

“SUSSEED”

SIGNIFICANTLY MORE **SUSTAINABLE** KNOW HOW

TAKING THE LEAD IN THE SUSTAINABILITY CHALLENGE

Via its multi-company structure, SIG Insulations is actively involved in energy conservation. Since the creation of our founding company, Sheffield Insulations, over fifty years ago, we've played a key role in providing insulation solutions to the construction industry.

Sustainability is the 4th dimension of insulation

Our expertise in thermal, fire and acoustic insulation – the first three dimensions of insulation – is unrivalled.

This makes us uniquely positioned to take the sustainability lead in many different ways:

How SIG Insulations Can Help

- We're offering you THE most direct and effective route for obtaining up to date information on legislation and new developments in sustainable construction.
- Navigating the Code for Sustainable Homes can prove to be very difficult for house builders, specifiers and developers. SIG Insulations offer advice and guidance from an **independent and impartial perspective**, on what the concept means to you personally.
- Products offering sustainable solutions are rapidly evolving, their efficiencies improving on an almost daily basis. We work in partnership with leading manufacturers to continuously monitor these developments across a broad range of products, systems, markets and brands. We can recommend the right product solutions to achieve the higher standards and performance levels.
- Via CPD (Continued Professional Development) seminars, we provide architects and specifiers with specialist training on the Code for Sustainable Homes.
- We have specialist support teams with expertise in timber frame and concrete formwork methods of building, new generation building products and renewable technologies who can also provide on site support.
- We also provide technical literature/comprehensive specification information in print and on line.



Explaining the Code for Sustainable Homes

SIG Insulations has produced a 'Guide to the Code for Sustainable Homes' an easy to follow explanation of the Code, summarising all the facts and theory you need, together with case study examples and how to make the most of the Code.



Handy Guide to Sustainable Materials

As an industry, we're aware that all insulation is good insulation. In the Building Research Establishment (BRE) Green Guide, all insulation products attract an 'A' or 'B' rating, but which materials have the highest sustainability credentials, how significant is this to your material choice?

To help, SIG Insulations have produced our own useful 'Handy Guide to Sustainable Materials' which answers questions such as:

- is the material recyclable or obtained from renewable sources?
- how much 'embodied energy' is in the material when it arrives on site?
- what will happen to the material at the end of its lifecycle?

To obtain copies of these specialist guides or to speak to a technical adviser with a specific query;

Call: 0845 450 5853 or
email: sussed@sigplc.co.uk

For further information, visit www.siginsulations.co.uk/sustainability



LAFARGE PLASTERBOARD HAS PUT SUSTAINABILITY RIGHT AT THE TOP OF THE AGENDA

From **Sioned Roberts**,
Trade Marketing Manager, Lafarge

The company recently re-branded its entire product range, under the GTEC name – which stands for Green, Technical Expertise, Excellence and Customer Satisfaction – to reflect this growing environmental imperative.

The 'Green' element is visible in all that the company does, with sustainable solutions integral to the core Lafarge values – plasterboard itself being a recyclable product.

The latest offering from the Lafarge stable is GTEC Aqua Board, a new high performance gypsum board devised especially for wet and high humidity areas and as an alternative to cement particle boards.

GTEC Aqua Board offers superior water, mould and fire resistance, as well as sound insulation and impact protection qualities, compared to conventional gypsum products. Like other Lafarge products, it naturally carries with it long life guarantees.

Lafarge believe that this superior performance is essential in the current market climate, where savings and sustainability rank among the highest of priorities.

The gypsum based board has a high recycled content, is fully recyclable and has relatively low levels of embodied energy and carbon. These are all winning attributes over cement based boards. The product is also easier to cut and handle on site due to its lighter weight.

Among the first applications of GTEC Aqua Board is a basement-level swimming pool in Ireland. GTEC Aqua Board is an ideal liner for severe wet areas such as swimming pool halls and health spas. There are many internal uses for GTEC Aqua Board, which include its use as a tile backer in bathrooms and showers, and for lining prefabricated bathroom pods. A school in Edinburgh has also utilised the versatile GTEC Aqua Board as a temporary external sheathing board by drylining the exterior of a separation partition to make the building weather tight, thus allowing the internal fit out of an otherwise exposed building. This particular application takes advantage of the benefit of GTEC Aqua Board where it can be left directly exposed to all weather conditions on site for up to six months.



