

Room 13, Hareclive Primary School, Bristol, by Mitchell Taylor Workshop



**Left** Two canted towers dominate the roof's profile  
**Above** The roof is clad with bright blue Sarnafil membrane  
**Right** Rooflights in the

towers give a top-lit interior  
**Below** A glazed wall facing the school encourages students to use the space



# THE ART FORTRESS

A small art studio with an even smaller budget, Mitchell Taylor Workshop's Room 13 was designed to be secure and energy efficient. *Susan Dawson* gives a technical account. Photography by *Mitchell Taylor Workshop*

Room 13 is an international network of studios for young artists, run by the students themselves, which began at Caol Primary School in the Highlands of Scotland in 1994.

This project, by Mitchell Taylor Workshop at Hareclive Primary School in Bristol, is the first purpose-built Room 13 to be completed. 'This meant,' says project director Piers Taylor, 'that it had to be a special place.'

He continues: 'It's an interactive art education programme for schoolchildren; a place where they can run their own studio alongside a resident artist. They can use it after hours, between lessons and at lunchtime.'

Room 13 needed to be special in other ways. The client, Hareclive Primary School, is in Hartcliffe, a seriously deprived area of Bristol with high levels of illiteracy and teenage pregnancy. The school building itself is a '60s flat-roofed job which has seen better days. Room 13 stands slightly apart from the main school buildings, creating a courtyard which can be used for outside projects.

And it is certainly unique; two canted towers clad with bright blue Sarnafil roofing membrane emerge from the roof, and blank blockwork walls wrap around it – except for a grated window – enclosing a large glazed entrance wall. The design was a response to the local environment. 'In such a rough area' says Taylor, 'the external fabric had to be as tough as nails, vandal-proof and robust. But inside we wanted to create an inspirational space where the kids can go and leave Hartcliffe behind.'

The choice of materials was also dictated by budget. An urban grant predetermined the contract value of £157,000 and it had to be procured by the traditional method in a 20-week contract period. So from the outset it had to be buildable, affordable and – a key factor in the client's brief – sustainable.

Essential to realising this was the roof design – the two rooflight towers give a top-lit interior which is lofty and exciting, yet secure. All internal finishes are basic everyday

materials – bare plaster, fibre-cement floor and doors made of oriented strand board (OSB) – offering the occupants the chance to create their own finished surfaces as they wish. By fixing artwork to the glazed wall it becomes a gallery, animating the facade.

Since its recent opening, Room 13 has won an RIBA Award and a Regional Sustainability Award. The resident artist Shani Ali comes in daily to work with the children. Cheques are written and the space is organised by the managing director – an 11-year-old pupil. For Hareclive, Room 13 has become a lucky break.

**Client** Hareclive Primary School  
**Architect** Mitchell Taylor Workshop  
**Project director** Piers Taylor  
**Project team** Jennifer Lorrimer, Kris Eley  
**Structural engineer** Structures 1  
**Main contractor** John Perkins Construction  
**Annual CO<sub>2</sub> emissions** 34.4kg/m<sup>2</sup>

## THE SUSTAINABILITY AGENDA

Sustainability was high on the client agenda, and the tight budget has been balanced with high performance using pragmatic detailing and specifications. Room 13 was designed to achieve a high level of thermal performance beyond the levels required for Part L of the Building Regulations; the roof towers and monopitch are super-insulated.

The design endeavoured to minimise carbon emissions. The target CO<sub>2</sub> emissions of treated floor area was 42.8kg/m<sup>2</sup> and the projected constructed value was 34.4kg/m<sup>2</sup>.

Natural ventilation provision is also beyond the requirements of Part F of the Building Regulations. Windows are positioned at opposite ends of the building at low and high levels to maximise the effects of natural ventilation. Air is drawn from the low-level windows on the north facade and corner through the space to the rooflight towers, creating a stack effect which provides significant ventilation.

The rooflights, corner window and glazing to the north facade provide high levels of daylight while limiting solar gain. As such, electrical lighting is rarely used in the summer months.

Space heating for the building is generated by a horizontal ground-source heat pump, supplying underfloor heating. Underfloor heating is the most efficient system to run in conjunction with a heat pump, and takes advantage of thermal mass in the screed.

The roof finish will last in excess of 30 years and has no maintenance requirements. Internal surfaces are unfinished, minimising paint use and reducing the need for replacement of floor finishes and repainting.

**WORKING DETAIL**

**A single-storey studio with a pair of rooflight towers**

The single-storey building contains one large studio space, approximately 100m<sup>2</sup>, which is lit by two rooflight towers, a small corner window and a glazed wall to the north facade. The window is protected by an external steel grid panel; the glazed wall is under the surveillance of the main school buildings and is monitored by security cameras.

The external walls, wrapping around three sides of the building, are of standard 100mm dense concrete block, left fairfaced to provide a surface for potential artwork; their planar surfaces are designed to deter vandals trying to climb on to the roof. The walls are capped with pressed metal copings and lined internally with insulated timber studwork and OSB sheathing.

The roof is supported on timber joists, insulated between and over the joists to achieve a very high level of thermal performance (0.14W/m<sup>2</sup>K) and covered with a single ply membrane. The roof rises from the north to form two towers, supported on glulam beams and formed of 150 x 50mm treated softwood frames lined with insulation and covered with a single ply membrane. The rooflight at the top of each tower is a standard opening Velux rooflight, electrically operated from below. Rainwater is directed into a valley gutter between the towers and down to a capacious galvanised steel gutter which runs above the glazed wall.

Internal materials have been left unfinished to 'reveal their true natures and provide a canvas for the inevitable patina of occupation', according to Piers Taylor. Walls and ceilings are left as skimmed plaster and the floor is of varnished fibre-cement screed. A 400mm-high oriented strand board skirting runs at the perimeter of the walls to accommodate knocks and scuffs. *Susan Dawson*

