



# AMVIC ICF

## Insulating Concrete Formwork System



## Earth-Sheltered School Provides Many Lessons in Good Design

Amvic Building Solutions has recently completed construction work on a landmark school building project in South Yorkshire for Sheffield City Council, using the Amvic Insulating Concrete Formwork (ICF) system.

The Amvic ICF system comprises of large polystyrene 'forms' that fit together quickly and easily without glue or mortar to create a permanent formwork system into which concrete is poured. Being easy to reinforce, the Council's design team recognised that this ICF system would provide a relatively quick and cost effective way to form the school's full length rear elevation retaining wall.

However, as further feasibility studies followed, it was soon decided that Amvic ICF would in fact be the ideal method of construction for the entire structural shell. Thanks to the high levels of air-tightness and a very low wall U-Value (0.15 W/sqm.K), the ICF system could also help offset the large amount of glazing to the front of the structure, without complicating or extending the building process.

In conjunction with Amvic's technical team, a tender package was drawn up, and W M Birch & Sons appointed as main contractor. Amvic's own in-house construction team would then fulfil the role of specialist subcontractor, constructing the school's superstructure and retaining walls in just 5 weeks.

The finished school is the perfect blend of intelligent design and modern methods of construction. The highly energy-efficient, single storey shell has a living green roof with garden seating for outdoor lessons and recreational use, easily accessible by walking up the gentle gradient at the rear of the structure. Out of the ground, the Amvic system has been faced with a local stone and timber cladding.

Internally, a heat recovery system perfectly compliments the high air-tightness and thermal mass provided by the Amvic system, which itself will keep the building warmer in the winter and cooler in the summer.

## Project Information

**Project Description:**  
Single storey earth sheltered school,  
Lowfields Place, Sheffield

**Amvic ICF System Used:**  
Amvic 330 system with Amvic EWI Panel  
(200mm concrete core with 195mm  
Neopor Polystyrene Insulation)

**Amvic ICF U-Value:**  
0.15 W/sqm.K

**Tanking System Provided By:**  
Sealprufe Ltd

**Amvic Programme Duration:**  
5 weeks

**Contract Programme Duration:**  
7 months



Amvic 330 system

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