Update

BECO

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Sir Cameron Mackintosh' new Production

ISOLATED and WELL INSULATED

High in the western highlands of Scotland Sir Cameron Mackintosh is again enjoying the pleasures of his family retreat, having built a new home on the site of the old gaslit timber croft which he enjoyed so much as a child, but which burnt down in 2000.

Entirely of traditional appearance and style, the new building is built in Beco WALLFORM and clad in local stone gathered from the grounds around the house. The project was managed by Sir Cameron's trusted builder, Cliff Venn, using his own and local craftsmen for a construction which was anything but routine. The site is quite isolated - access only by boat or helicopter - and the weather typically Scottish, meaning that when it is good there is no better place in the world and when it is bad it is, shall we say, memorable! (When the midges were out beekeepers' protective headdress was essential Health and Safety equipment).

The house design is quite unique, the intention being to create a new and bigger home suitable for entertaining but retaining some of the views, features and character of the old building. Local architect Nigel Johnston developed the plans, incorporating his client's quite particular requirements and introducing new features such as large windows at the back of the house which would catch the morning sunlight playing on the ferns and the water trickling down the rock face of the cliff immediately behind.

Versatility was a key requirement in determination of the building specification and Beco WALLFORM proved to be the best product for the job, not just for building performance but also in terms of logistics, flexibility of design, structural integrity and method of building.

Site location was a major influence on the method of building since all the materials (except the local stone) had to be brought in by boat or barge and there was no facility for accommodating the plant and equipment which would normally be employed on a project of this nature. The lightweight WALLFORM components shipped easily without the need for mechanical handling and the wide range of integrated components meant that the design could be amended on site without the need to order additional or specialist

products to accommodate variations. Due in part to this versatility, the WALLFORM Flooring system was also used on this project, being of particular benefit since the lightweight steel beams could be lifted into position without the need for a crane. Structurally, the WALLFORM system copes well with the heavy loadings imposed on the building, Steel reinforcing is incorporated in parts where the wall acts as a basement retaining wall and where concrete corbelling is reinforced to take the loading from the stone parapet. Incorporation of such strengthening within the wall construction means that the architectural appearance of the building is unaffected.

Since Cliff Venn and his team had no previous experience of WALLFORM construction, Beco Products sent a technical advisor to site to demonstrate the system and monitor initial construction. Thereafter, regular contact was kept with the site (mobile links permitting) to ensure any queries were resolved promptly. Concrete was mixed on site and placed by means of a small concrete trailer pump. Weather during construction of the building shell would be best described as "wet and windy" but the team persevered and maintained good progress in the circumstances, being able to carry on building in conditions when other methods of construction would have been impossible.

As the building progressed and grew higher on the site, the brilliant white WALLFORM structure became a prominent local landmark being visible, on a clear day, from the Isle of Skye. Then, as the stone cladding gradually enveloped the insulated shell, the house adopted its final appearance and blended naturally back into the local landscape. Now completed and being enjoyed in a wonderful setting, this new home gives no indication at all of its modern construction - or the feeling of comfort and ambience achieved by the dedicated team of professionals who built it. The overriding impression upon visitors is of an old family home which has been adapted over the years to enable the occupants to appreciate the benefits of the wonderful local surroundings. The building is, however, built to last and stands as a testament to the efforts of Sir Cameron Mackintosh to recover some of the old houses and buildings which have been lost to the Highlands over the years.

Architect:
Nigel Johnston 01687 450271

Bend it like Beco...

Regular readers of Update will know that we have featured extension projects in the newsletter before, but this one is maybe a little more unusual than most.

This extension in Brighton was constructed using two different sets of curved WALLFORM 250 components, each set manufactured to a different rate of curvature, so that when combined they formed an oval shaped structure - a good demonstration of the inherent flexibility of the WALLFORM system. All curved WALLFORM components are specifically formed to the exact radius required; hence curved walls of any configuration can be built.

Designer Paul Crawley of Raw Design chose the WALLFORM system after finding out about it from a structural engineer. He said "I chose this ICF (Insulated Concrete Formwork) system because it allowed us to achieve the oval form, in terms of both technical design and budget."

The builder, Ian Lilley of A K Lilley & Sons, had never used the system before, but with some initial site supervision from local WALLFORM distributor Canning Ericsson Ltd included as part of the package, Ian completed the WALLFORM shell in a matter of days.

Everyone involved - client, architect and builder - is delighted with the results. "This distinctive construction has really enhanced both the property and its value!"

Building on the success of Raw Designs first use of Beco WALLFORM, Paul has now specified the system for two further projects - so watch this space!

Raw Design: 01273 400004

jabroof element

Vencel Resil Ltd

Traditional UK roofs are designed and constructed with the insulation at ceiling level, leaving a cold roof and an under-used loft space. Jabroof element is an insulated and structural pitched-roof system, which provides a method of constructing a tiled or slated pitched roof with a useful insulated space in the roof void. This method of construction has been extensively used in Europe since 1972 with over 20 million square metres of roofs constructed in this way. The elements offer structural support to the roof finish and insulation to satisfy Part L Building Regulations requirements.

Utilising an EPS core sandwiched between two 8mm moisture resistant chipboard facings and timber longitudinal ribs, the elements span from eaves to ridge with a minimum number of purlin supports thus enabling longer spans to be achieved. Easy and quick to install in all weather conditions, Jabroof element creates a weather-tight building allowing contractors to move on to work inside the building and thus reducing time on-site.

