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# BUILDER

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## INSIDE THIS ISSUE

### NEWS

- Daqri Smart Helmet
- Making Tax Digital
- New Legislation on Pensions

### REGULATIONS

- Apprenticeship Levy

### EDUCATION

- Home Quality Mark
- Bre Academy

### TECHNOLOGIES

- Thermal Insulation



# APPRENTICESHIP LEVY

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FROM EDITOR

# FROM EDITOR

Dear Readers

The ninth edition of IBB Builder is themed around skills shortages in the construction sector in the UK. Demand for skilled labour is high and low numbers of new entries into the industry threaten the future of the housebuilding in the aftermath of Brexit. Bricklayers and surveyors are the most demanded professions. RIBA gave recommendations on how to tackle the housing crisis while Government created a strategy to attract people into the sector. Read about the Apprenticeship Levy and get ready for new rules in regards to training funding. Also, have a look at the training opportunities provided by BRE Academy. Check their range of courses on BIM, Breeam, Health & Safety or Sustainability. What's more, we included the information on The Home Quality Mark, which is the national standard for high-quality builds. Hope you will find all that valuable. As always news related to the industry are inside - update on the new legislation for pensions or Government plans to make tax digital.

As Autumn is around the corner, more projects will involve energy saving measures. This month technology section is about insulating materials. Compare the chosen products and their applications to be ready to choose the best solution for a particular retrofit. Technology section includes the description and the comparison of insulating materials. Check out our example of the cost estimation for insulation system. I hope this issue will help you avoid most common mistakes done during the installation of insulation sheets.

Also, this month we share with you insights on trends and developments in technology for construction. The latest tech gadgets make construction sites smart, improves work conditions and raise



employee's spirit. Have a look at the most recent epic innovations- Daqri smart helmet and Seek Thermal infrared imaging camera.

We enjoyed the Olympic Games in Rio. How about you? In our sport regular a little throwback and the summary of this fantastic sports celebration. While in the tennis section Mike James (GPTCA International Coach) analyses what is necessary for a player to develop from a junior player to a world class senior.

A little remainder that to become a subscriber and receive free printed version of IBB Builder visit our website and register. For a fast access to IBB Builder download our IBB Estimator app or like our fan page on Facebook. We hope you enjoy this issue and we welcome your ideas for future editions. Get in touch.

Magdalena Rosól  
Editor

**08 CONSTRUCTION NEWS**  
 Interest rates cut to historic low of 0.25%  
 RIBA 20-ways to tackle the housing crisis  
 The Daqri Smart Helmet  
 Making tax digital  
 New legislation on pensions

**14 BUILDING REGULATIONS**  
 The Apprenticeship Levy

**18 BUILDER EDUCATION**  
 The Home Quality Mark

**20 BUILDER EDUCATION**  
 BRE Academy

**25 CONSTRUCTION TECHNOLOGIES**  
 Thermal Insulation

**33 CONSTRUCTION TECHNOLOGIES**  
 Professional Infrared Thermal Imaging Cameras For The Smartphone

**35 MATERIAL COMPARISON**  
 Thermal Insulating Materials

**37 ESTIMATION**  
 Insulation

**40 TENNIS**

**44 IBB POLONIA LONDON FC**

**46 IBB POLONIA LONDON VC**

**48 FOOTBALL**

**58 ENTERTAINMENT**

**62 IBB MONTHLY DEALS**

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# Interest rates cut to historic low of 0.25%

The Markit/CIPS, purchasing managers' index, shows the largest fall in the UK's vital services sector in the last seven years period. It declined from 52.3 to 47.4 in July, and the reading below 50 indicates the contraction. It follows the decline in construction and manufacturing in July.

The building industry shrank at the fastest pace since June 2009. The economic activity slowdown is partly due to uncertainty over the future of the UK outside the EU. The other recent time when the index has fallen to these low levels was the global financial crisis in 2008.

The Bank of England cut interest rates to 0.25% from 0.5% and announced they could be cut even further. It is the first downgrade since 2009, and it is the done to mitigate the adverse results of the UK decision to leave the EU. Other steps will include injecting £60bn into the economy by buying



government bonds, £10bn to buy corporate bonds and funding for banks to help them cut the base interest rate. The Bank of England adjusted its forecasts for UK economic growth by 2.5 percentage points over the next three years and expects the quarterly GDP growth to slump to just 0.1% over the last months of this year. This help plan by the Bank of England means the economy might avoid the recession.

Construction companies reacted positively to lower interest rates. According to ONS figures,

the construction sector is already in recession declining 0.3% and 0.4% in first two-quarters of this year. However, lower interest rates might be a great boost for housebuilding industry and the incentive for property buyers.

However, construction companies report there is a weaker demand for building services. Clients adopted the wait and see strategy over than cancelling the future contracts. Partly it is risk aversion, partly lower investment spending by customers or awaiting lower building costs in next months.

## BOOK REVIEW

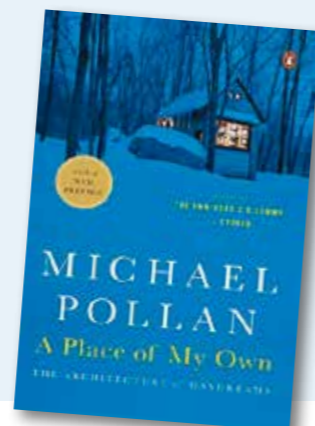
### A Place of My Own: The Education of an Amateur Builder by Michael Pollan

This time we would like to recommend our readers a prose. The book is about writer's experience of designing and constructing a small building in which to think, write and rest. This book is about the shed in the wood built by the author with the help of the architect and the carpenter.

Michael Pollan describes the relationship between architecture and landscape. He talks about how the spaces we live in affect us. From the spark of an idea through the search for a perfect site to the choice of

materials, Michael Pollan talks about the complex process of constructing a finished structure. He starts with the basics, mentioning architecture and writing about choices of windows, roofs, and other materials. There is also a bit about the conflict between all three parties involved- architect, client and carpenter.

Everyone who is planning a DIY project like building an own house should read this book. However, it is not about how to build a house but how to think about building. Worthwhile writing.



# RIBA 20-ways to tackle the housing crisis

New Prime Minister Theresa May has acknowledged in her first speech that the housing crisis exists in the UK.

She said that "Unless we deal with the housing deficit, we will see house prices keep on rising. Young people will find it even harder to afford their own home. The divide between those who inherit wealth and those who don't will become more pronounced. And more and more of the country's money will go into expensive housing instead of more productive investments that generate more economic growth."

Royal Institute of British Architects (RIBA) issued the recommendation to tackle the UK's housing crisis. The plan includes the appointment of the chief built environment adviser, opening up the market, advice the embedding design review in the planning process, scrapping stamp duty for downsizers and allowing council to borrow money to build social housing.

RIBA president, Jane Duncan, said: "With a new government and the leave result of the EU referendum, it is more vital than ever to ensure design quality isn't compromised as we ramp up the construction industry to keep Britain's economy growing and build much needed new homes."

The RIBA report 'Housing Matters : 20 ways To Tackle the Housing Crisis' offers a prescription covering housing policy or the establishment of a Chief Built Environment Adviser. The RIBA reports advise about better use of public resources to boost the house supply, making decisions locally, focusing on design, increasing support for new types of housing developments and provide self-build incentives. Amongst the RIBA advices is the proposed VAT rebate scheme for the renovation and improvement of homes with poor energy efficiency. In the UK there is a huge demand for affordable homes. There is need to promote, enable and finance new homes and improve the existing ones.



# The Daqri Smart Helmet

## New technology in health and safety

**The American company, Daqri developed the smart helmet equipped with an anti-reflective, scratch-resistant safety visor. The futuristic design makes it look like from the science fiction movie.**

It could soon be seen on construction sites. Designed to increase productivity, efficiency and safety. Daqri will be fully BIM compatible, allowing construction workers to share and view various building elements, data and plans.

This innovative smart helmet weighs no more than a standard safety helmet normally worn onsite, it comes with a 4D HUD - a transparent augmented reality display tailored especially for industrial environments. A 13 megapixel high-definition camera is also included that can be used for

capturing images and videos; 2D target recognition and tracking and object/colour recognition. The information can be shared in real time.

The helmet is powered by a sixth-generation Intel Core m7 processor and also includes Intel's RealSense technology to enhance its depth sensing ability. A programme within the camera called Intelitrack is able to capture and displays information about the user's environment. The software allows the location of the wearer to be identified without relying on GPS, Bluetooth or WiFi.

The Daqri helmet allows 4D work instructions to be obtained by the workforce quicker increasing the work efficiency. It also equips the worker with the thermal vision and ability to see or passively record temperature. Moreover, it allows also for data visualisation. It will provide assistance and can be worn as a remote expert. Daqri can change the future of work on the construction site.

Brian Mullins, Founder and CEO of Daqri said: "Daqri Smart Helmet is an entirely new type of human machine interface that is redefining the future of work by empowering workers with the latest in augmented reality and Internet of Things technologies.

"We've been working in the medium of augmented reality for the past four years, and what we found was, you just can't solve the most challenging problems with devices that were designed for consumers.

"We needed something that was designed specifically for industrial applications."



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# Making tax digital

**The Government in Budget 2015 announced its commitment to reform the tax system through its digitalisation. In the latest six consultation documents, HMRC seeks feedback on its initiative proposal.**

HMRC announced that paying tax will become easier for British businesses when HMRC's Making Tax Digital programme is introduced, and 1.3 million small businesses will be able to benefit from it without the need to send information to HMRC quarterly or keep their records digitally.

The benefits of Making Tax Digital include:

- Cash-basis accounting -paying tax on cash received, not on invoices issued
- Prompts and alerts with support for businesses and with advice on tax reliefs
- Greater certainty over tax bills

The smallest businesses and landlords will be exempt from digital record-keeping and quarterly updates. The existing annual tax return will be replaced with the simple and digital updates. The HMRS's Making Tax Digital will be more transparent, accessible and efficient. Paying tax bills will become more simple.

