

CASE STUDY

Seven schools share robust roofing systems



Stopsley High School Luton is one of a batch of seven schools in the HLR building programme. SIG Design & Technology and SIG insulation are working with the Interserve-Kajima consortium on these secondary school projects to deliver a value-engineered, robust roofing solution.

Project: Hertfordshire, Luton & Reading
Priority School Building Programme (PSBP)

Architect: [Rock Townsend](#)

Main contractors: [Interserve Construction](#)

Roofing contractors: [Briggs Amasco](#), [MAC Roofing](#)
and [AC Plc](#)

Membrane: IKO PermaTEC hot melt

SIG Design & Technology and SIG Insulation are working with the Interserve [Kajima](#) consortium on a batch of seven secondary school projects to deliver a value-engineered, robust roofing solution as part of the Hertfordshire, Luton and Reading (HLR) Priority School Building Programme. Four of the schools including Stopsley High School Luton have been designed by London architects, Rock Townsend.

The roofing solution for all seven projects needed to overcome a number of specific design challenges based on three core challenges; the waterproofing of a mixture of concrete deck and steel deck substrates; a robust inverted roof system to cope with ongoing foot traffic and maintenance of the M&E plant sited on the roof and meeting the stringent acoustic performance requirements of BB93. The roof design needed to take into account the overall weight of the roof element, and ideally, utilise a tried and tested system.

SIG and [IKO Plc](#), our manufacturer partner, engaged at very early stage to provide technical liaison between Interserve and the project architect to develop the correct technical and most cost-effective waterproofing solution. It attended design meetings to assist with the production of a robust detailed specification and a simplified roof design.

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Critically, early involvement facilitated thermal compliance as a flexible thermal zone was created to compensate for other areas where thermal requirements were difficult to achieve.

The HLR roofing project follows SIG Design & Technology's unique protocol which has been developed to ensure that a roof's design meets a building's requirements. Eight specific steps follow the process from product selection and design expertise through to full guarantees and planned maintenance. This know-how is part of the service that is provided free to customers.

As SIG Design & Technology is product agnostic, it was able to select the optimum mix of products needed for an integrated solution. Strong collaboration between SIG businesses continues to support smooth project development and total design support is provided to sub-contractors. Monthly site visits during installation ensure compliance to the specification and reduce the risk of future issues.

The roofing solution

There are two roofs at Stopsley High School. Both were installed by Briggs Amasco in an approximate 16 week programme. The largest roof measures some 2500m² and the inverted roof build up selected and supplied by SIG comprises IKO's PermaTEC Hot Melt with Dow's X-Energy XPS insulation above it. The two lower, smaller roofs measure 1,200m² in total and its build up comprises steel deck, insulated with Rockwool's Hardrock Multifix Insulation and waterproofed using IKO's PreVENT Torch on Felt System.

IKO's PermaTEC is a fully monolithic solution which will meet the design life of the building. No unsightly mechanical fixings protruding through the deck meant zero punctures to the VCL, and so supporting air tightness and condensation issues. Interserve were able to select from a wide range of membrane finishes as Hardrock Multifix is designed to accept any membrane.



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SIG's acoustics solution was able to meet the requirements of the very challenging frequency bands. Use of Rockwool's Hardrock with trapezoidal infill to the perforated deck over the sports hall provided a single product solution which was backed up by fully supported test data in order to comply with acoustic requirements. The solution also required no additional mass and greatly reduced the weight loadings of the original specification.

All products were sourced from SIG as they are an existing Supply Chain partner to Interserve. The four schools are due to be completed in October 2016.

More information

- Visit the PermaTEC hot melt product pages: <http://www.singleply.co.uk/flat-roofs/iko-permatec-hotmelt/>
- SIG Insulation: <http://www.siginsulation.co.uk/>
- Learn more about the 8 steps to the #PerfectRoof: <http://www.singleply.co.uk/perfectroof/>
- To find out more about PermaTEC hot melt call SIG Design & Technology on 01509 505714 or visit www.singleply.co.uk

