

# UK Green Roof Substrate Classes

## SkySuperstrates

These green roof substrate classifications were developed by a collaboration between the University of Sheffield Green Roof Centre and department of Animal and Plant Sciences and Boningale Nurseries GreenSky department.

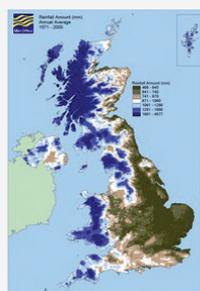
They are designed to enable selection of different substrates according to the performance required of the green roof, and can be selected according to the site's rainfall pattern. Supporting decision tools and compliant products can be found at [www.boningale-greensky.co.uk](http://www.boningale-greensky.co.uk)



Class	Description	Use	Nutrition		Physical parameters	
			Total Nitrogen	Extractable Phosphorus	Air Filled Porosity	Water Holding Capacity
			Quantity mg/g	Quantity mg/g		
Sky-1	High water holding, high nutrition	Dry location, fast growth	0.2690	0.003795	19.7%	45.0%
Sky-2	High water holding, low nutrition	Dry location, low maintenance	0.3984	0.002518	18.3%	43.9%
Sky-3	Low water holding, high nutrition	Wet location, fast growth	0.3731	0.003143	39.0%	28.8%
Sky-4	Low water holding, low nutrition	Wet location, low maintenance	0.4317	0.002827	37.0%	31.8%

### NOTES

1. Wettest to driest areas of the UK range from blue to brown respectively on this Met Office map.
2. Fast growth implies larger plants and more prolific flowering, and faster coverage of plug plants. It will also encourage more weeds and require more skilled and regular maintenance to recognise and remove undesirable species and excessive plant growth.
3. The usage directions are guidelines to be used with discretion and consideration of other environmental factors. In areas of medium rainfall the aspect of the roof, exposure to wind and choice of planting will have more bearing on the necessity for water holding.
4. Nitrogen and phosphorus contents refer to the quantity present in the organic fraction of the substrate.
5. Sky-1 and Sky-3 substrates are more nutrient rich despite having lower total nitrogen content because more of the nitrogen in those substrates is bio-available. Sky-2 and Sky-4 substrates are less nutrient rich despite having greater total nitrogen because more of the nitrogen is recalcitrant. The more nutrient rich Sky-1 and Sky-3 substrates have shown 30% more plant growth in laboratory tests than the less nutrient rich Sky-2 and Sky-4.
6. All data taken from laboratory batch testing, exact figures may vary.
7. In line with FLL guidelines 2008.



Class	Density Kg/m3	
	Saturated	Dry
Sky-1	1421	841
Sky-2	1412	884
Sky-3	1372	813
Sky-4	1392	798

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