Edward Troup, Executive Chair, HMRC, said: "Making Tax Digital represents very significant change. It will bring the tax system into the 21st century and help make HMRC one of the most digitally-advanced tax administrations in the world. Going digital will abolish the annual tax return as we know it by 2020, replacing it with a personalised digital service through which taxpayers will be able to send and receive information to HMRC at the click of a button. There is still a lot to design and develop, and it's important that we do this hand-in-hand with our customers and their representatives; these consultations are the next step in this process."

(Source: HMRC)

**Tax Return 2016**  
Year 6 April 2015 to 5 April 2016



## New legislation on pensions

**All UK employers are required to automatically enrol all their eligible employees into a workplace pension scheme. The failure to adhere to this so called 'auto enrolment' will result in large fines. The auto-enrolment is the government's solution to the pension crisis connected with the ageing populations and under-saving by UK workers.**

The largest companies started enrolment in 2012, and now employers with fewer than 50 employees began the process.

At the beginning employers will contribute 1% of the employer's salary while the employee will contribute 0.8% and the Government will add 0.2%

to tax relief. The total 2% of the employee's annual salary will be contributed to a pension scheme. The process is automatic for employers, but employees are allowed to opt out.

There will be non-compliance fines for companies who will not adhere to the regulation depending on the number of employees. The sign-up procedure is simple, and there is The Pensions Regulator's Duties Checker where all requirements are described. The Employer must deduct contributions from employee's salary each month and pay these into the chosen pension scheme by the 22nd day (19th if you pay by cheque) of the next month.

The employer must automatically enrol the employee into a pension scheme and make contributions if the employee:

- is aged between 22 and State Pension age
- earns at least £10,000 per year
- works in the UK

If the employer doesn't have to enrol the em-

ployee by law, the employee can still join their pension scheme voluntarily, and the employer can't refuse.

However, employers are not required to contribute if employee earns these amounts or less:

- £486 per month
- £112 per week
- £448 per 4 weeks

When employee is enrolled into the pension scheme, the employer must:

- pay at least the minimum contributions to the pension scheme on time
- let the employee opt out if they wish and refund money already paid in within 1 month
- let the employee rejoin the scheme at least once a year if they've opted out
- enrol the employee back in once every three years if they've opted out and they're still eligible for automatic enrolment

(Source: HMRC)

Government's new initiative

# The Apprenticeship Levy

**On the 12th August, the Government has announced more details of its apprenticeship levy plans. Apprenticeship Levy will be formally introduced on the 6th April 2017 and it will allow small businesses which do not have a budget for training to apply for the government's funding to finance 90 percent of the costs.**

The apprenticeship funding will operate on from the 1st May 2017, whether the company pays the levy or not. The Government initiative is proposed to boost the UK's skills in certain sectors, for instance, construction. It will be applied to all industries in the UK and will replace the existing forms of funding.

The levy at a rate of 0.5 percent of an employer's pay bill will be paid through Pay As You Earn (PAYE). There will be an offset allowance of £15,000, equivalent to 0.5% on a payroll of £3 million. Any employer with a payroll above this threshold will have to pay the levy. Each month, the Apprenticeship levy will be collected by HM Revenue & Customs through the PAYE system. The employer pay bill is based on the total amount of earnings subject to Class 1 secondary NICs.

If the employer has to pay the apprenticeship levy, he will have to declare this and include in PAYE payment to HMRC by the 19th (or 22nd if done online) of the following month. The first submission will be in May next year. Any apprenticeship levy payment to HMRC will be allowable for Corporation Tax.

According to the data approximately 1% of employers registered with CITB will need to pay the levy, but the apprenticeship reforms will reach all construction sector businesses. Companies with a monthly wage bill under £250,000 will not pay the levy. The allowance of £15,000 is divided into 12 monthly allowances of £1,250. Where 0.5% of a month's pay bill is higher than the £1,250 allowance, the employer will pay the levy. However, if 0.5% of the monthly wage bill is under the £1,250, the balance of the allowance will be carried to the next month and deducted from any payment due in the higher payroll month.

In England, employers will be able to reclaim their levy contributions as digital vouchers to fund the training. Such voucher system will not exist in Scotland,





Wales and Northern Ireland where governments are about to decide how to distribute the funds. The unspent funds in an employer's digital apprenticeship scheme account will expire after 18 months. Also, employers in England who pay the levy will receive a 10% top-up from Government to their total monthly contributions.

Funds in the digital account can be spent on an approved apprenticeship training and assessment by the authorised organisations. These funds cannot be spent on wages, travel, work placements or the costs of setting up a training programme. All employers must choose an approved training provider and agree on the cost of the training. Government funding limit will be set on different qualifications for all employees. If apprentice training costs are above the funding threshold, the employer cannot use apprenticeship levy funds to make up the difference. All excess costs have to be paid separately. Where a company has used all the funds in its digital account, any further training will be financed through so-called the 'co-investment' model. However, the Government co-investment cannot be used to cover training costs above the funding cap.

Employers who do not pay the apprenticeship

levy will not be required to use the digital account and vouchers to pay for training until 2018. They will be required to select a registered training provider, agree on the cost of the training in the same way as larger firms that pay the levy. Employers that do not pay the levy must contribute towards the cost of their apprenticeship training. The employer will make an initial deposit to the training provider and agree on the payment schedule. The Government will then pay its share through 'co-investment', up to the funding cap limit for that apprenticeship. The co-investment rate will be confirmed in October.

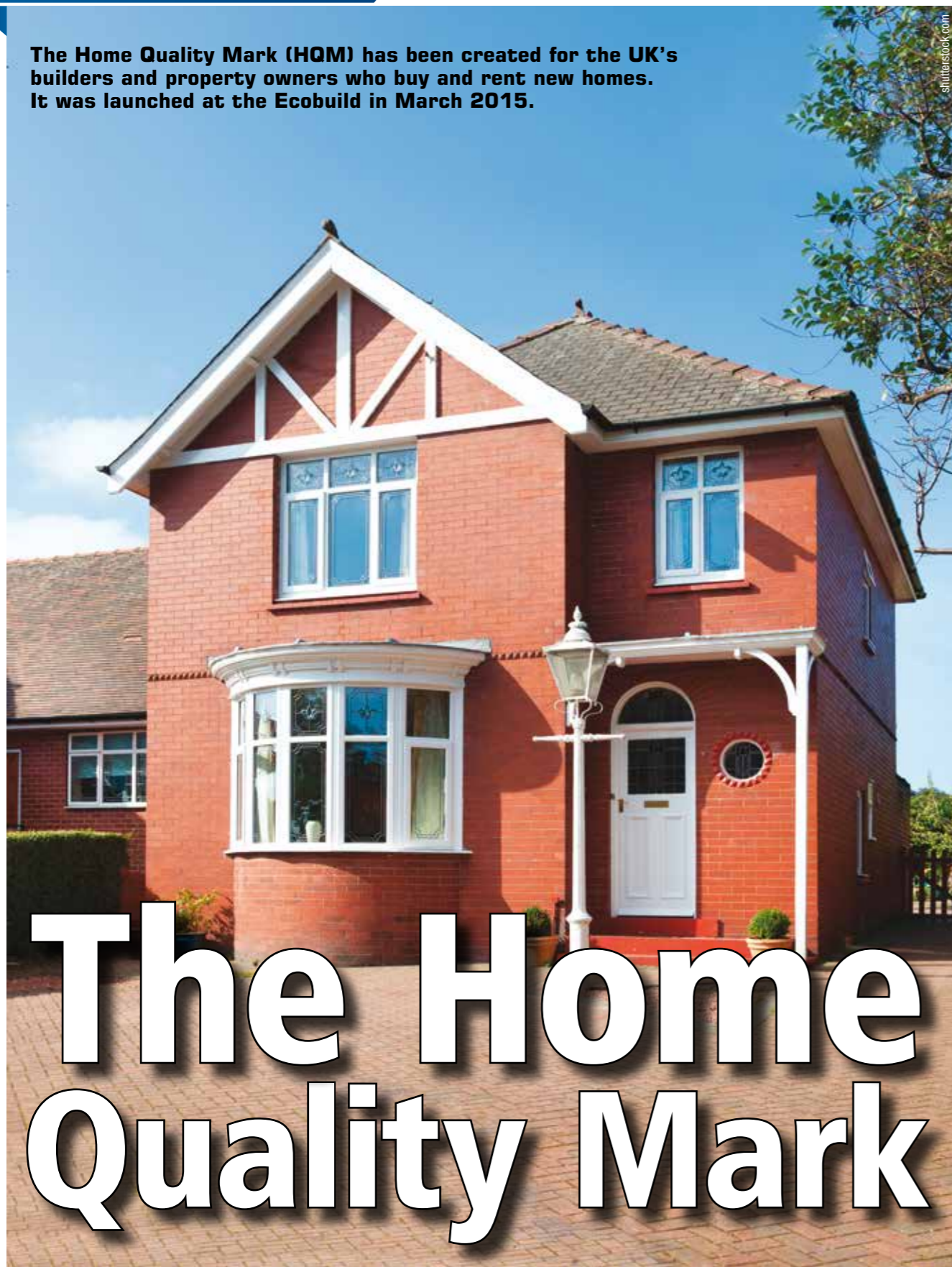
The Apprenticeship Levy is vital in the construction sector due to the significant skills gap in the industry. Thanks to the scheme employers can invest in employees without losing revenues. The scheme will start in April 2017. However, some businesses suggest it should be delayed due to the economic uncertainty connected with the Brexit result.

The construction industry has large shortages of skilled workers, and the only solution is to train more people. However, there are voices that the current apprenticeship scheme is not fit for purpose as some companies might replace existing

jobs as apprenticeships to meet training targets and reclaim the costs. There are recommendations to postpone the scheme introduction till 2018 to create a fairer system that will provide high-quality training.



