bearing the extra load and the edge details are suitable or are modified to contain the substrate and plant system.

8. DOES NATURE ROOF HAVE A TRACK RECORD?

Within the UK, Nature Roof has been in existence for only 2½ years. However, the Kalzip part of the system has a long history and has been comprehensively tested. The plant part of the system has been developed on the principles of German green roofing systems that have a history of 50-60 years. Our research and development has been thorough with establishment of closely monitored trials the length and breadth of the UK. The novel aspect of Nature Roof is the bringing together of two well tested systems.

9. CAN I SEE AN EXISTING NATURE ROOF?

We have a number of Nature Roofs around the country. Please contact your Kalzip regional sales manager to arrange a site visit.

10. DOES PLANTING THE KALZIP ROOF HAVE ANY DETRIMENTAL EFFECTS ON ITS PERFORMANCE?

None that we have detected in our trials programme.

11. I KNOW ABOUT KALZIP BUT WHAT IS THE GENERAL BUILD UP OF THE PLANT LAYER?

On top of the Kalzip top sheet is installed a recycled plastic drainage element. A layer of lightweight granular substrate formulated to the site and plant requirements is then spread on the drainage layer. The plants are then installed into the substrate.

12. DO YOU USE THE SAME SYSTEM ON ALL ROOFS?

No. The design of each system with regard to build up and plant selection will vary for each roof. Factors taken into account include building location, surrounding environment, orientation of the roof and localised microclimates on the roof. System design is based upon our extensive trials programme.

13. WHAT PLANTS DO YOU USE?

We have compiled a wide range of suitable plants. Nature Roof plants have been selected on the basis that they can cope with normal roof conditions. From this range the plants are then selected for each particular roof on the basis of aesthetic requirements and site conditions. The core of our range are Sedum species although we also use herbaceous and bulbous plants and certain grasses.

14. DO THE PLANTS SUFFER FROM ANY SERIOUS PESTS AND DISEASES?

One of the criteria for Nature Roof plant selection is that they do not suffer serious pest and disease problems. They can however have minor infestations of aphid and vine weevil both of which can be dealt with by biological control measures.

15. HOW MUCH OF THE PLANT LAYER IS MADE OR GROWN IN THE UK?

All substrate and drainage components are made in the UK. All plant material is grown in the UK.

16. CAN PLANT MATERIAL BE PRODUCED USING PEAT FREE MEDIUMS?

Yes, providing sufficient lead time is given, contract growing material to such a specification presents no difficulties.

17. IS NATURE ROOF CONFINED TO EUROPE?

No. Our horticultural specialists have been developing a system for S.E. Asia which received its launch at the World Landscape Congress in Singapore, June 2001.

18. WHERE ARE ALL THE PLANTS GROWN?

At our nursery site near Taunton, Somerset. Visits to the nursery can be scheduled. Please contact your Kalzip regional sales manager.

19. WHO SHOULD I TALK TO WITH REGARD TO ANY ASPECT OF THE PLANT LAYER?

Our horticultural specialists who can be reached via your Kalzip regional sales manager.

20. WHAT CONDITIONS WILL NATURE ROOF PLANTS SUCCEED UNDER?

Results from our nationwide trials programme allow us to select plants that will succeed under the full range of UK conditions taking into account geography, environment - be it urban, rural or coastal, light levels and roof pitch and orientation.

21. HOW ARE THE PLANTS INSTALLED?

In a number of ways depending upon site conditions, plant selection, rates of coverage required and budget. The first option is hydroseeding/planting:- cutting material and seeds are spread on the prepared substrate, seeds germinate/cuttings root and the roof plant layer establishes over time. The second option is plug planting:- young plants are manually installed into the substrate at a given density and the roof plant layer establishes over time. The third option is the mat system:- the plant layer is field grown to maturity, rolled up and transported to the prepared roof to be installed as an instant mature plant layer.

22. WHAT TIMES OF YEAR CAN INSTALLATION TAKE PLACE?

The best time of year for installation of all systems is late Summer/early Autumn. Spring and Winter installations are also acceptable. Summer installations are possible although installation costs are higher because of the higher levels of aftercare required until the plants are established.

23. WHAT SEASONAL CHANGES WILL WE SEE IN NATURE ROOF?

The main flowering season is from May to August. Flower colour ranges from white through yellow to pinks, reds and purples. Outside the flowering season foliage colour extends the interest with shades of green, red, and yellow. Plant selection is the key to aesthetic performance.

