



Sustainability

Case study

Bosch Warehouse and Offices

Kettering

Architect: Stephen George & Partners

Main contractor: Winvic Construction

Cladding contractor: CA Roofing Services

System manufacturer: CA Group

System type: Built-up

Profile reference: CA LT 17/1000

Colorcoat® product: PVF2 (walls) and HPS200® (walls and roof)



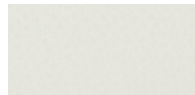
Goosewing Grey



Merlin Grey



Alaska Grey



Oyster



Rise of the super shed

The new Bosch Siemens Homeware (BSH) warehouse and offices in Kettering are the driving force behind what Prologis Developments believes is one of the largest distribution, warehouse and manufacturing developments in Europe. When complete, the site will comprise 204,390m² of internal lettable space. The project has demanded not only major construction and infrastructure work on the site but also the re-modeling of nearby roads and the construction of a new ‘hamburger’ roundabout.

The BSH development is itself an impressive size; at 39,716m² including 2,787m² of two storey office space and a major warehouse facility that is 11.5m tall to the underside of the haunch. Size, however, is not the only impressive thing about this development. The building is fully compliant with Part L of

the Building regulations, meaning that it has been rigorously pressure tested to ascertain that it will adequately conserve heat to the stringent new requirements designed to reduce fuel and power usage.

This high level of construction quality has been achieved by a project team which has worked together from the outset. Architect Stephen George & Partners has consulted cladding system specialist, CA Group, and its installation division CA Roofing Services on all aspects of the building’s roof and façade design in order to meet Part L. “CA Group have been involved extensively with both the developer & architectural practice to define the cladding specifications for this Prologis project,” says director Paul Bridges.

The outcome is a highly designed TwinTherm™ built up cladding system for the warehouse and a composite panel solution for the offices. CA Roofing Services started installing the products on site in June 2005 and work was completed in October 2005. The built up elements on the warehouse system are designed to the CA Group's TwinTherm™ system incorporating the company's CALT 171000 liner panel; a minimum of 160mm of Therma-quilt; related CA components; and an outer covering of 0.7mm Corus Colorcoat HPS200® to the roof or Corus Colorcoat® PVF2 to the walls, to achieve a designed thermal U-value 0.25 W/m²C.

All cladding terminations, joints and corners have been sealed with profiled fillers, Therma-Foil tape or mastic to create robust details with no air leakage.

In all, some 34700m² of Corus Colorcoat HPS200® in Goosewing Grey has been installed on the roofs of the warehouse and offices - 10% of the total roof area is covered in roof lights. Over 5000m² of Corus Colorcoat® PVF2 in Alaska Grey and 3900m² in Oyster have been installed to the warehouse building's elevations.

The composite panels used on the elevations of main office & hub offices include 300m² of Corus Colorcoat HPS200® in Merlin Grey and 600m² of Corus Colorcoat® PVF2 in Oyster.

"All material specs whether built up or composite panels are all Part L compliant in terms of thermal performance & air tightness levels," says architect Marcus Smith. The air tightness level of TwinTherm™ has been tested down as low as 1.03m³/hr/m² at 50pa and currently averages between 2 and 3/m³/hr/m² at 50pa. This is the most significant contribution in ensuring the best possible thermal performance of the building envelope.

"The building fully complies with the Building Regulations as approved by Butler & Young Approved Inspectors. The building also passed the air tightness (pressure) test, and achieved 1.05m³/h/m², beating the required maximum of 10m³/h/m² by some margin" Marcus Smith, project architect



The warehouse, a steel frame on concrete pad foundations was a real challenge to reduce design with an eye for aesthetics. The architect has reduced the overall mass using changes in colour and texture whilst also generating a focal point for the building from the key public vantage point on the adjacent new roundabout.

The two storey offices were brought to the fore to provide visual interest to prominent views across the site. An external steel framed structure, with integral brise soleil providing solar shading, and feature cladding panels have given the building a strong architectural presence. The main entrance to the office is expressed with a two storey tower capped with an inverted gull-wing roof to emphasise the key pedestrian interface with the building.

All components used within the TwinTherm™ roof and wall system are either recyclable or reusable and present no environmental issues now or in the future. The Therma-Quilt™ insulation is manmade mineral fibre and presents no problems if sent to landfill: in some instances it can even be reused.

The Corus Colorcoat HPS200® pre-finished steel is free from heavy metals and phthalates, significantly reducing the pollution of rainwater run-off. Indeed, the product has successfully undergone the testing regime for BS: 6920 "Suitability of product for use in contact with water intended for human consumption".

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