Services such as Wasteline also highlight the Lafarge commitment to sustainability. This helps contractors calculate their plasterboard waste right at the start of a project, allowing them to factor this into the tendering process.

It also ensures the best environmental option for waste management solutions, including skips, bags and bins, right through to 'wait and load' which enables contractors to plan and manage waste where space is limited or access is difficult.

From recycling of materials to energy efficiency, planning and conservation, Lafarge Plasterboard is taking sustainability seriously.

For more information about Lafarge products:
Visit: www.lafarge.co.uk

JABLITE IS THE SUSTAINABLE CHOICE

From **Richard Lee**,
Sales Director, Jablite

The latest news from the BRE (British Research Establishment) is that expanded polystyrene has been awarded an A+ rating in its 'Green Guide'. Achieving an A+ is the highest possible ranking for any material, putting it at the top of the list for specifiers looking for insulation materials with the very best sustainability credentials.

Vencel Riesel, which manufactures the Jablite range of expanded polystyrene products, has long recognised not only the performance, but also the sustainability of the material, as Sales Director, Richard Lee explains: "Expanded polystyrene has always been a popular choice with contractors and developers and this just confirms that EPS is one of the most sustainable and best performing materials on the market."

The Green Guide assigned an A+ rating to EPS, after comparing common thermal resistance of different insulation materials to enable a fair comparison. Materials were ranked both on the basis that the benefit of using any of the insulations listed in the guide will outweigh the embodied environmental impact of their manufacture, installation and end of life disposal over the life cycle. Expanded polystyrene was also rated highly due to its low environmental impact. It has a Global Warming Potential (GWP) and Ozone Depletion Potential (ODP) both of zero.

Richard Lee continues: "Sustainable materials are in demand at the moment within the construction industry, due to the tighter Building Regulations and the Code for Sustainable Homes. We are really excited about EPS gaining an A+ rating and are looking forward to helping building designers, contractors and housebuilders to improve the thermal performance of both domestic and commercial buildings."



To offer an even greater choice of sustainable materials, the Jablite expanded polystyrene insulation range, has been extended with the introduction of Jablite premium, an innovative low lambda material that provides 20 per cent better thermal performance than traditional insulation materials. Jablite premium is ideal for both floor and cavity wall insulation – with Jabfloor premium and Jabfill premium. Both these products are easily recognisable by their distinctive grey and orange speckles, which ensures that the material being used on site is that which was originally specified.

Richard Lee explains: "Jablite premium has been designed to help contractors and developers meet their requirements for improved U-values. Materials such as expanded polystyrene that have been proved to have exemplary 'green' attributes, as well as excellent performance really do offer a compelling choice to the market."

Other sustainable benefits of EPS are that it is free from HCFCs, completely inert and because it is 100 per cent recyclable, it can be ground and re-used in a whole range of other products.

For more information or to request a copy of the Insulation Solutions brochure:

email: literature@jablite.co.uk

For technical advice:

Call: 0870 444 8769 or

Visit: www.jablite.co.uk

ECOTHERM INSULATION FOR GREENER BUILDINGS

From **Dale Kaszycki**, Marketing Manager of EcoTherm Insulation (UK) Ltd, checks out the green credentials of PIR insulation.

Amid predictions that nearly 25% of possible CO₂ emission reductions could result from measures such as improved insulation, manufacturers and contractors face growing demand for building solutions that minimise environmental impact, both in their production and during their installed life. A recent study by low carbon consultancy, XCO, Conisbee Ltd, considers sustainability to be of overriding importance when selecting insulation material, and found polyisocyanurate (PIR) foam to be one of the most sustainable options.

The manufacture of PIR boards involves no CFCs or HCFCs so they have an ozone depletion potential (ODP) of zero. They also have a global warming potential (GWP) factor of three, which compares extremely well with the target level of five. PIR foam with a closed-cell structure is impervious to moisture permeability and possible air flows and their energy-saving properties remain undiminished throughout the life of the building.

