

Press Release
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HCA Ducting Provides the Peak of Comfort at Himalaya

High Care Air (HCA) has supplied a bespoke fabric ductwork system to deliver ventilation, heating and cooling in the new Himalaya visitor centre at Twycross Zoo in Leicestershire.

The Himalaya is a single-storey grass-roofed building with a central glass atrium that comprises a 300 seat restaurant, retail areas and private function facilities.

Throughout the project HCA worked closely with building services contractor Briggs & Forrester to arrive at a design that complemented the building's interior while addressing key engineering challenges.



"The design of the building necessitated the use of a bespoke system and HCA adopted a very flexible approach to help us arrive at the best solution," recalled Ray Mead of Briggs & Forrester. "They were also very responsive through the course of the project and the technical support was of high quality."

In the main restaurant area the fabric ducting system comprises a large plenum circling the glass atrium with branches angling downwards from the corners of the plenum to follow the pitch of the roof. A limited amount of air diffuses gently through the weave of the light grey plenum fabric and is supplemented by higher volumes of air introduced through laser-cut diffusers in the branches. This arrangement achieves effective air distribution with optimum entrainment while avoiding draughts.

In the function room the fabric ducts are installed on a multi-pitch ceiling and use small (450mm diameter) diffusers that introduce air at a high level so that it falls gently into the occupied space. The individual ducts are joined by zipped bends, making installation very straightforward.

HCA supply the Prihoda system of Textile Ventilation which specialises in bespoke sizes of Laser Cut diffuser perforations upon the duct circumference.



Paul Russon for HCA adds: "We are able to model the air flow from the diffusers very accurately for any range of supply conditions, we have velocity software that tells us the speed and deflection of air patterns depending upon the supply delta t. The flexibility of being able to supply any perforation size in any number of rows at any point on the diffuser circumference and to watch the modelled effect predicted in real time is a very powerful tool. We used this software to ensure we optimised the air flow pattern for the Twycross visitors centre whilst maximising mixing and minimising occupied zone velocity.

The fabric chosen for the Himalaya centre is Flame Retardant, nonshedding to clean room standards and includes an anti-bacterial coating. HCA systems are available in nine colours as standard.

Ends



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