24. WHAT IS THE EVENTUAL HEIGHT OF THE PLANTS?

The majority of the plants used will form a low growing layer on the roof surface which, when in flower, will be only 100-150mm high.

25. WILL THE PLANTS GROW OVER THE EDGES?

Certain plants will, others will not. The correct selection of plants will produce the desired effect. It should be stressed however that we consider plant types that exhibit rampant growth to be unsatisfactory for Nature Roof and these will have been discarded through our trial programme.

26. WHAT ARE THE RATES OF PLANT COVERAGE FOR EACH SYSTEM?

A hydroseeded roof will achieve 80% plant coverage 12-18 months after installation.

A plug planted roof will achieve 80% plant coverage 9-12 months after installation.

A mat system gives instant plant coverage of 90-100%.

27. WHY GO FOR ANY SYSTEM OTHER THAN THE MAT?

The mat system is the most expensive because of field production costs and the more intensive aftercare needed to ensure successful establishment. The appearance of the finished product also varies between mat and plug systems and the particular aesthetic appeal of each may be important.

28. HOW LONG WILL THE PLANTS LIVE FOR?

The plants used have growth patterns which allow them to multiply naturally on the roof. This means that although an individual plant has a finite life, the life of the colony that it gives rise to is infinite.

29. IS NATURE ROOF ORGANIC?

We can put together a plant layer system which has been grown organically and will be maintained with regard to organic principles.

30. ARE WEEDS A PROBLEM?

No, as long as the system is correctly designed and installed. Weeds or contaminants will occur at low levels but these can be easily dealt with by a correctly timed and applied maintenance programme.

31. WHO DOES THE MAINTENANCE?

Maintenance services are provided by the contractor. These services are included in the installation price for the first 12 months after installation. Following this period the contractor will offer an extension to the maintenance services.

32. HOW OFTEN WILL THE MAINTENANCE NEED TO BE CARRIED OUT?

Generally speaking, in the first year 2-3 visits. Second and subsequent years 1-2 visits a year.

33. CAN I WALK ON IT THEN?

Yes. Occasional traffic for maintenance will present no problems.

34. WHAT DOES THE MAINTENANCE INCLUDE?

In general, the control of any contaminants, maintenance of the correct substrate nutrient levels, replacement of any failed plant material, checking and treatment for pests and diseases, inspection of drain ways and gutters.

35. DOES DEBRIS FROM THE PLANT LAYER BLOCK UP THE DRAINS AND GUTTERS?

Again, no - as long as the system has been correctly installed. Elements of the Kalzip roof system have been designed to more than adequately contain the substrate layer. This has been rigorously tested. The substrate is also graded to ensure that minimal fine material is included in the substrate at the time of installation.

36. WHAT GUARANTEE COMES WITH THE SYSTEM?

The Kalzip roof is covered by all its normal performance guarantees. The plant layer is however living and developing. The plant layer performance must therefore be on the basis that the maintenance is carried out by the installation contractor. The cost of this, for the critical first 12 months, is included in the installation price. After this first year, the contractor will offer an extension to the maintenance agreement.

37. WHY SHOULD I WANT A NATURE ROOF?

Nature Roof is visually attractive and improves the performance of the building. Nature Roof makes a very strong positive statement about the commitment of the architect and client to society and the environment.

38. WHY COULD I NEED A NATURE ROOF?

The increased sensitivity of governing bodies to the visual and environmental impact of buildings may mean that Nature Roof has to be specified for the project to proceed.

39. OK, IT LOOKS PRETTY BUT HOW DO I BENEFIT?

Aside from the flowers and seasonal changes in foliage colour Nature Roof has a number of building performance advantages. Reduced rainwater run-off, improved thermal performance of the roof in Winter and Summer, improved acoustic performance of the roof.

40. WHY IS REDUCED RAIN WATER RUNOFF SUCH A BIG BENEFIT?

Instantaneous shedding of rainwater from hard surfaces within the urban environment is a major problem which can lead to overloading of the city's drainage system. In our tests Nature Roof retains up to 60% of rain water on the roof surface to be lost by evaporative processes. The benefits of Nature Roof type systems with regard to rain water run-off have been long recognised on mainland Europe. In certain German cities planted roof space is obligatory mainly because of the reduction in rainwater run off.

41. THAT SORT OF CONTROL WON'T COME TO THE UK WILL IT?

Its already here. The environment agency is now specifying that for certain projects the run off from the site must as near as possible mimic that from a green field site. This pressure is bound to increase with the agency's present focus on sustainable urban drainage systems and the past winters extreme weather.

