LIGHTING
DIVISION

# Westfeild Shopping Centre Control System

Client: Westfield Shopping Towns  Year of Completion: 2008
Main Contractor/Customer: Skanska McNicholas

At the brand new Westfield White City Shopping development in East London, it was important to the client to achieve eye catching design as well as practicality. The North West Bus Interchange forms one of the main entrances to the shopping complex and needed a striking entrance feature. The client opted for an ETFE cushion canopy with a complex control system.

This inflation unit is the systems crowning feature. An intelligent system designed to provide maximum information and flexibility for us and for the client, it is simply not in the same league as the more traditional ETFE inflation systems. Previously, a crude pressure switch would detect low pressure in the cushions and turn on all fans at maximum speed until optimum pressure was achieved. Naturally, the pressure would decrease over time and the fans would constantly repeat this process, draining energy and putting unnecessary strain on the equipment.

Our cutting edge approach uses the fans constantly to minimize the energy required and to continually monitor the cushion conditions. Multiple sensors, located throughout the structure, monitor the external environment and adjust the pressure of the cushions accordingly. For example, in high wind speed, pressure will be increased to compensate. With an inbuilt dehumidifier, the unit can anticipate snow by monitoring the surrounding temperature and humidity levels, increasing the internal air pressure and drying the air only when needed to prevent condensation within the pillows themselves.

As well as being pre-emptive, the inflation control system is more energy efficient than traditional methods. The fans themselves take energy to start/stop and where before, fans were turned on at maximum speed, the brushless duty fan now runs constantly; a duplicate system alternates taking turns to run allowing time to replace a faulty fan when required. The environment sensors now allow the system to run at lower pressures for most of the time with the increased pressure required for extreme weather conditions only called upon occasionally.

The whole system has the ability for remote diagnostics which can be accessed from anywhere in the world. We also have key alarm states that will automatically email the office and alert staff to potential problems on site, such as mass air leaking due to vandalism, and therefore ...see http://www.architen.com for more information.

**Location:**
London, UK

**Market Sector:**
Retail

**Scope Of Works:**
Design
Manufacture
Project Management
Install

**Function:**
Remote Diagnostics