EcoTherm offers a range of rigid insulation panels using PIR for floors, walls, pitched and flat roofs. EcoTherm's foil-faced boards, for example, have a Lambda value of 0.023 W/mK, making them ideal for applications where high levels of insulation are needed. As an illustration of PIR's contribution to greener buildings, 1m² of PIR saves 40m³ of CO₂, equating to 60kg of CO₂ over 75 years.



EcoTherm has also introduced products that combine PIR with other sustainable materials. Insulated decking board for flat roofs of residential and commercial buildings has a laminated sandwich construction in which the foam board is faced with aluminium foil on the underside and a plywood deck on top. The aluminium foil is inherently recyclable and made from a high proportion of recycled metal, and the plywood comes from sustainable sources that are fully certified under the Forestry Stewardship Council scheme (FSC certificate CU-COC-983692).

One of EcoTherm's latest innovations using PIR foam is Eco-Metre - a flat roof insulation board that is non-polluting and manufactured using non-ozone depleting materials. Each Eco-Metre board covers exactly one square metre of roof, for easy ordering, and one product works on almost any roofing system, which results in fewer deliveries to GIG Insulators and therefore fewer road miles. This also means any leftovers or off-cuts from one job can be used on the next - further enhancing the product's green credentials through reduced waste. Also, to achieve a target U-value of 0.20 on a metal deck, for example, only 120mm PIR board is required, compared to 210mm of mineral wool. Apart from the obvious cost and time-saving benefits of using fewer materials, this has a positive impact on a building's overall sustainability.

For more information on sustainable construction using PIR insulation products from EcoTherm:

Visit: www.ecotherm.co.uk



ISOVER INSULATES AGAINST THE FUTURE

From Gerry Mitchell, Head of Innovation, Saint-Gobain Isover



When it is possible to insulate a home in Europe so well that it can be heated with just a few tea lights, the potential for improving the thermal performance of UK buildings becomes too good to ignore.

In an ideal world, these measures are designed in from the beginning, with glass wool insulation in the roof, walls and floors. But where it is viable to retain an existing building, measures can be taken to improve its energy performance, and the simplest and most cost-effective way is with glass wool insulation.

Improving levels of this in the roof and external walls by adding it to the external fabric or the actual structure of the building (via blown wool in the cavities of brick and block walls) makes the single biggest impact on how the building performs.

Where this is not possible, glass wool insulation can be added internally like dry lining, and with the high-performance of current compressed insulations, the reduction in internal floor space is minimised.

Isover insulation is manufactured from a combination of silica sand, the earth's most abundant naturally occurring mineral, and up to 80% recycled post-consumer glass from building regeneration projects or flat glass manufacture that would otherwise go to landfill.

It also boasts zero ODP (Ozone Depletion Potential) and zero GWP (Global Warming Potential) and can achieve an A+ rating in the BRE Green Guide to Specification. Some Isover products also qualify for up to three credits in the Code for Sustainable Homes.

Just 1m² of the raw material will create 150m² of glass wool insulation, and one tonne of glass wool insulation releases about 0.8 tonnes of CO₂. The annual CO₂ saving that can be realised by building in glass wool amounts to as much as six tonnes. Assuming a lifespan of 50 years, using glass wool can save up to 300 tonnes of CO₂ – 375 times as much as the CO₂ emissions caused by its production.



And when it comes to production and transportation, glass wool insulation "pays for itself" within a few days. Comparing a 1m² upper floor slab of reinforced, uninsulated concrete (U-value = 3.5W/m²K) with one insulated with 35cm glass wool (U-value = 0.1W/m²K), the former loses 360kWh/m²/year while the latter comes in at 10kWh. This saves 350kWh/m²/year.

Compared to the annual energy savings of 350kWh/m², the energy needed for production, transportation and installation of the glass wool insulation amounts to a mere 22kWh so it pays for itself in less than 10 days.