**The Home Quality Mark (HQM) has been created for the UK's builders and property owners who buy and rent new homes. It was launched at the Ecobuild in March 2015.**



# The Home Quality Mark

The HQM is a national standard which helps builders to show the high quality of their builds on the marketplace. Also, it gives house buyers the confidence about the home design, built and running costs. Moreover, the HQM will show the home sustainability, resilience to flooding, energy saving or digital technology connectivity. Homes marked with the HQM sign will be cheaper to run, better located, more adjustable to climate changes. The HQM has been launched by BRE and together with BREEAM forms standards of quality and sustainability. BRE is owned by the BRE Trust, a registered charity that works to improve the quality and sustainability of buildings and built environment.

The rating will be given by independent qualified and licensed assessors who will check and score key aspects of the home. Indicators for the assessment includes aspects important for householders, developers and designers like for instance the running costs, maintenance costs, impact on health and wellbeing, sustainability and impact on the environment. To sum up the score and the HQM will provide information about the quality, performance and features of a new-build home.



**What to take into account to build the Home Quality Mark home?** Many house builders are constructing high-quality homes, sometimes even exceeding Building Regulation requirements in some aspects. However, they do not have the appropriate measurements of quality to convince customers of their benefits. The Home Quality Mark consists of two elements, a five-star rating giving a clear overall assessment of the home's quality, and indicators focussed on specific aspects relevant for home occupants, contractors and designers.

The elements assessed are divided into three categories:

**Knowledge sharing** - collaboration of architects, contractors, clients and householders

The higher quality homes can be achieved through the informative decisions all the way from the project start to finish. Such decisions require the collaboration, training and qualification and efficiency.

The key assessments points in this aspect will include:

- the verification of the communication effectiveness between all parties involved during the project management,
- the verification of the efficiency during the construction process like energy and water waste or reusable materials,
- The level of contractors and workforce skills and training provisions.

The quality of the home is checked during the building handover. Testing and assessing the performance of all systems are done to ensure all services are fully functional. There will be verification of support given by a contractor to a householder on how everything works. The HQM will outline the measures for homes like monitoring and control

system that provides information on maintenance requirements of homes.

**Our surroundings** - compatibility of homes with present and future surroundings

This section outlines the assessments points for homes that are compatible with the surroundings:

The awareness of the condition of land, flood risk, security, privacy and nuisance, infrastructure and water or energy supplies or drainage and sewage arrangements.

The design and character of the home to complement the existing area, a local character which can be achieved thanks to engagement with local

authorities and various bodies.

Maximising quality external space to use without compromising on internal space, access to digital infrastructure, the transport provisions, cycling and pedestrian facilities, car parking and electric charging, etc. Local amenities such as healthcare and education facilities, shops and banks, parks and leisure places.

**My home** - the provision of living spaces that are comfortable, healthy, cost effective and have reduced environmental aspects.

This section outlines the performance measurements for homes relating to energy, comfort and overheating like

- *air quality* - provision of an adequate ventilation
- *lighting* - access to natural light and energy saving lighting design with accessible controls
- *noise* - sound insulation, layout design to minimise external noise
- *temperature* - overheating avoidance by proper installation of insulation and ventilation
- *cost efficiency* - installation of controls to efficiently manage home
- *sustainability* - rewarding use of renewable energy sources, reduction of pollutants, reduction of CO2 emissions and other pollutants

The first house built to the HQM standards was the three bedrooms detached house built in Watford at the BRE Innovation Park. The Wienerberger e4 brick house was designed in partnership with Arup and is one of the first to achieve the HQM sign. It meets requirements of sustainability and cutting running costs while promoting health, wellbeing and quality of life. The Innovation Park is home to the examples of sustainable buildings, landscape designs and hundreds of pioneering low carbon materials and technologies.

HQM registrations are FREE until 31 October 2016. To register a project, you need a licensed HQM assessors - details of which can be found at the website [www.greenbooklive.com](http://www.greenbooklive.com) and to download the technical standard visit [www.homequalitymark.com](http://www.homequalitymark.com). The Assessor will take the applicant through the registration process and start the process of carrying out the assessment on the project.

(source: [www.homequalitymark.com](http://www.homequalitymark.com))

# BRE ACADEMY

**The qualified and engaged workforce is critical to the development of the industry. Continuous improvement to ensure that labour has up-to-date skills will impact on companies overall market and technical knowledge to fulfil any modern construction project. It is necessary for contractors, employers, educational bodies, governments and industry professionals to learn continuously to minimise the skills deficit and improve the future of UK build environment.**

BRE ACADEMY is the education centre for the construction industry. It provides the high-quality training and qualifications which are developed and delivered in cooperation with BRE and experts from the sector.

The skills shortages in construction labour and the housing crisis have to be tackled to ensure the construction industry remain strong. BRE Academy aims to be a leader in addressing the knowledge and skills gap by delivery of education programmes, CPD and development of skilled labourers and professionals.

BRE Academy offers tailor-made training, courses delivered by experts, globally recognised qualifications, excellent marketing programmes, accessible multi-platform delivery plus a variety of online and traditional courses.

The training portfolio of BRE Academy includes amongst others: BIM, BREEAM, Design, Energy, Fire, Health & Safety, Renewables, Security, Specification, Sustainability, Water.

Learning is based on the mixed approaches, where in class lessons are combined with e-learning. Online courses allow for more flexible studying. The BRE Academy offers membership to encourage lifelong learning and keep students up to date with developments and innovation in the construction industry. There are different membership levels-Student, Member and Fellow and each has a set of requirements for application. The membership supports the interaction between members and improvement of the specific skills for chosen career path. All BRE Academy members are required to do 15 hours of CPD learning per year.

The BRE Academy has announced dates for a new BIM course aimed at helping public and private sector clients who procure buildings and infrastructure, strategically implement and exploit the benefits of BIM throughout every stage of a project's lifecycle and deliver value to their business. Following on from the government's recent mandate on the use of BIM level 2 on all public sector projects, this face to face training is designed to give construction clients a firm grounding in BIM and all the processes, procedures, terminology and work actions it involves so they can efficiently procure, construct and manage their assets and get the best outcomes for their projects.

BRE Academy Director Pauline Traetto said 'To date BIM training has focused on the supply chain - the architects, engineers and contractors involved with designing and constructing buildings and infrastructure but actually it's critical that clients - who are responsible for procuring over £80 billion worth of buildings and infrastructure every year - better understand BIM because they can use it to influence the supply chain, deliver projects more effectively and efficiently and in the process become better clients'

Focussed on BIM Level 2 compliance, this two day classroom course is structured to encourage learning through practical examples and case studies. It covers

- BIM business drivers and outcomes
- HMG Government construction strategy and BIM Level 2
- Organisation, asset, & project information requirements
- Government soft landings
- Commercial and procurement considerations, employers information requirements
- BIM execution plan assessment & contract award
- Review and authorisation of the common data environment (CDE) information

The first course takes place 13 & 14 October at BRE in Watford. On completion, course attendees will have the option to take further BIM proficiency training with the BRE Academy or become members of its BIM network group.

The BRE Academy is the UK's leading provider of accredited courses on BIM. Its face to face and online BIM courses are design by world leading experts in the field.

For more information visit [www.bre.co.uk](http://www.bre.co.uk)



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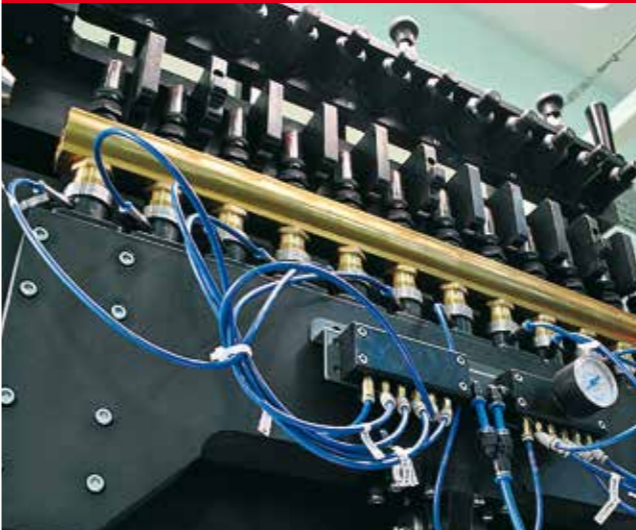
## We strive for perfection

Capricorn S.A. is a truly Polish company with tradition, which from a small family business in less than a dozen years has evolved into a modern management plant. For over twenty years we provide comprehensive solutions for our customers. Our actions are based on long experience and excellent knowledge of sanitary and installation industry.



## Best quality and safety first

We offer products from plastic, brass and stainless steel as well as complete underfloor heating systems. A feature that distinguishes our products is the unusual care of details and comfort of use already at the design stage. The functionality and efficiency of our products are tested by specialists of technical and industrial design institutes from several major universities in Poland. The safety of our products is ensured by our project team consisting of engineers, designers and quality specialists as well as by independent research laboratories in Poland.



## Still growing

Last decade was the time of significant changes and dynamic growth of our company. We have invested in development of new technologies and modernized our machinery. According to all that changes we were able to extend our offer with new products. Today we employ over **300 people** and we produce several hundred components and devices for **heating and sanitary systems**.



# The Guide to



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### STEP 3:



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### STEP 4:



Apply the adhesive fairly to the moulding.

