

Press Release
November 7th 2011

Protecting Airtightness – Above and Beyond!

Creating a stable internal environment for a server room has been achieved by thinking 'outside the box'.

The result has been attained through use of innovative building membranes Protect VC Foil and Protect TF200 Thermo, both produced and supplied by leading building materials company Glidevale. The combination is yielding a *constant* thermal performance (of $0.74\text{W}/\text{m}^2\text{k}$), a 65% improvement over equivalent air leakage criteria, and enhancing the fire extinguishing gas containment performance by almost 300%!

South Ayrshire Council commissioned MGP Architects to re-use an existing, former depot, to create an airtight, stable environment in which to house the council's mainframe computer systems. Key design elements were that the building would be environmentally stable, and airtight, to maintain an ideal ambient environment for the moisture-sensitive, high value computer servers within, and to ensure the cooling and gas- powered fire protection systems would function effectively.



MGP's solution was to design a completely isolated 'building within a building', using a metal and timber frame with Protect VC Foil and TF200 Thermo forming core elements of the walls, floors and ceiling/roof. Built by Ashleigh Construction, the structure passed all appropriate design criteria: fire testing required the room to contain the extinguishing gas for a minimum 10 minutes, yet it was contained for 29 minutes; air leakage of 0.137m^2 was achieved, over the maximum specification of 0.401m^2 .

Glidevale's Protect VC Foil highly reflective low emissivity vapour control layer is claimed to achieve a reduction in heat flow through floors, roofs, ceilings and walls. Installed in timber frame walls with a 20mm airspace, Protect VC Foil is equivalent to at least 34mm of mineral wool, helping to achieve the required U value with a lesser thickness of insulation. Glidevale's Protect TF200 Thermo reflective breather membrane provides $0.77\text{m}^2/\text{KW}$ thermal resistance, a 272% thermal resistance improvement over a standard unventilated airspace of 20mm or more. It has a water vapour resistance of 0.55MNs/g , which meets the requirements of NHBC, TRADA and BS5250. Used together, Protect VC Foil and Protect TF200 Thermo ensure heat retention within the building is optimized, and fortuitous air leakage is minimised.

Both membranes form key parts of Glidevale's BuildTight range which covers membranes for roofs, walls and floors, designed to optimize heat retention within, and bring air leakage to 'best practice'



levels of $3\text{m}^3/\text{hr}/\text{m}^2$ or below. The package further includes accessories to help fix the membranes in place along spans and effectively seal membrane joints, and strategies to achieve 'well sealed' ceilings, further enhancing airtightness.

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