

BRE Innovation Park, Watford

BREathing life in to sustainable refurbishment



Project Type:

Refurbishment

Scope:

Renewable technologies showcase on healthcare buildings.

Location:

BRE Innovation Park, Watford

Architect:

White Design

Main Contractor:

Willmott Dixon

Cladding Contractor:

CA Roofing Services

System Manufacturer:

CA Building Products

System:

SolarWall® perforated Transpired Solar Collector (pTSC). 24m² installed using Colorcoat Prisma® in Grey Aluminium

Energy Savings:

3,546 kWh

CO₂ Savings:

2 tonnes per year.

A SolarWall® perforated Transpired Solar Collector (pTSC) has been specified as part of the Willmott Dixon Community Healthcare Campus at BRE Innovation Park Watford. The idea behind the building is to showcase renewable technologies that can help achieve the NHS's own zero carbon 2018 targets when applied to health care projects.

The Project encompasses a vertically laid SolarWall® feature band supplied using Corus Colorcoat Prisma® in Grey Aluminium, the ideal choice to deliver eye-catching buildings that will stand the test of time.

The principle of SolarWall® is simple. Installed as an additional skin to a building's southerly facing elevation, the system consists of a pre-finished steel sheet with thousands of tiny perforations uniformly spaced across the full face of the collector.

As solar radiation strikes the surface of the SolarWall® it is absorbed. Solar heat conducts to the thermal boundary layer of air which lines the outer surface of the panel. The heated boundary layer of air is then drawn through the perforations into an air cavity which is created between the SolarWall® and the original elevation behind.

From the air cavity, the fresh, solar heated air can then be used directly as building ventilation air, or if required utilised as a pre-heater for the building's main heating system, thereby reducing the amount of energy required to heat the building and the resulting CO₂ emissions.

Installed by CA Roofing Services, CA's principal installation division, the 24m² SolarWall® has been mounted onto timber cladding, the first instance of the SolarWall® (pTSC) applied to this type of cladding in the UK.

David Young SolarWall® Design Engineer comments "SolarWall® is ideal for this type of project, where there is a need to heat a set fresh air requirement. The SolarWall® system has been specifically designed to work with the buildings heating & ventilation unit to ensure optimum performance and long term benefits. Integrating the SolarWall® into the building's design has allowed it to become part of a complete solution, helping to reduce heating costs and CO₂ emissions."

The bespoke SolarWall® system on this project is estimated to save 3,546kWh in energy and 2 tonnes of CO₂ per year.