

CASE STUDY SEP04/A

LIGHTWEIGHT KOOLDUCT IS IN TUNE WITH THE ROYAL PHILHARMONIC ORCHESTRA'S NEW HOME AT CADOGAN HALL

The lightweight qualities of the Kingspan KoolDuct zero ODP System of pre-insulated ducting, the latest in air ducting technology, struck the right notes at Cadogan Hall, the new home of the Royal Philharmonic Orchestra.

It has been a transition from sermons to symphonies for the early 20th century listed building that was once a Christian Science church. It has now been converted to a 900-seat concert hall which provides the world renowned orchestra with its first permanent base.

Great care was taken by everyone engaged on the project to ensure that 21st century construction techniques and materials struck perfect harmony with the period character of this fine old London building which has been developed for Cadogan Estates.

For instance, the weight of the ductwork was a serious consideration as the existing listed steel truss roof had to be retained – but had not been designed to support the loadings imposed by the concert hall's new ventilation system.

It was agreed by M&E Consulting Engineer Voce Case, now merged with the Environmental Engineering partnership, and M&E Contractors Gratte Manly that the Kingspan KoolDuct System was the ideal solution because it is just an eighth of the weight of sheet metal ducting. Choosing the Kingspan KoolDuct System removed the need for additional support members, which would have been difficult to install within the listed structural element.

A total of 300 square metres of the lightweight but strong Kingspan KoolDuct System was installed within the roof void area by registered fabricator Sterling Thermal Ltd who assembled the System on site in order to route it through the original lattice steel structure – thus avoiding a significant redesign and a more lengthy construction period.



Calvin Bruce, of the architects Paul Davis Partners, said: "The Kingspan KoolDuct System was chosen primarily to minimise extra load on the ceiling and roof."

Paul McCubbin of Sterling Thermal, said: "In addition its lightweight composition and the fact it was assembled in sections on site made the KoolDuct System much easier to put into place and install in such a high building."

As part of Kingspan Insulation's commitment to combine product innovation with social responsibility Kingspan KoolDuct now has zero Ozone Depletion Potential (zero ODP) as standard, being fabricated from CFC/HCFC-free rigid phenolic insulation panels. The panels are faced with reinforced aluminium foil on both sides making Kingspan KoolDuct zero ODP very durable and also aesthetically pleasing when used in open to view applications.

Other benefits of the 'complete system technology' enhance its appeal to specifiers. Unlike traditional sheet metal ducting, which needs to be lagged with insulation as a second operation, Kingspan Koolduct zero ODP requires only a single fix installation, making it a high-speed option for projects where time is critical. The System's low level of air leakage and superior insulation properties can result in electrical consumption savings. With the Kingspan KoolDuct zero ODP System, ventilation air flows over aluminium surfaces and does not have contact with any material containing loose fibres, making it ideal for high specification projects.

Rigid phenolic insulation offers several further advantages, including excellent fire resistance with negligible smoke emission and first class moisture resistance.

A CIBSE accredited CPD presentation – which addresses key issues such as running costs and environmental implications for all insulated related applications – is available from Kingspan Insulation Limited.

Also available are product-specific presentations, featuring the revolutionary Kingspan KoolDuct zero ODP System. These can be adapted to suit individual audience requirements.

DATE: 02.09.04



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