For more information about Isover products:
Visit: www.isover.co.uk

KNAUF FUTUREPANEL LINES GREEN OFFICES

From Bob Stark, Marketing Manager, Knauf Drywall

One of London's greenest office buildings has taken another step up the environmental ladder with Knauf Drywall's carbon neutral plasterboard, Futurepanel. This industry first drywall solution was specified for partitions in the new home of the Transport for London (TfL) Surface Transport team and supplied by Sheffield Insulations Ruislip Branch.

The Surface Transport team and some other departments are moving into Paestra, the striking 12 storey glass faced building designed by architect Will Alsop and completed in 2006 on Blackfriars Road, Southwark. ISG Interior/Exterior, main contractor for the TfL fit-out, specified Knauf Futurepanel to provide the most environmentally friendly solution available.

Knauf Futurepanel is used in place of Standard or 10kg/m² Wallboard. It includes the highest proportion of reclaimed gypsum in any Knauf Drywall plasterboard, and fully recycled paper liners. It is enhanced by highly efficient manufacturing and a programme of investment in projects that effectively remove carbon at source.

ISG Project Manager Kevin Mulligan says: "We specified Knauf Futurepanel because of our client's requirements, but we are also conscious that the building industry in general does not have a good record on energy and waste – so this is an opportunity for real progress in the right direction."

Working to the ISG specification, specialist subcontractor London Drywall installed 12.5mm Knauf Futurepanel and an inner layer of 12.5mm PEFC (Programme for the Endorsement of Forest Certification schemes) approved plywood on each side of Knauf 'C' studs at 600mm centres. There is a 30mm deflection head. Most partitions also have a 25mm layer of Knauf Crown Partition Roll fitted in the void and a taped and jointed finish. This construction is designed for a 51dB acoustic rating. The plywood inner skins were specified to provide additional strength for supporting fixtures and fittings.

London Drywall Managing Director John Conway says: "Knauf Futurepanel provides the greenest plasterboard solution currently available and we were delighted that it was specified on this project. We are now looking at using this board on future projects."

Knauf Drywall Regional Specification Director Spencer Maynard says: "The choice of Knauf Futurepanel for the new TfL offices measures up well to the London Borough of Southwark's stated commitment to sustainability and carbon reduction."

TfL shares the 300,000 sq ft, 12 storey building with the London Development Agency (LDA) and the London Climate Change Agency. The LDA selected Paestra after a lengthy evaluation which showed it to be the only building then available that met its location and accommodation criteria – and had a 'Very Good' rating under the Building Research Establishment Environmental Assessment Method (BREEAM).

London Drywall specialises in quality drywall partitions for commercial office fit-outs, with package values from £250,000 to £5,000,000 requiring acoustic, fire and insulation partitions. The company has taken a firm environmental stance, focusing on environmental auditing, carbon footprint evaluation, waste reduction, and recycling wherever possible.

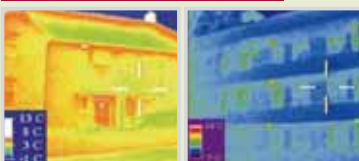
Knauf Drywall manufactures a full range of plasters, plasterboards, insulating laminates, drywall accessories, and metal sections, for domestic and commercial applications. In addition to introducing Knauf Futurepanel, Knauf Drywall also actively promotes recycling from building sites and has a zero waste policy in its energy efficient factories at Sittingbourne in Kent and Immingham on Humberstone.



For further information on Knauf Drywall products:
Visit: www.knaufdrywall.co.uk

KINGSPAN ASSESS MANUFACTURING OPERATIONS FOR SUSTAINABILITY IMPROVEMENTS

From John Garbut, Marketing Director, Kingspan Insulation



Recognising the importance of sustainability, Kingspan Insulation was the first construction product manufacturer to undertake a regular and comprehensive assessment of their manufacturing operations.

For this annual appraisal Kingspan Insulation use the SPeAR® (Sustainability Project Appraisal Routine) tool from Arup. SPeAR® is widely respected as one of the most accurate appraisals of sustainability, and is founded on work by the UK Government, the United Nations Environment Programme (UNEP) and the Global Reporting Initiative (GRI).

