



Enviromat.



# AT LAST! INSTANT BEAUTY

Enjoy the wonderful textural qualities of Enviromat foliage all year round and have the added bonus of long lasting summer flowers.

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## About Enviromat

Enviromat sedum matting is a landscaping material used by architects, garden designers and roofing contractors to create living roofs quickly and easily. It also makes great low-maintenance ground cover.

Enviromat is grown in Norfolk by Harrowden Turf, who also produce Meadowmat wild flower matting and lawn turf. Harrowden Turf are acclaimed for their attention to detail and their high standards of quality and customer care.

The beauty of Enviromat is that it gives instant results. The pre-grown mats are despatched with at least 95% plant coverage. All you need to do is unroll them onto a prepared area, water them in and then sit back and admire your work.

With good drainage and plenty of sunshine, whether it's on a roof or on the ground, sedum matting is remarkably easy to care for and will give you all year round interest.



# BENEFITS OF ENVIROMAT



Easy to install and maintain with all the benefits of green roofing without waiting for seeds or plug plants to develop.



## Great for wildlife

The sedum plants in Enviromat are particularly rich in pollen and nectar and are a great food source for bees, butterflies, moths and hoverflies. This in turn attracts birds who also eat the seedheads and use spent flower stalks as nesting material.



## Rainwater management

In towns and cities, up to 75% of rain water becomes runoff. An Enviromat living roof will absorb much of the rain that falls on it and lower the risk of flooding.



## Solar energy

If you have PV panels on your roof a layer of plants will lower the surface temperature in the summer making them far more efficient.



## Insulation

Insulates against heat and cold saving on heating and air conditioning bills.



## Sound proofing

A sedum green roof can potentially halve the amount of noise pollution entering a building. For people who appreciate peace and quiet an Enviromat green roof is ideal for a garden office or studio.



## Good looks

Enviromat can help blend a building with its surroundings or transform it into an outstanding feature. Easy to install and maintain Sedum will flower for a good six months of the year and maintain its amazing textural foliage all year round.



# WHAT IS ENVIROMAT?

Enviromat is a pre-grown mat of mixed plants, mainly from the sedum family. The species have been specially selected for their ability to thrive in the sometimes hostile environment on top of a roof. They are drought tolerant, frost hardy and remarkably independent.

Sedum flowers appear in summer and are nectar-rich. That means that they are particularly attractive to butterflies, bees and other pollinating insects. In winter time, the sedum species in Enviromat keep their leaves which turn a lovely shade of cherry red. Using Enviromat gives you all year round interest.

## Strength

Enviromat is strong and easy to handle and is grown onto a special geotextile matting for strength and durability.

There is no need for extra soil because Enviromat contains its own growing medium.

## Low maintenance

Sedums can go for up to one month without watering. There is no need for mowing or pruning but Enviromat will need feeding twice a year. It prefers full sun or part shade and tolerates sea salt.

## Size/Weight

Enviromat is available in 1m x 1m slabs or 1m x 2m rolls. The saturated weight is 34kg/m<sup>2</sup>.

## Installation

Can be installed at any time of year. For more information see pages 5-8. Drainage mat for flat green roofs or soilless installation are also available.

## Seed Mix

Album	Ellacombianum
Floriferum	Hybr czar's gold
Montanum	Kamtchaticum
Oreganum	Pulchellum
Reflexum	Rupestre Angelina
Sexangulare	Spurium 'coccineum' purple carpet
Spurium stoloniferum	Spurium summer glory
Stenopetalum	Saxifrage Granulata
Sedum Hispanicum	

We cannot guarantee that each of the species listed above will appear in every piece of Enviromat but we do our best to make sure you get as much variety as possible.

## Green roofing

Architects, developers, garden designers and householders, have told us that they need a green roofing system that is easy to install, instantly beautiful, offers year-round benefits and is simple to maintain. Enviromat sedum matting is all that and more.

Our green roof build up is probably the least heavy of all the green roof systems available today. It is based on three simple, light weight components that are easily lifted on to a roof and simply unrolled like carpet.

Because it is relatively light weight, Enviromat is perfect for retro-fitting on to an existing building. Unlike many heavier green roof systems, Enviromat does not need to be installed onto soil and is ideally suited to adding interest to garden offices and outdoor rooms.

