
GREEN ROOF AND WALL SYSTEMS

**A CALU
DEVELOPMENT
FARM FACTSHEET**

March 2011



INTRODUCTION

Green roofs and green wall technology have become an established part of the of planning and construction processes in new developments. In Wales, the Welsh Assembly Government strategy for sustainability has created a substantial market for the new green roof technology. An example is the Glyndŵr University Resource Centre in Wrexham which has been recently completed on the Plas Coch campus. The Centre is located in a prominent position on the main approach to Wrexham and the substantial Sedum roof covering the building is highly visible. Glyndŵr University are currently investigating a number of green wall options for its main Plas Coch building.

CASE STUDY

A successful application of the Sedum roof system was incorporated into the Welsh Assembly Government business park at Aberporth in Ceredigion. Fully completed in 2009, the business park (developed on the site of an old MOD airfield) accommodates a number of research and development companies requiring large, open plan buildings for operations based around the burgeoning Aerospace Industry. The clean contemporary style of the large buildings required a low energy and sustainable system that would reduce the visual impact of the substantial roof area. It was also a demonstration of the Welsh Assembly Government's commitment to sustainability in large scale development in the Principality.

SPECIFICATION

Prior to development, the landscape architects for the project (Lingard Styles) initially carried out a number of controlled trials on site to establish the most effective species mixture. A meadow grassland system was rejected at an early stage because of the limited biodiversity and high maintenance.

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The test beds were sown and planted with three different mixes of Sedum species using three different systems of turfs, vegetative sowing and plugs. Blackdown Horticultural Consultants of Somerset were the selected Sedum suppliers and contractors, and inspections of their production fields in Somerset were carried out to establish the quality of the plant material required. Sedum turf was grown on a geotextile membrane in the field to facilitate lifting. Blackdown were selected because of their proven expertise in growing, supplying, laying and eventual maintenance of green roof systems.

The 20mm thick Sedum turfs were laid on 50 mm depth of light soil substrate over a Floradrain plastic roof system (which incorporated drainage). Planting was carried out over an 18 month period. 30% of the roof areas were sown with 20mm pieces of vegetative Sedum material. As part of the finished installation, 500mm pieces of decayed wood were placed on the roof to enhance habitat value and biodiversity. There was no irrigation system installed and no fertilisers incorporated into the soil preparation.

LONG TERM MAINTENANCE

Blackdown were engaged to maintain the completed green roof. Quarterly visits were carried out. Within the first year an attractive close knit sward was established and during the first two years of establishment only minor weeding was required. Ragwort infestation occurred in the third year and this was manually removed. No herbicides were used. Some minor problems did occur with bird damage but this was quickly rectified with patch planting.