The whole range of manufacturing activities at Kingspan Insulation's Pembroke factory are examined in terms of economic, social, environmental and natural resource impacts. The structure of SPeAR® is intended to prompt innovative thinking and the development of better sustainable practice, and this has resulted in Kingspan creating an action plan for further improvement.

One important issue is fuel consumption and the resulting carbon dioxide emissions. Kingspan Insulation has installed a gas-fired CHP (combined heat & power) system at Pembroke, which provides around 90% of power and 40% of heating requirements and significantly reduces the site's carbon footprint. The long term objective is to switch the energy supply from gas to locally sourced biomass, and a similar CHP system is planned for the company's Selby facility.

Transport has been another area for improvement. An energy monitoring system is now used to track where major loads are in order to identify where improvements can be made and to better manage demand. The most recent innovation has been the introduction of double-barrelled trailers which has increased the capacity of the fleet by 11% – reducing extra vehicles on the road.

As manufacturers of high-performance rigid phenolic and rigid urethane insulation products, Kingspan Insulation offer one of the easiest and simplest solutions for reducing environmental impact.

The introduction of double-barrelled trailers is just one of the initiatives Kingspan Insulation has put in place to help deliver better sustainable practice.

For further information:
email: info.uk@insulation.kingspan.com

CEMENTING SUSTAINABILITY!

From Pierre Castien, General Manager, James Hardie Europe



James Hardie cement fibre products provide builders with environmentally friendly solutions.

As regulators and consumers become more aware of green issues, architects and builders have come under increasing pressure to improve the environmental performance and sustainability of the homes they build.

Many assume that green design comes with a significant price tag due to increased construction complexities and material costs. However, this does not have to be the case.

James Hardie, the world leader in fibre cement building products, provides several cladding and façade solutions that provide builders with more sustainable construction options.

While much of the initial focus on building sustainability was centred on the issue of energy efficiency, a more holistic approach has now emerged. This approach takes a much broader view of construction. It is now recognised that 'embodied energy' (which is the energy expended through all the processes associated with the construction and maintenance of a home) plays a significant part in the overall lifecycle analysis of a new home.

Conventional wisdom assumes that the embodied energy content of a building is small compared to the energy used in operating the building over its life. However, according to Pierre Castien, General Manager of James Hardie Europe, recent research has shown that this is not always the case and that embodied energy can be the equivalent of many years' operational energy.

The single most important factor in reducing the impact of 'embodied energy' is to design buildings with the total lifecycle in mind. This means the use of durable products is extremely important, particularly as some cladding products need regular treatment to preserve their visual and protective qualities and can be prone to weathering and cracking.

This is not a problem for HardiePlank™. The combination of cement, ground sand and fibre provides a product that offers flexural strength and durability, and impact, insect and fire-resistance – all properties that are desirable to the building industry. This durability means fibre cement to be used in very thin sheets, especially when compared to a number of other common materials. To put it simply, a little bit of fibre cement goes a long way!

Although a combination of timber framing and timber cladding gives the lowest value for embodied energy, this is on the assumption that the timber is sourced locally. Commenting on this Pierre Castien said, "There is little tradition of timber framing in the UK which means that home-grown construction timber can be difficult to find. As a result, where timber frames are used in the UK they are generally clad with brick, despite the embodied energy value of brick being around three times that of fibre cement claddings."

Fibre cement may not be at the lowest end of the embodied energy scale, but when you consider the durability of the material, the lack of maintenance required during its lifecycle and its potential for safe eventual disposal, the result, according to James Hardie's Smarter Green Book, "is a product that makes a relatively modest impact on the environment".

It is also important for architects and builders to balance sustainability with other factors such as design flexibility, ease of installation, cost, durability and maintenance. HardiePlank™ scores well in all of these areas. James Hardie's products provide architects with the freedom to create distinctive facades by complementing other cladding materials or as the main material in traditional full cladding designs.

All James Hardie products enjoy a 10-year limited warranty and are designed to stand up to the toughest conditions. HardiePlank™ is also pre-primed (the customer can choose from a range of colours) with no need for onsite painting.

These cement fibre products are easy to work with and they are practically maintenance-free, making them the ideal choice for builders, designers and architects, and the DIY enthusiast.