Whether you are a commercial roofer creating a green roof for a client; or a gardening enthusiast wishing to bring more wildlife into your patch, you will find that Enviromat is reliable, easy, and gives very satisfying results.



## Green roofing

Animal housing, sheds, summerhouses, extensions, garages or garden offices.



## Garden landscaping

Rock gardens, sunny banks, borders and topiary. It can also be used on top of walls or as a alternative to an ornamental grass lawn.



## Garden display

Window boxes and planters.



## Pond surrounds

Ideal for hiding unsightly pond liners.



## Highway landscaping

Low cost maintenance for road verges, central reservations and roundabouts.

# WHERE TO USE ENVIROMAT

## Garden

Enviromat sedum matting was first developed for the green roofing industry but it's proved itself to be great in the garden too. Used in a sunny place, Enviromat is drought tolerant, frost hardy, low maintenance and very attractive to pollinating insects such as butterflies, bees and hoverflies.

The plants in Enviromat are long lived perennials so provided they're happy in your garden they will put on an impressive display for the years to come.

At Enviromat, we estimate that there are around 100 mixed sedum and saxifrage plants in every square metre of sedum matting. All you need to do to get them established in your garden is to unroll them on to the same lightweight layers of matting as we use to create low maintenance green roofs.

Although not hardwearing in ornamental areas Enviromat can be used as a bee-friendly alternative to a grass lawn. It is also ideal for pond surrounds to hide unsightly pond liner and on slopes and banks, places where maintenance is difficult. Interest can be added to beds, borders and on top of walls or gabions. It is also a great way to soften the lines of a path or patio.

Buying Enviromat, with water retention matting already sown in place, drainage mat and heavy gauge polyethene, works out around 20% cheaper than buying the equivalent number of sedum plug plants – and, because Enviromat is despatched with 95% plant coverage, there's no waiting for the plants to grow big enough to fill in the gaps.





# HOW TO INSTALL ENVIROMAT

## Installation guidelines

Installing Enviromat is quick and easy. For best results, here are our recommended guidelines.

### Be safe

Be aware of Health and Safety issues especially when working at height. Installing Enviromat is not a one-person job.

### Don't install directly on to soil

Avoid installing Enviromat directly on to soil. Weed seeds can be blown in on the wind or dropped by birds into the sedum matting. During a Summer drought, weeds that are denied access to the soil will die out while the sedum plants will survive the dry conditions. Always put a layer of polyethene (such as butyl pond liner) and waterproof drainage mat on to soil before installing sedum matting.

### Check roof strength

When creating a green roof, check that the building is strong enough. If you are using the Enviromat build up described in this booklet, the roof should be able to support at least 120kg

per square metre. This allows for the weight of the green roof build up plus live loading eg snow or a person walking on the roof to maintain it. If in doubt, seek advice from the building's manufacturer or from a structural surveyor.

### Check waterproofing

Check too that the waterproofing is in good condition and that the roof drains efficiently. It is very difficult (and costly!) to repair leaks once the sedum matting has been installed.

### Avoid steep slopes

Steer clear of slopes greater than 20 degrees they give rise to all sorts of challenges with irrigation and anchorage.

### Ensure smooth surface

The surface of the roof or the ground should be smooth. Bear in mind that Enviromat must be in contact with the surface below at all times. Air pockets will lead to dead patches in the sedum matting. Enviromat will mould itself to gentle hills and hollows but it isn't flexible enough to cope with sudden changes of incline e.g. corrugated tin roofs.



### Protective edging

A living green roof needs an edging to protect your Enviromat against wind uplift. Remember that the edging must allow water to drain away and mustn't damage the waterproofing.

### Water management

On a flat surface (slope is 3 degrees or less) it's important to use drainage matting beneath your Enviromat to ensure that the roots are never sitting in water. Sedum plants cannot survive in waterlogged conditions.

Enviromat is supplied with water retention fleece lining sown in to store rainwater that will help the plants survive a period of drought. Sedum plants are drought tolerant but they are not drought proof. Water retention mat is a lightweight, relatively inexpensive fleece that holds up to 9 litres of water per square metre and helps make sure that the sedum plants have the right amount of water to stay healthy and vigorous.

On slopes of 10 degrees or more, irrigation should be available. This needn't be a complicated system, just make sure you can reach the plants with a hosepipe if you need to.

