



## **Green Roof Systems Overview**

The vegetating of a roof surface is described under a number of generic terms: 'brown roof', 'biodiverse roof', 'living roof' etc. Each has evolved from the original terminology 'green roof' for marketing reasons or to differentiate specific methods of achieving habitat creation for flora or fauna.

To further complicate matters there are generic technical descriptions, used globally in standards and code of practice, to describe the construction of green roof systems. These are Extensive, Semi-Intensive, Intensive and Biodiverse.

Following is a guide to some of the more common options available together with a brief overview of what they are and what they provide.

Extensive    Green Roof/Sedum Roof   Sedum Blanket: A mixture of hardy succulents, primarily Sedum species supplied in a pre-cultivated blanket (20-25mm thick).   Circa 6-9 species m²   Plug Planted: Pre-grown hardy succulents, primarily Sedum, sinctalled at a rate of 16-20 per m²   Chosen and   Cover on installation   Suitable for all moving the weight 100   Cover on installation   Suitable for all moving the suitable for all moving to suitable for all moving the following the f	itches
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kg/m² @   colour/flowering   included for addi	
90mm schemes diversity.	lioriai
depth depth	
Hydroplant & 70mm, Saturated Lowest cost 0% plant cover	on
Seed: increasing to weight 100 solution installation.	
Sedum cuttings 90mm in kg/m² @ especially suitable	
and seed sprayed exposed 70mm for unseen or Approximately 1	8-30
in a mulch coastal depth large scale roofs. months to develop	100%
solution locations cover.	
Saturated	
Circa 6-9 species weight 125	
$m^2$ $kg/m^2$ @	
90mm	
depth	





Class	Generic term	Planting Options	Substrate depth	Typical weight	Benefits	Notes
Extensive	Green Roof/ Wildflower Roof	MeadowMat wildflower blanket: A mixture of grasses, wildflowers and hardy succulents supplied in a pre- cultivated wildflower turf (30mm + thick)	110mm substrate depth depending on plants chosen and location	Saturated weight 180 kg/m² @ 110mm depth	90-95% plant cover on installation.	Can be tailored to provide optimal growth in extreme rooftop conditions.  Species count can be specified for BREEAM/Code for Sustainable Homes benefit.  Suitable for all roof
		Plug Planted: Pre-grown wildflowers, grasses, bulbs and hardy succulents, installed at a rate of 16-20 per m²	90-150mm substrate depth depending on plants chosen and location	Saturated weight 125 kg/m² @ 90mm depth  Saturated weight 205 kg/m² @ 150mm depth	100+ species enabling tailoring of planting to suit building geography, topography, orientation, shading and/or colour/flowering schemes.	shapes including pitches up to circa 60° <10% plant cover on installation.  Approximately 18-24 months to develop 100% cover.  Can be tailored to provide optimal growth in extreme rooftop conditions.  Species count requirements can be specified for BREEAM
		HydroSeed/Seed: Wildflower seed sprayed in a mulch solution onto a prepared substrate Or Wildflower seed hand sown onto a prepared substrate. Up to 38 species m²	90-150mm substrate depth depending on plants chosen and location	Saturated weight 125 kg/m² @ 90mm depth  Saturated weight 205 kg/m² @ 150mm depth	Lowest cost solution especially suitable for unseen or large scale roofs.	and the Code for Sustainable Homes assessment.  0% plant cover on installation.  Approximately 18-30 months to develop 100% cover.  Can be tailored to provide optimal growth in extreme rooftop conditions.  Species count can be specified for BREEAM/Code for Sustainable Homes.





Class	Generic term	Planting Options	Substrate depth	Typical weight	Benefits	Notes
Biodiverse	Brown Roof	Left to nature to self colonise.	50mm to 450mm	Loading dependent	Left to nature and plant species establishes	0% plant cover on installation.
			dependent upon the design and	upon the design and specification.	without human intervention.	Indeterminate time to develop cover.
			specification.			Exposed uneven substrate is utilised to create a habitat for a variety of Flora and Fauna native to Brownfield sites.
						Includes habitat incidentals to attract beetles, insects, birds etc
Biodiverse	Biodiverse/	Habitat	50mm to	Loading	Can support	Can enhance site ecology
	Green Roof/	Replication or	450mm	dependent	and/or enhance	for common, uncommon
	Living Roof	Enhancement:	dependent	upon the	planning	and rare species,
		The use of plug	upon the	design and	applications.	including those under
		plants identical or	design and	specification.		Biodiversity Action Plans
		similar to the	specification.		Plant species	(BAP's).
		local native plants, creating an integrated habitat template that mimics the building's surroundings.			selected in sympathy with the local environment or blending or masking a project within its locality.	Can focus on support for specific fauna such as Bees and Butterflies, Invertebrates and Birds, Bats etc.
		Samounumgs.			Within its issuincy.	Plant cover varies on specification.
						Time to develop 100% cover dependant on specification.
						Uneven substrate is utilised to create a habitat for a variety of native Flora and Fauna.
						Includes habitat incidentals to attract beetles, insects, birds etc
						Can support Biodiversity Action Plans (BAP's).





Class	Generic	Planting Options	Substrate	Typical	Benefits	Notes
	term		depth	weight		
Intensive	Green Roof/	A broad variety of	300mm plus	Saturated	Amenity function	Only suitable for low
	Roof	trees, shrubs,	depending	weight	at roof level	pitched roofs.
	Garden/	bushes, grasses	on planting	450kg/m²	creates more	
	Roof Terrace	and other plants.	specified	plus	urban living	Can be used to create
				depending	space.	social space, sports space
				on		or simply enhance the
				specification		working environment.
						Can be used to produce
						foods.



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