### STEP 5:



Glue the moulding to the fitting area



Unit 1, 721 North Circular Road  
London NW2 7AH  
info@polyconcrete.co.uk  
tel: (+44) 0 203 015 96 53  
mob: 0 7506157999  
mob: 0 7989571071  
mob: 0 7590558652

www.polyconcrete.co.uk  
20 years of experience

#### Features:

Waterproof, UV resistant, temperature resistant, hard and shock proof, light load to walls, low material cost, low transport cost, low installation cost - no need for a crane, easy matching and cutting on site, fixing on glue, covered pegs or brackets, all stone layer types available, guaranteed work continuity for brick layers - cornices may be installed after bricklaying process, nicely adjoins to a wall - no gaps visible, life time warranty.

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# Thermal INSULATION

**Thermal insulation is the material or combination of materials that are used to provide the heat flow resistance. The more heat flow resistant is the building, the lower heating and cooling costs.**

The low cost insulation retrofits can dramatically reduce the heat loss and improve the energy efficiency of building. Insulation of buildings in UK is crucial for sustainable environment making homes more economically and environmentally friendly. Buildings in the UK hold Energy Performance Certificate (EPC) rating system which shows their energy efficiency. The insulating materials have to meet the requirements of current legislation including Part L, BREEAM and the Code for Sustainable Homes.

**Why is insulation required?**

To insulate the home with the most appropriate material it is essential to understand how heat flows. Heat flows in three different ways-

conduction, convection and radiation. Conduction is when heat moves through materials. Convection is the heat transfer by the motion of the fluid - it is the way heat circulates through liquids and gases. Warmer air rises while cooler falls. Radiation is the emission or transmission of the energy in the form of waves that passes through materials which absorb it.

Regardless of the heat flow mechanism, heat always flows from warmer to cooler until there is no temperature difference. Insulation material slows the conductive heat flow and to some extent the convective heat flow. Radiation can be limited with radiant barriers and reflective insulation systems. Heat flows directly from radiators, fireplaces, UFH, etc. to the spaces and from heated spaces to adjacent unheated spaces like garages, attics, basements and outdoors. Moreover, heat flows indirectly through ceilings, walls and floors. Also, heat can flow from outdoors to indoors.

Insulation provides effective resistance to heat flow. Proper insulation will remove the heat flows, reduce energy loss, cut energy bills and add comfort.

**Thermal conductivity, R-Values, U-Values**

Thermal conductivity (LAMBDA) is the measurement of how fast heat flows through the particular type of material, not taking into account material thickness. The lower the thermal conductivity of insulating material the better its thermal performance. It is measured in Watts per Metre Kelvin (W/mK). For instance wool and fibre, insulation has a thermal conductivity of approximately 0.034 W/mK while insulated panels about 0.008 W/mK.

The resistance of heat flow through a given thickness of insulation material is measured as R-Values. The higher the R-value, the better heat insulation is achieved. The R-value depends on the type of insulation, its thickness, and its density. For multilayered insulation system, all the R-values of each layer are added to calculate the R-value of the whole system. The more insulating material is installed in the building, the higher the R-values and the resistance to heat flow. The total thermal insulation of the cavity wall is calculated by adding the heat resistance of each separate layer. That is why the R-value is a relatively simple way



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to compare two insulating materials given the heat conductivity of each material. Moreover, it enables to see the difference when adding thicker layers of the same material. However, R-Values take into account only heat conduction. The amount of insulation or the R-value required to effectively insulate the home depends on the standard of existing insulation, the type of heating and cooling system, the part of the house which will be insulated. It is important to remember about the thermal bridging so to prevent the heat loss at the junctions. Heat flows more easily through joists, studs or other building materials so the effectiveness of an insulation depends on where it will be installed.

U-Values take into account all three ways for heat flow and measure the heat loss through a given thickness of the particular insulating material. With U-Value the rule is the lower, the better. The best insulating materials have U-Value close to zero. According to Building Regulations, the following elements should have the maximum- wall- 0.3 W/m2k, roof- 0.15 W/m2k, windows 1.6 W/m2k.

The uninsulated 225mm thick solid brick wall will have the U-Value of 2.70 W/m2K. To achieve better U-value, there is an option to insulate exter-

nally or internally with the 100mm of EPS insulation what should bring the U-value in line with the Building Regulations. In the case of 100mm of Rockwool insulation, same result can be achieved when both internal and external walls are insulated. To improve the cavity wall U-value for a new build, the 150mm of wool is enough, and it is the cheapest solution. The maximum U-value to achieve in the retrofitted cavity walls built before 1975 or between 1970-1995 is 0.5 W/m2K as there are limits connected with the cavity thickness. After 1995 all cavities should have the U-values in accordance with the Building Regulations.

**TYPES OF INSULATION**

1. **Fibreglass** - is an excellent non-flammable insulation material, with R-values ranging from R-2.9 to R-3.8 per inch. It is a cheap insulation option, but it has to be installed with safety precautions. It is made of woven silicon, glass powder or glass particles. It is cheap but requires careful handling.
2. **Mineral wool** - it has R-values ranging from R-2.8 to R-3.5 per inch. Mineral

wool is not fire resistant, but it is effective for thermal insulation purposes. It is eco-friendly and most cost effective. It is available in rolls or slabs.

3. **Cellulose** - it is an eco-friendly insulating material either loose fill or spray applied. It is highly fire resistant, not expensive and easy to handle. However, it requires skills for installation. It has R-values ranging from R-3.1 to R-3.7 per inch.
4. **Polyurethane Foam** - it is rigid foam insulation and has high strength so can be used under the floor or in lofts. It has the R-values of approximately R-6.3 per inch of thickness. It is fire resistant and provides acoustic insulation but less eco-friendly.
5. **Polystyrene** - it is a waterproof synthetic polymer, solid or foam, used as an acoustic and thermal insulator. It has a smooth surface and is ideal for wall insulation. It is highly flammable.



# Which part of the home should be insulated to achieve the optimal energy efficiency?



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## Attic insulation

Attic insulation is necessary to achieve the heat resistant home. It can be done with the loose or panels insulation materials. Duct system requires insulation to prevent the heat losses. Ceiling insulation allows for a room temperature to be distributed more evenly and reduce exceptional heat losses. For instance, rigid foam insulation under rafters eliminates thermal bridging.

## Roof and Loft Insulation

The heat loss through roof accounts for a 25%. The effective insulation of loft can cut the energy bill by up to 20%. Loft insulation is placed between the joists on the loft floor. The most common materials used for loft insulation include glass wool or rock wool, blown in cellulose or mineral wool. The current regulations imposed by the European Energy Centre imposes the requirement of a minimum 270mm of loft insulation. The recommended depth for loft insulation is:

- 270mm for glass wool,
- 250mm for rock wool,
- 220mm for cellulose

Loft insulation will add to the energy efficiency of the building.

## Cavity Wall Insulation

The Cavity is the gap of at least 50mm between the inner and outer leaf of brickwork or blockwork which are tied together with metal ties. The main materials used for insulation of cavity wall are mineral wool or polystyrene panels. Insulation of cavity is through the injection of the insulating material through the holes of 22-25mm, which are drilled before. There are various types of materials available like bonded bead, glass wool, rock wool or urea formaldehyde foam. The proper ventilation has to be secured.

## Solid Wall Insulation

Solid Wall Insulation is the most expensive to install and can take the form of external wall insulation, internal wall insulation or hybrid solution. External wall insulation requires boarding and beading, application of base coat and mesh plus top coat. Can be applied when tem-

peratures are above 5 degrees. Internal wall insulation requires laminated insulating plasterboard, insulated studs to minimise cold bridging. The hybrid solution is the combination of both external and internal wall insulation.

## Duct Insulation

The duct insulation system should be adequately insulated to avoid the energy losses associated with its operation. All paperwork, extractor ducts or air diffusers should be the insulated.

## Floor Insulation

Timber floors can be covered with the insulation panels. Proper ventilation has to be provided. Gaps and draughts around skirting boards can be insulated with sealants. Rigid insulation can be installed on top of the solid concrete ground floor. There is no need to insulate the floors above the ground level apart of

in garages or other unheated areas. In England and Wales, the U-values for floor should be of 0.25 W/m<sup>2</sup>K or less. To achieve this at least 70mm of high-performance foam insulation, or 150mm of mineral wool, should be installed, but this will vary depending on floor type, shape and size.

## Foundation Insulation

Foundation can lose a lot of heat and uninsulated foundations cause condensation.

## Slab and Basement Insulation

Concrete slabs can be a source of heat loss in a home. Installing slab insulation during the construction process is straightforward. The foam board is used either directly on the exterior of the slab and footing before backfilling or under the slab and alongside the stem wall of the foundation.



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	Heat loss	Targeted U-value (EPC Band B)	Possible solutions
<b>Walls</b>	35%	0.15	Cavity, Internal & External wall insulation
<b>Windows and doors openings</b>	15%	1.6	Double, triple, secondary glazing, sealants, shutters and curtains
<b>Roof</b>	25%	0.10	Pitched, warm deck or cold deck roof insulation
<b>Floor</b>	15%	0.15	Floor insulation
<b>Gaps, cracks, joints</b>	10%	n/a	Draughtproofing- ventilation with heat recovery

(source: www.superhomes.org.uk)

The UK's housing market is one of the least energy efficient in Europe. The Government put impact on the reduction of carbon emissions. The retrofits to existing homes are required to meet targets and create the more sustainable build environment. There are various retrofit incentives:

- Energy Company Obligation (ECO) - policy sets standards for energy suppliers to deliver energy saving measures to households, current scheme will expire in March 2017
- Minimum Energy Performance Standards (private rented sector) - landlords will have to improve EPS to E by undertaking improvements to legally rent the property
- Renewable energy Feed-in-Tariff (Fit)- financial incentive to invest in solar electricity, wind turbines, hydroelectricity, anaerobic digesters, and micro combined heat and power (CHP)
- Renewable Heat Incentive (RHI) - advice to invest in new technologies, supports use of biomass boilers, heat pumps, solar thermal collectors, biomethane, biogas
- The Green Deal - scheme which offered upfront loans to fund retrofits, no longer available.



