

Roofing that's well ADAPTEd for learning



PROJECT DETAILS

NAME

Corby Technical School, Brooke Weston Academy

ADDRESS

Coomb Road, Great Oakley, Corby NN18 8LA

SECTOR

Further Education

MAIN CONTRACT VALUE

£8.27M

ROOFING PACKAGE VALUE

£200K



THE CHALLENGE

Corby Technical School is a state-funded secondary free school for Corby families.

An EMPA Framework project, Wates Construction Limited (WCL) recently built a brand-new extension which has effectively doubled the size of the school, increasing the number of students it can accommodate along with the variety of subjects that it offers. The new build project has created 3500 m² of floor space and comprises; 25 classrooms, lecture theatre, drama studio, music practice rooms and office spaces. The project design follows Wates' ADAPT model for schools.

KEY POINTS

As part of the 2nd stage tender process, WCL needed to select a highly robust waterproofing system. With an eye to the future, the selected roof finish needed to tolerate foot traffic by following trades and unsupervised routine maintenance once the building is in use.

IKO's Mach One single layer bituminous membrane BBA approved flame free system (adhered) was selected as a PV array was to be mounted on the roof. Mach One also has a non-slip granular finish and therefore no extraneous walkways were needed. The black slate finish added a final touch of aesthetics to the installation. Based on a series of ADAPT school projects, Mach One has evolved as the membrane of choice in this context. The roof work had to be undertaken by a IKO Approved Contractor. Mach One offers a 20-year IKO insurance backed guarantee covering approved contractor insolvency.

ROOFING STRATEGY

The Project team then put in place the following successful roofing strategy:

- An initial meeting with SIG Design & Technology (SIG D&T) to identify IKO single layer bituminous systems that offered the best overall value to the Client in terms of a robust solution, together with IKO's materials and workmanship 20-year single point warranty –
- After consideration, the WCL team proposed the IKO's Mach One and UltraPrevent built-up bituminous system products
- Through early engagement in the project, SIG D&T, in liaison with WCL, worked from GSS Architecture's section drawings following the ADAPT model to provide detailed roofing drawings in readiness for roof installation work. The overall design responsibility remained with the Architects.
- A key challenge was for SIG D & T to design the Cut-To-Falls system to the area to the rear of the plant room to enable rainwater to drain effectively from the outlets. Issues to overcome were height restrictions and the ridgeline element to the structure.
- Bills of Quantity for the roofing package were produced by WCL which were then issued to the market for pricing i.e. WCL preferred and IKO approved subcontractors, so that comparisons could be secured for review by WCL and SIG D&T.
- Phase9 Roofing Limited secured the package in a competitive tender.
- Roofing package value was £200K (approx.).





KEY DATES

From November 2016, SIG Design & Technology began designing the complex 1700 m² (approx.) roof comprising two roof areas in total. A total of 16 drawings were produced plus revisions.

After a competitive bidding process, SIG accredited contractor Phase 9 Roofing of Birmingham, were appointed for this key roofing project offering a 20-year single point guarantee also covering contractor insolvency.

Challenges from the Subcontractor perspective included the project's logistics, the buildings taking up the footprint with no access to the rear elevation, access and storage of materials at ground level, multiple roof areas, different waterproofing solutions to differing roof area.

Phase 9's quantity surveyor, Jag Rai said: "The Corby Technical School project is one of series of successful projects for WCL. With a decade of experience under our belts, we are competent at installing a wide range of flat roofing systems. We find that Mach One is a great product. Quick and simple to install, it's also cost effective when compared to other bituminous systems. SIG Design & Technology's design service really facilitated project progress. They enabled us to work more efficiently on site and prevented any unnecessary queries from arising. Engineers from manufacturers, IKO visited the project and issued reports."

SIG D&T decide waterproofing system & draft design to produce bills	Nov 2016
WCL approval by the Client team to use the IKO solution	31st Aug 2016
WCL produce bills / enquiry docs & issue to IKO / WCL Preferred Subcontractors	18th Nov 2016
WCL order date	2nd Feb 2017
First start on site date	Mar 2017
Handover/completion date	Sept 2017

THE OUTCOMES AND BENEFITS

As a risk averse business, the Wates Group favours early engagement with its Supply Chain, thus enabling SIG Design & Technology to develop the very best flat roofing solutions using their wide portfolio of materials on each Project where they are engaged. In turn, the Wates Group can secure best value whilst trading with approved SIG D&T / IKO and WCL Preferred Subcontractors.

WCL expectations were achieved through the close working relationships between the Project team, SIG D&T and the SIG Roofing branch. Through this informal partnering approach, Steve Scottorn at SIG D&T and Jag Rai Phase 9 Roofing Ltd Roofing have gone on to secure further projects with WCL Midlands using the IKO roofing flat roofing solutions.

SIG Design & Technology has worked closely with Wates for several years and based on the projects supplied, there have been no roof defects found in a programme comprising a multitude of projects.



IN WATES' WORDS:

Martin Bloomfield, Project Manager for Wates said; "The Corby Technical School project is a flagship example of sharing best practice. SIG Design & Technology have worked in an informal partnership with the Wates Group to create a unique roof design consultancy service which is available to all project teams. This close working relationship has enabled SIG Design & Technology to understand Wates' protocols and to develop a way of working which follows the project design through four stages from initial project enquiry through to completed design."

	STAIR CORES
SUBSTRATE PREPARATION	Profile Metal deck 1:40 falls laid in accordance with manufacturer's guidance
VAPOUR CONTROL LAYER	Spectravap, loose laid, 80mm side and end laps, sealed with butyl tape
INSULATION	90mm IKO ALU Insulation mechanically fixed (to meet u value of 0.25)
CAP SHEET	Mach One - Adhered with IKOpro Sprayfast BMA
DETAILING MATERIALS	Ultra PrevEnt T-O Detailing Safestick PrevEnt Detailing

J41 – REINFORCED BITUMEN MEMBRANE ROOF COVERING	MAIN ROOF: ROOF LEVEL 06	FIRST STOREY BUILDING GL 6-8,A-B
SUBSTRATE PREPARATION	New 200mm thick Concrete Plank Deck laid to minimum 1:60 fall Concrete Planks laid in accordance with SIG D&T Top Tips guide to installing concrete planks 19.8.14	New 200mm thick Concrete Plank Deck (falls to be achieved by tapered insulation) Concrete Planks laid in accordance with SIG D&T Top Tips guide to installing concrete planks 19.8.14
VAPOUR CONTROL LAYER	Spectravap, loose laid, 80mm side and end laps, sealed with butyl tape	Spectravap, loose laid, 80mm side and end laps, sealed with butyl tape
INSULATION	140mm IKO ALU Insulation mechanically fixed (to meet u value of 0.16)	Tapered IKO ALU Insulation mechanically fixed (to meet u value of 0.16)
CAP SHEET	Mach One - Adhered with IKOpro Sprayfast BMA	Mach One - Adhered with IKOpro Sprayfast BMA
DETAILING MATERIALS	Ultra PrevEnt T-O Detailing Safestick PrevEnt Detailing	Ultra PrevEnt T-O Detailing Safestick PrevEnt Detailing