### Enviromat care

Avoid walking or kneeling on the plants as you are installing them. That way, they will settle in much faster.

Feed and water your Enviromat as soon as it is installed.

### Geotextile mat

Tucked underneath each piece of Enviromat is an extra flap of geotextile mat. Unfold this so that it covers the adjacent area and then put the next piece of Enviromat on top of the flap. This helps to anchor the sedum matting.

See installation video at [www.turfonline.co.uk](http://www.turfonline.co.uk)





# CARE AND MAINTENANCE

## Enviromat: Low maintenance

Compared with many garden occupants, Enviromat is remarkably easy to care for. The propagation has been done for you, there's no need for daily watering and it doesn't need mowing or trimming. However, it's important to remember that low maintenance is not the same thing as no maintenance. To get the best possible performance from your Enviromat – particularly if it's on a roof – it does need a simple, twice a year, maintenance regime with a little bit of extra TLC during periods of prolonged drought.

### Feeding

Sedum plants are very economical when it comes to fertiliser, however when they're growing in a shallow growing medium they do benefit from a twice-yearly application of slowrelease fertiliser.

The Growers of Enviromat recommend applying Enviromat Natural Green Roof Feed in early spring when temperatures begin to rise, and again in early summer to encourage flowering. Always follow the manufacturers instructions.

### Watering

In general, Enviromat is more likely to be damaged by too much watering than by too little. Sedum plants hate to have perpetually soggy roots. Having said that, Enviromat will tolerate heavy rainfall as long as it has proper drainage. If Enviromat is installed on a roof, it's vital to ensure that drainage outlets are cleared out at least once a year.

Enviromat will survive for a month or so with no watering and so most of the time, the British weather will absolve you of all watering duties but there are situations in which a little extra help is needed. Don't worry if the leaves turn red and appear to shrink, this is the plants' natural response to drought. However, if the leaves start to look wrinkled and rubbery (like a deflated balloon) then the plants need a good watering.

### Weeding

Enviromat will be delivered to you with a dense covering of plants. This makes it difficult for the majority of weeds to find a space to germinate in. However, there are always a few opportunists. If you have installed Enviromat to our recommendations i.e. put a waterproof material such as butyl





or polyethylene beneath the Enviromat build-up, you will find that in high summer, the sedum plants will revel in the hot dry conditions whilst any imposters will languish and die. Any really persistent weeds can be pulled out by hand.

### Bare Patches

When Enviromat leaves the production fields, approximately 95% of the matting will have a dense covering of plants. Occasionally though, small areas of the growing medium may become visible. Over time, the sedum plants will spread and fill in those patches. It is possible to speed up the process by breaking off little pieces of plant material from more dense areas and pressing them on to the bare patches. Within weeks, the 'sprouts' will have grown roots and established themselves.

### Pests and Diseases

There are very few pests and diseases that affect Enviromat. It doesn't taste nice, so won't be eaten; it can't be dug into, so cats aren't interested; insects like Enviromat but rarely damage it and the thick waxy coating on the leaves deters fungal diseases, so Enviromat is remarkably trouble-free.

Enviromat is remarkably easy to care for and surprisingly versatile.



## FLAT ROOF BUILD UP OR SOLID 'SOILLESS' SURVIVES

APPLICATIONS	Suitable for ground use and/or flat roofs with a 1-3 degree pitch. Sunny aspect with direct sunlight for at least half the day.
PITCH SUITABILITY	1 degree (minimum pitch) 3 degrees (maximum pitch)
COMPONENTS REQUIRED	Heavy gauge polyethene root barrier Drainage matting Enviromat sedum matting with sown in water retention fleece  Components protect waterproofing layer against root damage and allow adequate drainage whilst retaining enough moisture to support the plants through all but the most prolonged drought.
DEPTH (excluding vegetation)	48mm
SATURATED WEIGHT	For roof applications please allow for a weight of 120kg/m <sup>2</sup> to accommodate live loading.
MAINTENANCE	1-2 maintenance visits per year are essential.