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# MOST COMMON MISTAKES

## in installation of polystyrene sheets

The effective insulation of the building provides the homeowner with lower costs of energy. The quality of the thermal insulation is important for the home energy efficiency. What are the most common mistakes done during installation of thermal insulation with polystyrene?

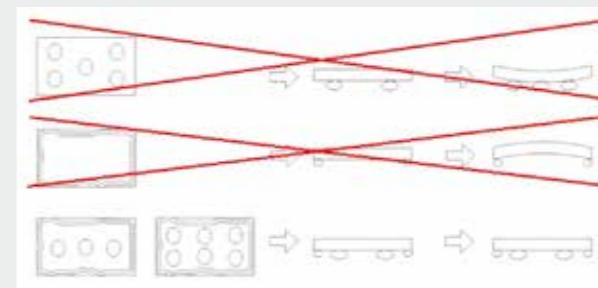
### 1. Poorly prepared surface

- inaccurate assessment of walls geometry (smoothness of the substrate)
- inaccurate assessment of the ground
- lack of primer

The substrate surface should be stable, even and dry. Dust, oil, efflorescence, biological or chemical contamination reduce adhesion of polystyrene plates. Minor irregularities (up to 2cm) and defects should be made smooth with the mortar levelling. Significant gaps can be eliminated by varying the thickness of the polystyrene.

### 2. Incorrect application of the adhesive

Application of adhesive should be only in patches and boundaries not on the whole surface. The consequence of wrong adhesive application will be bending of the polystyrene panel, loosening of the panels or visible joints between panels. The adhesive is applied on the panel:



- In strips on the edges of the boards of the width of 46cm. On the remaining surface in 3 to 8 patches. The total area of the adhesive should cover 40% of the whiteboard or 60% of the grey board.
- In the case of very levelled rendered surfaces the adhesive can be applied with the comb trowel on the whole surface of the board.
- Patches of adhesive should be placed symmetrically and have the same volume.
- The adhesive mortar is applied only on the surface of the polystyrene board, never on the substrate surface.

### 3. Inadequate choice of the adhesive mortar

The adhesive mortar has to be properly selected to avoid the peeling of the entire insulation system due to the weight of successive layers of the system.



### 4. Installation of the polystyrene sheets should be in "staggered" pattern - on one row install sheets horizontally, on the next one lay them vertically



Sheets should be aligned properly with the edges of the boards aligned to each other. Consequently, the installation should start horizontally from the bottom corner of the wall, using a full sheet, so that in next row should be installed vertically what will give the better strength to the whole system. In the next row, each sheet should be offset by a half length of the previous one. All sheets should be levelled and aligned properly. There should be no gaps between the sheets. To cut smaller piece than a full sheet the saw can be used.

### 5. Fill the gaps between foamed polystyrene adhesive plaster

Leaving gaps unfilled will result with thermal bridges. To fill gaps with width up to 4mm use System PU foam.

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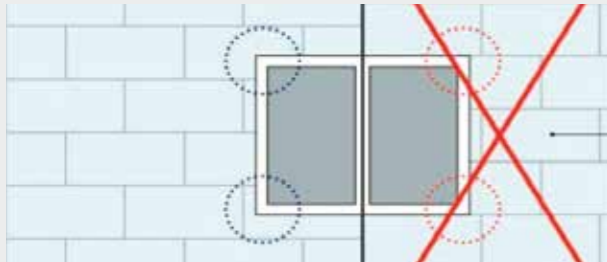
**6. Improper drill and installation of dowels**

Too deep drilling in the insulation sheets can result in the thermal bridges and destruction of the whole system. Too shallow drill will cause the bulge which will be visible on the facade.

**7. Lack of starter strip and overlapping** of the mesh onto the polystyrene sheets makes the system more prone to the adverse weather conditions and rodents.

**8. No grinding of the substrate layer** will result in the inequality on the facade and might lead to sheets peeling or dropping.

**9. Improper cutting of sheets for the door and window** openings and lack of mesh in this areas. The opening of the window should be in the middle of the sheet.



**10. Carrying out works at the conditions below 5 ° C, above 25 ° C should be avoided.** The result of installation in such weather conditions will result in too fast drying of the adhesive between the substrate and the sheet, what will lead to weak joints.

**11. Failure to use a sunshade for graphite polystyrene panels** will result in the loosening of the sheets and sheets falling.



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# Professional Infrared Thermal Imaging Cameras For The Smartphone

Up until recently, thermal imaging cameras were expensive and mainly used in industrial or utility buildings. They measure the radiated thermal energy and show the heat differences of objects. They have various applications in the construction industry. Professional infrared cameras allow to detect air leaks, find missing insulation or thermally audit home. In addition, thermal imagers allow to spot electrical issues or locate hidden dry-wall patchworks or uncover clogs and leaks. They enhance accuracy and efficiency and are very useful during site inspections.

- allows non invasive testing
- assess for fire or water damage
- detects areas which need to be repaired
- find the energy loss
- verify the insulation system
- verify the electric system - overload energy circuit, loose wires, safety hazards
- assist with roof inspections- air leaks
- assist with moisture inspections - leakages, clogs
- reveal pest infestation, locate lost pets at night

As technology is getting better infrared thermal imaging devices are available nowadays for smartphones. In 2015 at the IFA Berlin 2015 consumer electronics trade show, Seek Thermal™ introduced on European market first ever compact professional thermal imaging cameras- The Seek Thermal Compact and Compact XR for both iPhone and Android smartphones.

"Seek Thermal wants to make thermal imaging technology simple to use and accessible to all for the benefit of everyone, not just a few," said Mike Muench, CEO of Seek Thermal. "By introducing to

*"Seek Thermal wants to make thermal imaging technology simple to use and accessible to all for the benefit of everyone, not just a few".*

Mike Muench  
CEO of Seek Thermal



the European market the first consumer-ready thermal imaging technology which is portable, compact and affordable, we are giving millions of people a powerful smart tool and personal safety device at their fingertips.”

The Seek Thermal Compact imaging cameras contain an advanced thermal sensor and custom chalcogenide lens to capture, detect, and translate heat into a thermal image that’s visible to the human eye. The pocket-size thermal camera operates with a free app that makes it easy for people to get started with thermal imaging, capture or share thermal photos and videos, and select from different temperature measurement modes, and see the unseen. Now, this military-grade technology makes it easier than its ever been to master home energy problems, conquer the outdoors

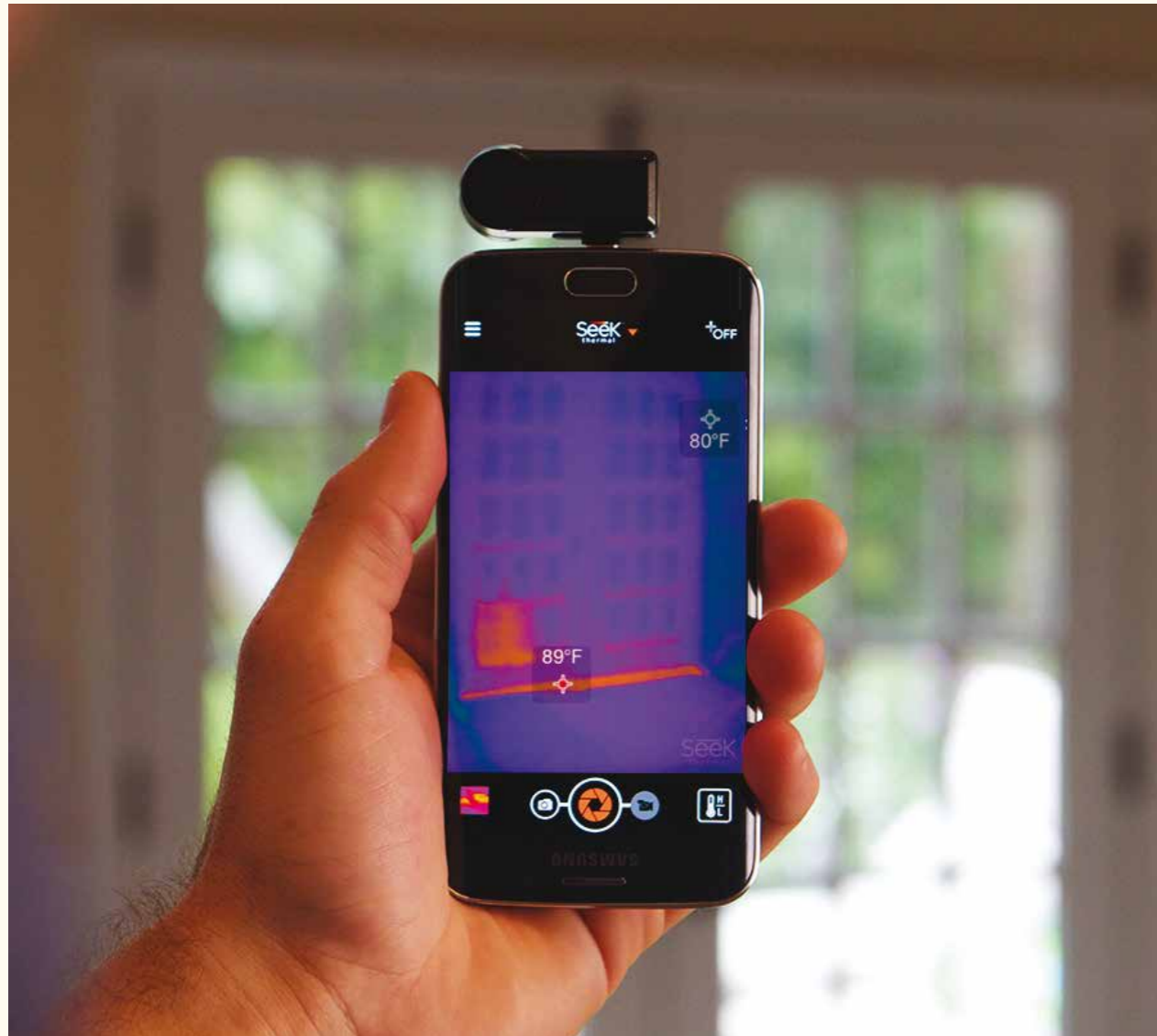
and stay aware of the situations in the day time or complete dark. The camera weighs only 0.5 ounces and creates true thermal images with a resolution of 206 x 156, or over 32,000 thermal pixels and turns your smartphone into a smart tool.