42. WHAT ACOUSTIC BENEFITS DO I GET FROM PLANTING A KALZIP ROOF?

The sound transmission through a Kalzip roof has been tested with and without the plant layer. The addition of the plant layer reduced the sound transmission by 8 dB when dry and 18dB when wet.

43. OK, IT LOOKS PRETTY BUT HOW DO WE BENEFIT?

Nature Roof has a number of environmental advantages particularly for urban areas. The plants remove carbon dioxide from the atmosphere and release oxygen and water vapour. The plants also absorb particulate pollutants and organic volatiles from the atmosphere. The 'heat sink' phenomenon exhibited by large conurbations has been shown to have profound effects on the quality of air within these areas. It has also been suggested that it can affect local weather patterns. Much of the heat sink effect is created by the vast areas of urban roof. Planting roof space greatly reduces its capacity to act as a heat sink.

44. WHY SHOULD I BE CONCERNED ABOUT CARBON DIOXIDE?

The world is heating up. Five of the warmest years in the UK in the last 340 years have occurred in the last decade. It is now widely accepted that global warming is as a direct result of the increased levels of carbon dioxide in the atmosphere. Atmospheric carbon dioxide levels are higher now than they have been for the last 150,000 years. This increase is believed to be directly related to the indiscriminate and wasteful exploitation of fossil fuel reserves. Global warming will result in droughts, floods and famines and inundation of land by the sea. Weather patterns will become increasingly extreme. We can reduce the emission of carbon dioxide by better management of the use of energy. However, only plants will actively remove carbon dioxide from the atmosphere.

45. WHY IS CARBON DIOXIDE PRODUCTION CAUSING THE WORLD TO HEAT UP?

Carbon dioxide is termed a greenhouse gas. This means that it absorbs long wave radiation more efficiently than short wave radiation. Short wavelengths predominate in sunlight. The short wave radiation from the Sun penetrates the Earth's atmosphere (not being absorbed by the carbon dioxide). The short wave radiation hits the Earth and warms it. The Earth returns long wave radiation. Long wave radiation is absorbed by carbon dioxide and therefore does not escape. The longwave radiation is absorbed by the carbon dioxide which in turn radiates part of this energy (in the form of long wavelengths) back to the Earth so warming it further.

46. WILL NATURE ROOF PROVIDE NEW HABITAT FOR LOCAL ANIMAL LIFE?

Yes. Bees and any pollen collecting insects will be attracted by Nature Roof. It will also provide additional habitat for bird life, particularly important in urban environments. A UK endangered species, the Black Redstart is increasing in numbers in the SE and this bird has been using planted roof space as nesting habitat.

47. ARE NATURE ROOF DEVELOPMENT AND TRIALS CONTINUING?

Yes. We are constantly searching to extend our plant range, optimise its performance on the roof, develop lighter systems, maximise substrate performance and above all create planted roof systems which best address current environmental issues.

48. WHERE CAN I SEE AN ACTUAL PROJECT AND DISCUSS FULLY THE USE OF NATURE ROOF?

We run open days on Saddleworth Moor near Manchester, centred on a 100m² Nature Roof plug planted 2 years ago. For more information please contact your Kalzip regional sales manager. In future we will also run a similar event in Somerset based around a mat system 100m² project. For an invitation to this event again please contact your Kalzip regional sales manager.

49. WHY KALZIP NATURE ROOF?

A world renowned and technically superior Kalzip system. A dedicated horticultural specialists who have developed and now design, grow, supply, install and maintain all components of the plant layer. Kalzip Nature Roof is the only system available that links all the environmental and building performance benefits of a planted roof with a material in the form of aluminium that is 100% recyclable at only a fraction of the original energy input.

50. HOW MUCH DOES NATURE ROOF COST?

As with a standard Kalzip roof the range of variables makes any guideline figures at best inaccurate and at worst misleading. Nature Roof is more expensive than the unplanted Kalzip option. However, the installation of Nature Roof has distinct economic and environmental advantages when assessed over the working life of the building. For prices to project specifications please contact your Kalzip regional sales manager.

Kalzip. Where to find us.

For further information about Kalzip, please contact initially the primary centre for your region.

(Full address details are shown on the back cover).

And visit our web sites:

www.corusgroup.com

www.kalzip.com

www.kalzip.co.uk

www.natureroof.com

**or contact: 01925 825100
for literature.**

You can also use this number to arrange a visit to one of our trial sites, or an inspection of your existing Kalzip roof to determine suitability for a Nature Roof 'retro-fit'