

WEST HAM BUS GARAGE KALZIP LIMITED



Installations of Kalzip Nature Roof rarely come more impressive than Transport for London's Bus Depot in West Ham. The state of the art facility is Europe's largest bus garage and the most environmentally sustainable in the UK, exceeding the Mayor of London's target of 20 per cent on-site renewables generation and utilising eco-solutions such as biomass boilers and a 100kW wind turbine.

The £48 million West Ham Bus Garage was designed for Transport for London by Pringle Richard Sharratt (PRS) Architects of London and constructed by Mansell Construction Services in order to meet the increased demand for public transport during the London 2012 Olympic Games. PRS specified a Kalzip roof system with 400 square metres of extensive nature roof planting. The project was completed in collaboration with green roof specialists Blackdown Greenroofs.

The final design boasts a striking four-span Kalzip 65/400 barrel vault aluminium standing seam roof which incorporates nearly 4,000 square metres of Blackdown's green roof element on the eastern and western vaults. Kalzip roofing and structural decking sheets were also incorporated into the roof design, with perforated horizontal cladding sheets being installed around glazed areas and Kalzip fabrications, including eaves fascias, installed at both ends of the barrel vaults. Blackdown's drainage layer was installed within the seams of the vaults, in preparation for the planting element.

For applications such as the West Ham Bus Depot, where an instant result is required, sedum matting offers low level planting with an instant coverage of 95%. The sedum matting grown by Blackdown at their Somerset facility, comprises a bio-degradable base layer (the coconut bi-product Coir is being used increasingly for this purpose), followed by 20-25mm of growing medium, or substrate. Sedum cuttings and seed are then spread onto the substrate and left to grow for about a year. When ready for use, the mat is cut into lengths measuring 1x1.5m, which are then easily transported to site.

The completed facility is the most environmentally sustainable bus garage in the UK, achieving an 'A' rated Energy Performance Certificate. Its eco-friendly design and structure are predicted to cut CO₂ emissions by 27 per cent compared to a building using traditional materials.



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