The Seek Thermal Compact costs approximately £224.00 including VAT. The Seek Compact XR with a variable focus lens and extends the distances up to 1,800 feet with a narrower field of view to 20-degrees sells for £259.00 including VAT. Both products are available at Amazon. The free Seek Thermal mobile app can be found on the App Store and Google Play.

This year in June, Seek Thermal™ announced the company’s first line of high performance, af-

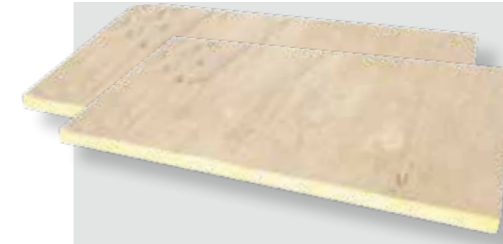
fordable, infrared thermal imaging cameras for experts and contractors in industrial and commercial building trades. Available soon, the Seek CompactPRO weighs less than 0.5 ounces and plugs directly into an iOS or Android smartphone device for instant connect-and-detect convenience. The CompactPRO is the first thermal imaging camera built for a smartphone to ever feature 76,800 measurement pixels, a thermal sensor array of 320x240. The CompactPRO is also an innovative game-changer in helping to make thermal imaging technology more easily affordable and available to professionals working in the building, electrical, mechanical fields and more.

For more information visit [www.thermal.com](http://www.thermal.com) (source: Seek Thermal™)



# Thermal Insulating Materials

There are various types of insulation available and to choose the proper type for a particular building it is necessary to determine where the insulation will be installed and what are the recommended R-values for that specific area. Other aspects relevant to the insulation material choice include ease of installation, indoor air quality, durability, recycled content or embodied energy. The recommendations are to use the thermal insulation that has a little impact on the environment, great thermal properties and has been responsibly sourced.



## KINGSPAN KOOLTHERM K5 External Wall Board

It is high performance external wall board with a fibre-free rigid thermoset phenolic core used for external insulation on masonry walls behind traditional and lightweight polymer modified renders and dry cladding systems.

- Premium performance rigid thermoset insulation – thermal conductivities as low as 0.020 W/m.K

- Class 0 fire rating
- Class 0 fire rated insulation core G Negligible smoke obscuration
- Suitable for use behind traditional and lightweight polymer modified renders and dry cladding systems
- Unaffected by air infiltration G Resistant to the passage of water vapour
- Easy to handle and install
- Ideal for new build and refurbishment
- Non deleterious material

- Manufactured with a blowing agent that has zero ODP and low GWP
- If correctly installed, KingspanKooltherm® K5 can have an indefinite life. Its durability depends on the supporting structure and the conditions of its use.

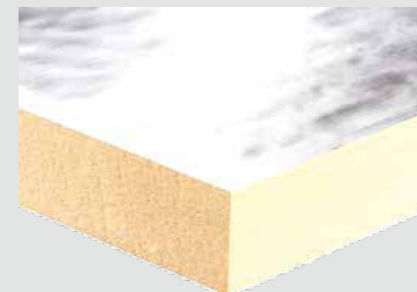
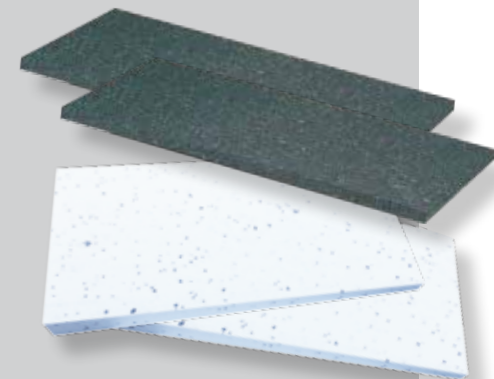
It is used for insulated render system, ventilated cladding system, for solid brick walls, solid blockwork walls, brick or dense block cavity walls insulation.

## POLYSTYRENE PANELS EPS

Expanded Polystyrene (EPS) panels is the expanded polymer insulation with the appearance of a white or grey foam material.

- Lightweight, strong, clean and easy to handle
- Low thermal conductivity
- High strength-to-weight ratio
- Provide insulation from temperature and noise
- Used as a base for rendered panels

- Various applications both residential and commercial
- Perfect for insulating ceilings, under-slabs, walls, roofs, bathrooms, steel studs, timber studs, and concrete and masonry constructions.
- Available in a range of thicknesses from 10mm to 600mm
- Standard sheet sizes



## PIR INSULATION BOARD

Polyisocyanurate was invented in the 1930s and still offers the high performance insulation solution. It is a thermoset plastic rigid thermal insulation. The rigid PIR insulation core is pressed between two high performance layers to create a tough, durable, light weight insulation board.

Applications include built up flat roofs, concrete slab floors, single timber frame wall lining, balconies and terraces, pitched roofs.

- Achieve low Lambda values - great thermal performance
- Lightweight
- Durable
- Resilient to mould and microbial growth
- Non-irritant
- Easy to cut and install

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## GLASS MINERAL WOOL ROLL



It is made of fibres of glass minded into a material similar to wool what creates the air gaps in its texture and results in thermal insulation properties. Also available in rolls.

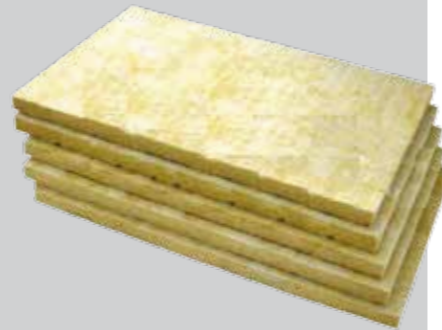
- Wide variety of applications
- Easy to install
- Flexible and lightweight
- High tear strength
- Provides thermal and acoustic performance
- Rot-proof, odourless, non-hygroscopic
- Resilient to the growth of fungi, mould or bacteria
- It is chemically neutral and does not contain impurities

## EARTHWOOL DRI THERM CAVITY SLAB

These are semi-rigid or rigid slabs of non-combustible, water repellent, glass mineral wool. They are 455mm wide to suit standard vertical wall tie spacings, ensuring a closed joint with adjacent slabs.

Used for the thermal insulation of masonry cavity external walls and are installed to fully fill the cavity. They are approved for use in buildings up to 12m high in any exposure zone and multi-storey applications up to 25m in height.

- Odourless, rot proof, non-hygroscopic, do not sustain vermin and will not encourage the growth of fungi, mould or bacteria
- Moisture resistant
- Contains no dye or artificial products



## ROCKWOOL PROROX SLAB RWA45



It is a high-quality resin bonded slab, strong and flexible wool board for the thermal insulation. Specialist sizes and thicknesses are available to order. Insulation slabs provide excellent thermal, acoustic and fire insulation. RWA45 is also known as ProRox SL 920 UK. Rockwool Prorox is often used as the acoustic insulation in floor and ceiling voids or stud and party walls.

- Provides thermal, acoustic and fire insulation
- Water repellent
- Easy to install
- Cost effective
- Durable
- Available in dimensions 600mm x 1200mm (1000mm for faced slabs)
- Available in thicknesses 100mm
- Four slabs per pack
- Pack coverage: 2.88m<sup>2</sup>
- Thermal conductivity: 0.035 W/mK

	Kingspan Kooltherm KS	Polystyrene Panels EPS	PIR board	Glass Wool Roll	Earthwool Dri Therm Cavity slab	Rockwool Prorox slab RWA45
Cavity Walls	✓		✓		✓	✓
External Insulation	✓	✓				
Internal Insulation	✓	✓	✓	✓	✓	✓
Between roof rafters			✓	✓	✓	✓
Concrete Floor		✓	✓			
Between timber floor joists	✓		✓	✓	✓	✓
Partition Walls				✓	✓	✓
Foundation		✓	✓			
Ceiling				✓	✓	✓
Acoustic insulation	✓			✓	✓	✓

# Insulation

To keep your home warm, proper insulation is required hence floor, wall, ceiling and partition wall insulation should be applied. There are some important rules to follow during insulation - see the bottom of estimation.