Jabroof element also integrates perfectly with the installation of skylight windows to meet the growing demands of the UK's housing market to extend and improve on living space by moving upwards. Skylight windows are easily installed in a roof built using Jabroof element, as the modular and dimensional aspect of the element design means that the windows can be fitted between the structural members, allowing flashing to be applied unhindered and the structural integrity of the roof to be fully preserved.

Manufactured in the Netherlands by Vencel Resil's sister company IsoBouw Systems bv the system has been approved and assessed in the U.K. by the British Board of Agrément Certificate No. 00/3696C and in the Netherlands by the KOMO Attestation body.

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2005 Building Regulations

Think Positive!

As the development of proposals for the next revision to the Building Regulations progresses, it is becoming clear that it is government's intention to make the new minimum standards more worthwhile than the tinkering efforts so typical of the past. There is now recognition that, in order to achieve a balance in the environment, it is essential that the performance of buildings is tuned to the environmental profile and is not just a gesture based on past building practice.

Perhaps this time politicians will act to achieve their loudly proclaimed agenda, dispense with their advisory buffers and expose themselves a little more to the reality of life in the real world. Perhaps also our leaders of industry will wake up to the fact that if Mohammed couldn't move the mountain and Canute couldn't stop the tide, then the UK building industry hasn't much chance of defeating the environment.

It's time to think positive, be positive, act positive!

We have the technology and the materials to produce buildings which are environmentally neutral. Low energy and passive energy technology is well established elsewhere and with the more...>>

Name: .....

Address: .....

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Postcode: .....

Phone No: .....

Self-Builder ☐ Trade Enquiry ☐

Profession: .....

Project: .....

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To build in: 1 year ☐ 2 years ☐ 3 years ☐

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2005 Building Regulations Think Positive!

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temperate climate of our own islands it should be much easier (and more economic) to achieve such building standards here.

It is a sad reflection that all too often it is the Self-build sector of our industry (ie. those who have a vested interest in the finished product) which leads the way forward. It really is time the professionals stood up and demonstrated a positive attitude to improving building performance.

Whether it is next year or, allowing for industry inertia, in 2006 that the new Building Regulations are introduced, perhaps this time our captains of industry will be positive and set out to prove that building is capable of better standards.

We know we all need to work with our environment - Let's do it!

Energy efficiency in buildings is determined primarily by the performance of the building fabric, influenced by local factors of climate, orientation and degree of exposure. The balance of energy efficiency is achieved with the building services - management of solar gain, secondary or central heating (if required), heat recovery and ventilation. Low energy performance is relatively easy to achieve if the building fabric performs well.

Energy is lost (wasted) through the building fabric of roof, walls and floor, the insulation or regulation U-values for which are currently 0.25, 0.35 and 0.25 W/m²K respectively. There are proposals for new regulation standards as low as 0.1, 0.16 and 0.20 respectively, - all standards achievable with current methods and materials. (0.10 W/m²K is generally recognised as the economic limiting value)

The case for a U-value as low as 0.1 for roofs is not too difficult to justify, since heat naturally rises to escape upwards and a roof is the simplest part of the envelope to deal with technically. Walls need a lot more attention, since they comprise the largest area of the building envelope and facilitate the largest energy losses. It is, however, still practical to achieve U-values of 0.10 with current building technology. Floors are the least critical part of the envelope since the thermal mass of the ground below can contribute to the overall energy profile of the building, and a U-value of 0.15 - 0.20 would be easy to realise.

If there really is serious intent on the part of the Regulators to improve the energy profile of our housing stock perhaps it would be easier to achieve if the rules were simpler. SAP ratings are proving too complex, with too many opt-outs available which serve to confuse the calculation. Neither are SAP ratings of any consequence once the building is sold and occupied. It might be easier to set one simple parameter for energy efficiency such as energy consumption per annum - W/m²yr, which would reflect in the actual energy bill for the size of the building regardless of its specification.

Similarly, it might be simpler to specify a single minimum U-value for the building fabric (the principal influence on energy efficiency) of 0.20 W/m²K, recognising that this is generally achievable - and comfortably bettered by those who realise the benefits and economies of higher standards.

Specialist contractor Perfect Pools Ltd of Hungerford, Berkshire, are the latest converts to Beco

WALLFORM for construction of swimming pools and spas. The company has adopted this quick and practical building system as a standard specification since it is much quicker to build and the client has the benefit of the extra thermal insulation which reduces pool running costs.

Director Richard Franks says that "Using WALLFORM was quicker, easier and cleaner than the old construction method and was a straight substitution without any need to redesign.

When building a 20' x 40' pool, we found the height variances of the wall to be beyond the accuracy of our laser! - less than 2mm over 40'. Even more amazing was that the pool wall in WALLFORM was built by an employee who had never laid a brick in his life!"

PERFECT POOLS LTD
www.perfectpools.co.uk
Telephone: 01488 680 739

Energy Savings

Beco **WALLFORM** insulation is **a passive energy system** - once installed it reduces energy loss consistently and permanently with **no maintenance** required and **no bills to pay**, even as the cost of energy increases!

Wall Insulation U-value (W/m²K)	Reference	
0.35	Current U.K. Regulations	
0.30	**WALLFORM 250**	
0.20	Likely Future Regulations	
0.19	**WALLFORM 313**	
0.14	**WALLFORM 375**	passive energy buildings
0.11	**WALLFORM 438**	passive energy buildings