



An education

Building with ICF helped improve the energy efficiency of a north London school, as *Greenbuild* reports

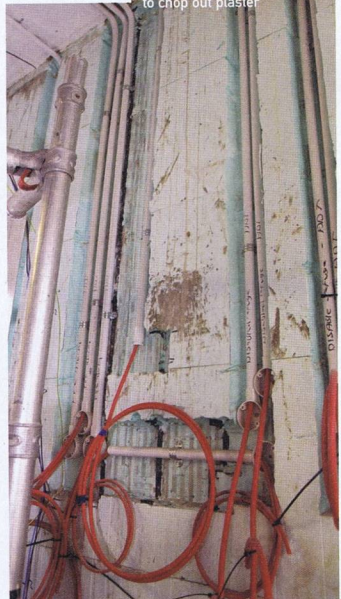
Built by Apollo Education, the £24.9m Inclusive Learning Campus project at Woodside High School site in Haringey, London, is a project to amalgamate two special schools with the existing mainstream school. It includes the new build of three teaching blocks, alongside the refurbishment of the three existing building and external landscaping of the campus. The campus was constructed with sustainability firmly in mind, aided significantly through Insulating Concrete Formwork's (ICF) good thermal insulation and air permeability. Other green features include a biomass boiler, natural ventilation and a rainwater harvesting system.

Expert at working in live school environments, Apollo's plan was to cause minimal disruption to the school by using Nudura's ICF system – chosen for its ability to accelerate

the build process, its contribution to energy efficiency and the design flexibility. The ICF enabled each building envelope to be made watertight earlier in the construction programme than traditional methods and fitting out could start some six to eight weeks sooner than with conventional block work. In addition, even the freezing winter conditions at the end of last year did not delay the build, since concrete can be poured in temperatures of up to minus 30 degrees. The system also offered design flexibility over modular pre-cast concrete options, so Apollo was able to accommodate a design that replicated the architectural features of Woodside's other existing buildings.

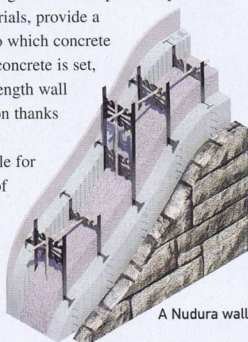
The final phase of work on the three-year project, which completes in Autumn 2011, will see the construction of an art, music and drama block, alongside a special school.

It is easy to chase pipes into the insulation without having to chop out plaster



ABOUT ICF

Insulating concrete formwork (ICF) is a system of building that originates in Germany and is very popular in the Canada and the USA. It can significantly reduce build times and also offers high levels of thermal performance. Lightweight block components, produced using insulating materials, provide a formwork system into which concrete is poured. Once the concrete is set, it becomes a high-strength wall with built-in insulation thanks to the formwork. ICF construction is suitable for practically any type of building, from apartment blocks to leisure centres.



A Nudura wall

NUDURA'S SUSTAINABLE CREDENTIALS

The ICF system features many attributes that contribute towards sustainable building, including:

- More than 50% of the product by weight is comprised of recycled material.
- The product contributes to energy efficiencies between 44 and 80% over other construction methods.
- The product does not emit or use in its production any CFC (Chlorofluorocarbons), HCFC (Hydro chlorofluorocarbons) and no VOC (Volatile Organic Compound) emissions which makes it non-toxic and safe for the environment, inside and out.
- The product contributes to a proven 50% reduction of construction waste in comparison to conventional cavity block construction. And if the projects are designed using the dimensions of the Nudura products, on site waste can be as low as 1%. Also, all parts are recyclable.
- The product contributes to greater indoor air quality by enabling tighter control of ventilation and conditioning air.
- The thermal mass performance of the wall can result in reduction in size of heating or cooling equipment needed. Performance statistics in temperate climates have illustrated examples where buildings have required only 25% of their projected design capacity of M&E in order to heat or cool the spaces for comfort.

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Viessmann solutions are solutions for the future: whether commercial, industrial or domestic projects, from detached houses to district heating networks - through our complete comprehensive range we are the natural partner to provide technology and fuel-neutral advice, creating efficient systems and customised solutions for the future.

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Efficiency Plus

Viessmann's 'Efficiency Plus' project at our main factory in Germany proves that the political goals set for 2020 regarding climate change and energy efficiency can be achieved today with Viessmann Group products. Viessmann was presented with the German Sustainability Award 2009 in the category 'Most Sustainable Production facility' and the Energy Efficiency Award 2010.

Energy efficiency has been improved by 22 per cent, the proportion of energy from renewables has extended to 18 per cent and CO₂ emissions have been cut by a third.

readerlink 016



German Sustainability Award

Germany's Most Sustainable Production 2009

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