### Estimation conditions

- materials are delivered on site
- internal transport horizontal and vertical is included in the average building situation
- calculation of materials includes an allowance for waste
- water, electricity, and small amount of materials are added with 1.5% rate calculated from basic materials

### Sequece of operation

- insulate floor surface with proper insulation products eg PIR insulation
- insulate stud partition wall
- insulate ceiling construction
- insulate cavity wall

### Coverage of materials for making 1sqm of insulation

No	Material	Unit	Price* excl VAT [pcs]	Coverage	Photo	Price excl. VAT	Price incl. VAT
1	Floor insulation PIR board 100mm thick 1200*2400mm = 2.88sqm	sheet	£45.75	0.365sh/sqm		£16.70/sqm	£20.04/sqm
2	Partition wall mineral wool KNAUF Earthwool 75mm 0.455m*1.2m @ 8 slabs = 4.37sqm	pack	£15.99	0.25pack/sqm		£4.00/sqm	£4.80/sqm
3	Ceiling accoustic glass wool insulation KNAUF 100mm 2 @ 0.6m*9.17m = 11.00sqm	roll	£37.20	0.095roll/sqm		£3.53/sqm	£4.24/sqm
4	Cavity wall mineral wool insulation ProRox 50mm 0.6m*1.2m @ 9 slabs = 6.48sqm	pack	£25.40	0.17pack/sqm		£4.32/sqm	£5.18/sqm

\* products available at above prices in all IBB Polish Building Wholesale branches – retail prices before discounts



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#### Expenditure of Labour for making 1sqm of insulation

No	Description	Labour hours	Rate excl. VAT [GBP]	Cost [GBP] excl. VAT*	Cost [GBP] incl. VAT
1	Floor PIR insulation	0.082 lh/sqm	£35	£2.87/sqm	£3.44/sqm
2	Partition wall mineral wool insulation 75mm thick	0.12 lh/sqm	£35	£4.20/sqm	£5.04/sqm
3	Ceiling accoustic glass wool insulation 100mm thick	0.15 lh/sqm	£35	£5.25/sqm	£6.30/sqm
4	Cavity wall mineral wool insulation ProRox 50mm thick	0.156 lh/sqm	£35	£5.46/sqm	£6.55/sqm

#### Important:

- for the proper insulation of cavity wall it's essential to leave gap between both leaves of cavity wall to prevent migration of humidity both to inner leaf and into insulation
- glass wool or mineral wool do not absorb water but structure of insulation made of them does - insulation loses its quality
- proper insulation is required also for avoiding cold bridges
- areas not properly insulated may cause moulds and fungus to arise
- to prevent migration of humidity into insulation it's recommended to use DPM barrier

#### Usefull tools:



Seek Thermal is the most advanced thermal imaging camera for smartphones

#### Attention!

Our norms and rates should be taken as a guide only and there are no obligations for anybody to follow them. You have to take sole responsibility and apply your own rates to your quotations. Cost of materials may vary from prices shown. We cannot accept any responsibility for anyone using this information - you must make your own checks.

# QUALITY ALUMINIUM LADDERS & SCAFFOLD TOWERS



Multifunctional, telescopic TELES.T4S



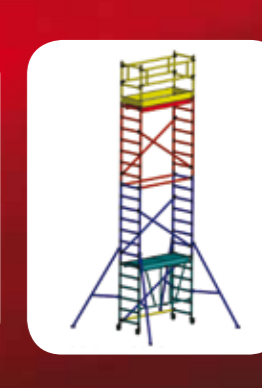
Three elements ladder ST350/3N



Three elements ladder AK225.3



Aluminium ladder PLS3



Scaffold COMPACT packet A+B+C+D

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**TENNIS COACHING**  
– Mike James (GPTCA  
International Coach)  
analyses what is necessary  
for a player to develop  
from a junior player to  
a world class senior. The  
player, the coach and  
the parents must work  
together in the quest for  
excellence.



# Coaching:

Developing Juniors to become  
**World Class Seniors**

You simply cannot predict with certainty which junior players on the Tennis Europe and ITF circuit will or will not come through to become world class seniors.

In this article I will give you my thoughts on basic principles that are essential in helping players to attain the goal of making it to International senior Tennis. Making the future a bit more predictable rather than a lot less so.

The three most significant partners in the quest for excellence, are the Coach, the Player and last but not least the Parents. To have a relationship with an open & honest communication that all parties "buy in" to this Commitment to Excellence and work hard day in and day out is vital for the players transition. Excellence starts from the moment the player gets up in the morning and dedicates their time in preparing for the day eating the right foods with nutritional value through static stretching before training and treating the warm up as an integral part of the on court session.

Caring for the Athlete as a Person and understanding what makes them perform at their optimum level as the coach is vital for success. Other members of the team built around the player, should always consider the player first and winning second and have the unique ability to show empathy and understanding in all situations.

Allowing the player to create and hold the ownership of success and to let them aspire to be the best they can be is key through out their Tennis journey.

Key components that the player must have are:

- Have groundstrokes that allow them to hit through the court & damage off both wings.
- Can constantly defend with quality to turn the point around
- Have a character that can deal with adversity week in and week out

From a psychical as point of view "any player making the transition from the junior to the senior tour is challenging. Players need great robustness to reduce the chance of injury and be able to compete at a higher intensity for longer durations. Therefore greater conditioning is likely to be required. Players need to manage their bodies to maintain longevity and understand that although missing particular tournaments may reduce the likelihood of picking up ranking points, long term planning rest and regeneration is essential" (Science in Tennis 2014)

Mentally there are "two areas that young players breaking into the senior game should look closely at are self-awareness and resilience. Regarding self-awareness, players need to understand exactly what gets them in the

best frame of mind to perform at this new level. Players must be clear on their areas to improve and, more importantly, their strengths in every aspect of their game. It is also critical for the player to understand the type of preparation they have to do in order to be emotionally prepared for battle each time they step on court. To improve self-awareness players should think about their role models, goals and ambitions, values and philosophy, and the strongest areas of their personality.

In the critical early stages of their senior career players must be prepared to fail and encouraged to learn from these failures. Resilience is about accepting adversity and learning

something from every setback. Resilient players will have a consistent effort level regardless of the challenges they face. They will have a positive attitude to training and competition and view negative situations as opportunities rather than obstacles. Their emotional responses to problems, while not always positive, will be controlled and directed towards finding a solution." (Grand Slam Sport 2014)

The above thoughts and points are not exclusive for a players development though are the most important ones and would serve as a good template of self examination by any coach who really wants to help turn a Quality Junior into a World Class Senior.



From left: Sam Millard, Mike James, Filip Ambrozy



# IBB Polonia London is expanding to football!

The top volleyball club in England, IBB Polonia London is expanding its operations to encompass youth football. In existence since 1973, the club has registered under 7, under 8, under 9 and under 10 teams in 2016 to the best league in the area: Harrow Youth Football League. The initiative confirms the aims of the club which wants to play a bigger role locally and nationally.

Bartek Luszcz, President of IBB Polonia London stated: "it's a very important development for us- as a professional sporting organisation, we want to create as many sporting opportunities for sport for the youngest. Football may

attract more players than volleyball, so we will be inviting even four year olds to our events."

The young footballers will benefit from the experienced marketing campaign of the top volleyball club in the country, which guarantees the highest quality of organisation. The person in charge of the football section is Pawel Jurgielewicz: an ex player from Poland, who for the last three years has been running junior sessions in one of the London clubs.

"I am very happy to join such a great organisation as IBB Polonia London. For the last few years my players have been winning their age group competitions; now with the support and

knowledge of such an experienced partner club as IBB Polonia London, I think we can create something very special. Football, as we know, is very popular in the UK and so it will be amazing to appear under the name of Polonia" said Pawel Jurgielewicz: the director of the football club.

Both teams will play in their leagues under the same name: IBB Polonia London: the sponsor is a chain of building suppliers. IBB Polish Building Wholesale has expanded its support to three sports: volleyball, tennis and now football.

*Information is available from coach Pawel jurgielewicz: coach@poloniafc.com*

The interview with Piotr Graban  
- new coach of IBB Polonia London VC

# To win everything possible

**The current Champions of England, IBB Polonia London, for the first time in their history will take their place in the CEV Challenge Cup. Under the supervision of the new coach, they will also defend their title of the Super 8 Champions and the National Cup. Piotr Graban, known to all volleyball fans from his work recently at Atom Trefl Sopot, has replaced Vangelis Koutouleas; reports Katarzyna Strag.**

*It's almost a whole month since you arrived in London; have you settled in and managed to do any site-seeing?*

I think so. Firstly I had a small issue with local transportation, but quickly learned how the system operates, and now I travel around like a Londoner! In addition, the locals are very friendly and so I feel positive about my experience here.

*Have the adaptations to an English team gone smoothly? Is the situation here very different to Poland in volleyball terms?*

The League in which I had the privilege of coaching is one of the best in the world"

confirmed Graban, "It's a little different here in London, but I'm sure I can adapt to it. The main thing is, that volleyball players are very adaptable and used to change. I'm confident that before long, we will all be operating at a higher level and the results of this work will be seen fairly soon.

*Have all the players returned from their summer breaks?*

Two of our players are still not back as they are competing on the beach tour very successfully. The final event will take place on the 9th September and as a result are unlikely to attend pre-season training games in Poland. The rest of the team is in place and I am happy with what I have seen.

*So the squad is more or less in place; are you still looking for more players?*

Yes, we are close to finalising the group, however if there is someone out there of the appropriate level, we will look at them and see where we can use them. We invite such players to trainings to check their skills. We currently have 12 strong players, but the best scenario would be to increase it to 14" this will be how the team looks when the beach players return.

*With such a squad, it should be possible to repeat last season's successes shouldn't it? What are the aims of the team for the coming season?*

It is hard for me to say at the moment, It's obvious that everyone wants to win everything

possible, to win everything in England and to accomplish something in Europe that nobody has ever achieved in this country. It's not going to be easy; a large portion of the team has been changed. I have arrived with my ideas and methods and started to introduce different defensive and attacking systems. We certainly need some time to get it all running smoothly. I'm very impressed with the skill set of the players and the effort that they put into each training. Next month I will have the chance to start to look at the Super 8 league and to check out their competitive levels. At the moment, things are progressing very well and I am very optimistic.

*This will be a historic time for IBB Polonia London as they start to compete in Europe; you have that experience for sure. Will that be a help to you to prepare for this competition?*

Yes it will; I have won the Champion's League for women as one of a team of coaches. Now we will take part in the CEV Challenge Cup I think that the Committee made the correct decision to take part in this event. English clubs are not yet strong enough to compete in the Champion's League, but at this level I think there is a chance of some positive results. With this in mind, I have a plan to introduce 2 or 3 new ideas that we won't be using in the domestic league. Currently we are working on the basics of ball control. I don't want to confuse the players with too many new ideas,

but in time they will form part of our training plans. recently in 6 on 6 scrimmage situations, the players have started to look good. soon we will start to develop systems that once in place will be hard for any one else in our league to compete with.