# TECHNICAL SPECIFICATIONS

## PITCHED ROOF BUILD UP

APPLICATIONS	Suitable for sloping banks and/or pitched roofs with a 3.5 to 20 degree pitch. Sunny aspect with direct sunlight for at least half the day.
PITCH SUITABILITY	3.1 degree (minimum pitch) 10 degrees with no irrigation with up to 20 degrees if irrigation is available.
COMPONENTS REQUIRED	Heavy gauge polyethene root barrier Enviromat sedum matting with sown in water retention fleece  Components protect waterproofing layer against root damage whilst retaining enough moisture to support the plants through brief periods of drought.
DEPTH (excluding vegetation)	28mm
SATURATED WEIGHT	For roof applications please allow for a weight of 120kg/m <sup>2</sup> to accommodate live loading.
MAINTENANCE	1-2 maintenance visits per year are essential. On slopes greater than 10 degrees, or on exposed and windy sites, your Enviromat will need watering in hot dry weather.

## ENVIROMAT SEDUM MATTING TECHNICAL DATA

DESCRIPTION	Pre cultivated vegetation blanket on a patented nylon loop and geotextile base carrier with substrate growing medium and sown in water retention fleece
APPLICATIONS	Extensive green roofing, Low maintenance ground cover
COMPOSITION	
Geotextile	Geotextile carrier filter layer with bonded UV resistant nylon loops
Substrate Growing Medium	Recycled crushed brick and expanded clay shale with 20% composted green waste pH value 6.5-7
Vegetated Layer	95% coverage of mixed plant species, predominantly sedums and saxifrage plants
STANDARD ROLL SIZE	1000mm x 2000mm
NON-STANDARD ROLL SIZE	1000mm x 1000mm (slab) 1000mm width cut only in increments of 500mm For lengths of 2500mm or more, mechanical handling equipment will be needed.
SATURATED WEIGHT	34kg per square metre
THICKNESS	20mm excluding vegetation. Vegetation will be approx. 30-50mm high at despatch, One established, plants will reach a height of up to 120mm depending on growing conditions.

## HARROWDEN SEDUM MATTING TECHNICAL DATA

DESCRIPTION	Pre cultivated sedum vegetation blanket with substrate growing medium to FFL roofing standards.
APPLICATIONS	Extensive green roofing, Low maintenance ground cover
COMPOSITION	Biodegradable Coir Mat
Substrate Growing Medium	Recycled crushed brick and expanded clay shale with 20% composted green waste pH value 6.5-7
Vegetated Layer	90% coverage of mixed plant species, predominantly sedums. Sown mix includes: Album, Ellacombianum, Floriferum, Hybr. Czar's Gold, Montanum, Kamtchaticum, Oreganum, Pulchellum, Reflexum, Rupestre Angelina, Sexangulare, Spurium 'coccineum' [Purple Carpet], Spurium, Spurium 'Summer Glory', Stenopetalum, Stoloniferum, Saxifraga granulata, Sedum Hispanicum
STANDARD ROLL SIZE	1000mm x 2000mm
NON-STANDARD ROLL SIZE	1000mm x 1000mm (slab) 1000mm width cut only in increments of 500mm For lengths of 2500mm or more, mechanical handling equipment will be needed.
SATURATED WEIGHT	24kg per square metre
THICKNESS	15mm excluding vegetation. Vegetation will be approx. 30-50mm high at despatch, One established, plants will reach a height of up to 120mm depending on growing conditions.

## WATER RETENTION SOWN IN FLEECE TECHNICAL DATA

DESCRIPTION	Light weight fleece provides some water storage.
APPLICATIONS	Use beneath Enviromat sedum matting on flat roof, pitched roof and ground applications.
COMPOSITION	Recycled fibres 80% man made, 20% organic
WATER HOLDING CAPACITY	9 litres per square metre
SATURATED WEIGHT	9kg per square metre
THICKNESS	8mm

## GREEN ROOF DRAINAGE MATTING TECHNICAL DATA

DESCRIPTION	Light weight drainage mat comprising two layers of geotextile filter layer with bonded UV resistant nylon loops bonded between them.
APPLICATIONS	Use beneath Enviromat sedum matting and water retention matting on flat roof and ground applications.
THICKNESS	20mm



## SUPPLIED BY HARROWDEN TURF

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For more information about Enviromat, its installation, care and maintenance, please visit: [www.enviromat.co.uk](http://www.enviromat.co.uk) or phone us on 01638 742 901

