

PRESS release

Isover's lightweight ducting makes its UK debut

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Climaver Plus R, a pre-insulated lightweight ducting system from Saint-Gobain Isover, has delivered significant cost savings on its first UK application - the installation of a new heating and ventilating system as part of a health centre refurbishment.

Fitting new ductwork within the 1970s concrete panel construction Hunter Health Centre on Andrew Street, East Kilbride, Lanarkshire, presented a particular challenge to Glasgow-based Hulley & Kirkwood Consulting Engineers.

While the new air handling unit could be housed in an existing plant room, there was no available space in the suspended ceiling or floor cavity in which to install the ductwork.

A further complication was that the building's existing timber-framed flat roof, although sound, lacked the strength to support the weight of conventional externally mounted galvanised steel ducting. The only option – apart from strengthening or replacing the roof, which would have been costly and time-consuming - was to find a lightweight alternative.

The solution was Isover's Climaver Plus R, a Class O fire-rated pre-insulated rigid ductwork system that is approximately one-fifth the weight of conventional steel ductwork and is manufactured from high-density glass mineral wool board faced on both sides with a robust aluminium foil surface that acts as a vapour barrier. The external surface is also reinforced with a glass fibre mesh for additional impact resistance and flexural rigidity.

Climaver® Plus R also achieves Euroclass B fire classification. Euroclass is the harmonised European classification system for products, measuring their reaction to fire, and is intended to replace old national standards such as British Standards. For reference, the European Supplement to UK Building Regulations asks for a minimum of: B-s3-d2 as an alternative to current Class O. Climaver® Plus R performs better than this.



Saint-Gobain Isover

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Hugh McArthur, mechanical engineer with Hulley & Kirkwood, explained: "Climaver Plus R has a weight of 1.6 kg/m², standard 0.8mm galvanised ductwork a weight of 6.2 kg/m². If you add on thermal insulation at 1.6kg/m², this gives a total of 7.8kg/m² for conventional ductwork. Climaver Plus R therefore, is about one-fifth of the weight of conventional ductwork and insulation."

Despite its widespread use on mainland Europe for many years, the Hunter Health Centre project was the first UK application of Climaver Plus R. Isover has now established a Climaver team to market and provide technical support for the system in the UK.

Climaver's fabrication process allows precision-cut joints to ensure low leakage rates and improved performance and energy savings and the 300m² of ductwork for Hunter's pioneering project was fabricated at the Glasgow workshop of specialist sub-contractor Anderson Mechanical Services (AMS) and was delivered to site ready for installation.

"We found it a very tidy system and easy to manufacture. The jointing method is especially straightforward and made the fabrication quick and easy," said AMS managing director Bill Anderson.

After fabrication, the Climaver Plus R ducting was given a weatherproof outer layer of white VentureClad - one of two weather protection systems recommended by Isover. Weather protection is recommended for all external Climaver Plus R installations.

Hulley & Kirkwood discovered Climaver Plus R through contact with Isover's specification manager Jeff Galloway.

"We do not suggest that Climaver Plus R will replace traditional ducting in all applications but the Hunter Health Centre was crying out for the system. Where weight is a factor or space is limited, it has huge advantages," said Jeff.

In ceiling voids and risers, the pre-insulated, Climaver ducting can be installed tight into corners since there is no need to allow space for the subsequent insulation layer.

"It also has excellent acoustic performance and a good environmental profile since it is up to 80% recycled glass," he added.



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The successful use of Climaver Plus R on the Hunter Health Centre has encouraged Hulley & Kirkwood to use the system on a second project, this time within a lecture theatre at the University of Glasgow's Adam Smith Building. Here the system is being installed within the theatre's suspended ceiling where its inherent acoustic properties will provide additional attenuation from the noise generated by the ventilating system.

* More and more specifiers and users are insisting on the use of insulation materials that not only deliver technical performance but also come with exceptional green credentials, with the BRE Green Guide to Specification a common point of reference. In this, glass mineral wool insulation can achieve an A+ rating. It also boasts zero ODP (Ozone Depletion Potential) and zero GWP (Global Warming Potential).

Manufactured from a combination of silica sand, the earth's most abundantly naturally-occurring mineral, and recycled glass, up to 80% of the raw material used in the production process is recycled post-consumer glass, from building regeneration projects for example, or flat glass manufacture that would otherwise go to landfill, making Isover one of the most environmentally sustainable insulation products on the market today.

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