James Hardie also produce HardieBacker™, the market leading tiling substrate that provides superior protection against moisture damage and mould growth. As a product that has been specifically produced for tiling in wet areas HardieBacker™ significantly enhances the durability and lifespan of tiling in bathrooms and other wet areas.

For more information about James Hardie:
Visit: www.jameshardie.co.uk



EVIEE TODAY'S PRODUCTS FOR TOMORROW'S WORLD

Eviee is an environmental business, recently launched by SIG plc, Europe's largest specialist supplier of insulation, roofing, commercial interiors and specialist construction products.

Eviee specialises in supplying sustainable construction products for both existing, newly built homes and commercial buildings.

In addition to its comprehensive range of products, eviee is also able to provide impartial guidance relating to sustainable construction across its entire product portfolio.

Visit the eviee website at WWW.EVIEE.CO.UK which offers, amongst many other services, guidance on legislation, a glossary of important terms, frequently asked questions and a forum for construction professionals and self-builders to share best practice.

You can also call 0845 873 8612 or email enquiries@eviee.co.uk for further information and to request a copy of the eviee brochure.



NATUREPRO – HIGH PERFORMANCE ... NATURALLY

Sheep's Wool Hemp Wood Fibres

A range of thermally insulating materials derived from completely natural, sustainable and renewable sources is now available exclusively from SIG Insulations trading companies.

Clearly, all insulation materials – no matter what their composition – have a positive impact on our environment. By definition, insulation in a building helps to reduce the amount of fossil-fuel derived energy we consume.

However, when it's possible to use insulation materials that in addition to the above, are also natural and renewable – from an environmental perspective "it's as good as it gets".

The NaturePro range of insulation materials delivers the same performance as more conventional materials by using completely natural fibres.

They combine low thermal conductivity and relatively high thermal mass, insulating against the cold but also creating a comfortable summer environment.

Their natural hydrophilicity also provides moisture control which helps to reduce humidity, create a breathable building and thus improve building durability.

NaturePro systems provide low psi values which are a measure of the cold bridging between elements.

All NaturePro products will contribute strongly with respect to reduced environmental impact and responsible sourcing of materials, and the credits achieved when calculating the requirements for the Code for Sustainable Homes.



For more information:
Visit: www.natureproinsulation.co.uk or
email: sales@natureproinsulation.co.uk

A SYSTEM THAT OFFERS BOTH COST SAVINGS AND HIGHER THERMAL PERFORMANCE?



It's true. Not only is Insulslab SFRC proven to save circa £1,000 per plot on foundation costs (based on an average plot size of 50 sq/m) when compared to traditional Raft or Beam and Block methods, but it also generates average U-values of circa 0.1.

Available exclusively through SIG Insulations stockists, this high quality foundation system is suitable for a wide range of soil types and is based on a type of raft foundation comprising a series of interlocking pods that form a substantially rigid 'waffle' shaped slab over which steel fibre reinforced concrete is poured to form the finished slab. This shallow foundation system requires minimal excavation, is simple to design and construct and facilitates easier compliance with Part L of the Building Regulations without requiring an additional layer of insulation and screed.

If you have a new housing or commercial development of up to five storeys high, then Insulslab will save you money and make Building Regulations compliance easier.

Let us provide you with the proof ...

For a free cost comparison, design and U-value service, contact:

email: sales@insulslab.com or

Call: 0114 285 7138

SIG INSULATIONS – SIGNIFICANTLY MORE KNOW HOW

Via its multi-company structure, SIG Insulations supplies insulation and related materials to the construction industry and offshore, marine, petrochemical, power generation and heating and ventilating markets.

The following SIG Insulations companies supply the construction industry with specialist insulation, dry lining and related products:

- Sheffield Insulations • Warren Insulation • Orion Trent
- Woods Insulation • Solent Insulation Supplies • Franklin
- CHD Whittlesey • CH Insulation Products • Euroform Products
- Kitsons Thermal Supplies • Clyde Insulation Supplies • SIG Express



For more information, contact: 0845 450 5853
Or email sussed@sigplc.co.uk
www.siginsulations.co.uk

SIG Insulations is the insulation division of SIG plc