*Do you feel pressure to achieve the same as last season?*

I think the biggest pressure I feel is from myself. Nobody in the club has placed any undue stress on me that we must win anything. I aim for perfection and I want the best for the club.

*The players adore the fans and their support; is the feeling the same from the coach?*

That's a tough question: We know we play better in front of a large audience, especially when they are your own supporters; when they support the opposition it's harder. You feel the applause,

the chanting, the shouting, but I am focussed on the match. I appreciate what they bring during games and enjoy exchanging thoughts with them after the game. I'm pleased we have the fans and am happy they will be coming to support us. I can add my own invitation for them to come to all of our matches and support us. I'd like the relationships between team and fans to become even stronger. Maybe the club will organise an event for the players and fans; currently however we must prepare for the season.

*The Olympic Games in Rio were a huge sporting event, and volleyball emerged, once again, as a top event to watch. Did you get a chance to watch?*

Of course. I didn't get to see every game, but I see what I can and draw my own conclusions from the teams and results and try to incorporate the ideas into our club.

*Do you think any of our players at IBB Polonia London could ever make it into the Polish Olympic team?*

I think there is a greater chance of getting into the GB team in the next Olympics. After all, a number of the players have already been in their National team. I wish the players all the best, but I am a realist. I will make the best players out of them that I can, and if they take it to the next level; well that is their choice.

*Do you think someone like Antiga would ever coach in London?*

Who knows, best of all that coaches are developed domestically. I'm starting to build my own career here. In about 5-7 years I would like to be the coach of a National Team: best of all the Polish team. If not, I will try elsewhere. we will see.



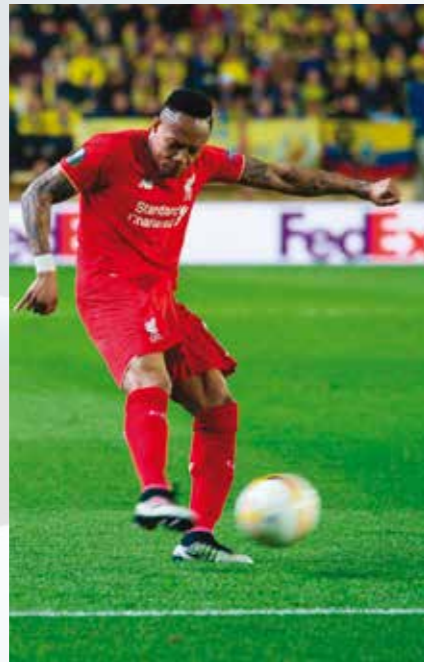


## NEWS 1

**Christian Benteke signed by Crystal Palace for 27m**

Crystal Palace have agreed with Liverpool to sign 25-year old Belgium striker. Christian Benteke needs to have medical check to finalize terms.

He joined Liverpool for £32.5m in July 2015 and would be Palace's record signing.



## NEWS 2

**Kamil Wilczek returns to Polish national team**

Adam Nawałka gave preliminary list of players for the Polish national team for the match with Kazakhstan. It will be based on the same football players as the Euro 2016. Full team will be announced on 25th August. The only player that did not go European Championship is Kamil Wilczek. Brøndby IF striker was previously appointed however did not made his international debut due to the injury. Recently he is in a very good disposition, scoring 7 goals and 3 assists in 11 games. It is not surprising that Nawałka reaches for the player who will compete for the role of substitute to Robert Lewandowski and Arkadiusz Milik. Today their position in the frame is untouchable.



## NEWS 3

**Leicester City sign Bartosz Kapustka on five year deal**

Leicester have signed Poland winger from Cracovia. The 19-year-old has signed a five-year deal and has cost reportedly £7.5m. He is the fifth player sign by Claudio Ranieri after keeper Ron- Robert Zieler, defender Luis Hernandez, midfielder Nampalys Mendy and forward Ahmed Musa. Kapustka impressed during Euro 2016, playing for Poland in four out of five games.



## NEWS 4

**Paul Pogba record 89 million transfer to Manchester United**

Manchester United re-sign France 23-year old midfielder for world-record £89m after four years away playing for Juventus for £1.5m from 2012.

Pogba has won 38 caps for France and helped them reach the Euro 2016 final. He has won the Serie A title with Juventus four times and has made 178 appearances with them, scoring 34 goals, and helped the club reach the 2015 Champions League final. After Ivory Coast defender Eric Bailly, Swedish striker Zlatan Ibrahimovic and Armenia forward Henrikh Mkhitaryan, he is Jose Mourinho's fourth signing at United. Pogba will cost Manchester 105m, plus 5m in performance-related bonuses, and other costs, including five million euros if Pogba signs a new contract.



## NEWS 5

**Joe Hart set to leave Manchester City**

Joe Hart is considering a move away from club after being dropped by Pep Guardiola for Manchester City's opening game with Sunderland and against Steaua Bucharest. Everton and Spanish Sevilla are interested in taking 29-year old England star in loan. Hart has made nearly 350 appearances for City in all competitions since joining them from Shrewsbury in 2006.

After Wayne Rooney, he was the most senior player of England during Euro 2016. They were knocked out in the last 16 after mistakes against with Wales and Iceland. Pep Guardiola told that there are no plans for England's no 1 to be back on field as Manchester City are close on Barcelona goalkeeper Claudio Bravo.



## NEWS 6

**Legia Warszawa closer to qualify for Champions League**

Players of Legia Warszawa scored 2:0 against Dundalk in Dublin in the first game of the last round of qualification to Champions League. Goals for the Legia were scored by Hungarian Nemanja Nikolic in 56mins by penalty shot and by Swiss Aleksander Prijovic. The result brought Polish team closer to prestigious European competitions in 20 years. The next games are on 23rd and 24 of September. The win can bring them to the best 32 clubs of continent and can give at least 14m - 2m for the passage of qualification and £12m for participation in the group stage.





# Olympic Medals Standings

		GOLD	SILVER	BRONSE
USA	United States	46	37	38
GBR	Great Britain	27	23	17
CHN	China	26	18	26
RUS	Russian Federation	19	18	19
GER	Germany	17	10	15
JPN	Japan	12	8	21
FRA	France	10	18	14
KOR	Republic of Korea	9	3	9
ITA	Italy	8	12	8
AUS	Australia	8	11	10
NED	Netherlands	8	7	4
HUN	Hungary	8	3	4
BRA	Brazil	7	6	6
ESP	Spain	7	4	6
KEN	Kenya	6	6	1
JAM	Jamaica	6	3	2
CRO	Croatia	5	3	2
CUB	Cuba	5	2	4
NZL	New Zealand	4	9	5
CAN	Canada	4	3	15
UZB	Uzbekistan	4	2	7
KAZ	Kazakhstan	3	5	9

		GOLD	SILVER	BRONSE
COL	Colombia	3	2	3
SUI	Switzerland	3	2	2
IRI	Iran	3	1	4
GRE	Greece	3	1	2
ARG	Argentina	3	1	0
DEN	Denmark	2	6	7
SWE	Sweden	2	6	3
RSA	South Africa	2	6	2
UKR	Ukraine	2	5	4
SRB	Serbia	2	3	2
POL	Poland	2	3	6
PRK	DPR Korea	2	3	2
BEL	Belgium	2	2	2
THA	Thailand	2	2	2
SVK	Slovakia	2	2	0
GEO	Georgia	2	1	4
AZE	Azerbaijan	1	7	10
BLR	Belarus	1	4	4
TUR	Turkey	1	3	4
ARM	Armenia	1	3	0
CZE	Czech Republic	1	2	7
ETH	Ethiopia	1	2	5
SLO	Slovenia	1	2	1
INA	Indonesia	1	2	0
TPE	Taipei (Chinese Taipei)	1	0	2
ROU	Romania	1	1	3
BRN	Bahrain	1	1	0
VIE	Vietnam	1	1	0
BAH	Bahamas	1	0	1
CIV	Côte d'Ivoire	1	0	1
IOA	IOA	1	0	1
FIJ	Fiji	1	0	0
JOR	Jordan	1	0	0
KOS	Kosovo	1	0	0
PUR	Puerto Rico	1	0	0
SIN	Singapore	1	0	0
TJK	Tajikistan	1	0	0
MAS	Malaysia	0	4	1
MEX	Mexico	0	3	2
LTU	Lithuania	0	1	3
NOR	Norway	0	0	4
BUL	Bulgaria	0	1	2
VEN	Venezuela	0	1	2
EGY	Egypt	0	0	3
TUN	Tunisia	0	0	3
ALG	Algeria	0	2	0
IRL	Ireland	0	2	0
IND	India	0	1	1
MGL	Mongolia	0	1	1
ISR	Israel	0	0	2
BDI	Burundi	0	1	0
GRN	Grenada	0	1	0
NIG	Niger	0	1	0
PHI	Philippines	0	1	0
QAT	Qatar	0	1	0
AUT	Austria	0	0	1
DOM	Dominican Republic	0	0	1
EST	Estonia	0	0	1
FIN	Finland	0	0	1
MAR	Morocco	0	0	1
MDA	Republic of Moldova	0	0	1
NGR	Nigeria	0	0	1
POR	Portugal	0	0	1
TTO	Trinidad and Tobago	0	0	1
UAE	United Arab Emirates	0	0	1

## First ever Olympic medal for Nigeria



Nigerian football team won their first medal of the 2016 Olympics as they beat Honduras 3-2 in the bronze-medal match. Chelsea midfielder John Mikel Obi was the captain of Nigerian team who lead 3-0 after Sadiq Umar scored twice and Aminu Umar once. A tense game was set up when Anthony Lozano and Marcelo Parera scored twice for Honduras.

## Brazil won their first men's Olympic football gold medal



Neymar scored the winning penalty as Brazil beat Germany 5-4 on penalties in Rio to win their first long wished Olympic football gold medal. After extra time, game finished 1-1 with Neymar's firsthalf free-kick cancelled out by Max Meyer's strike. In the penalty shootout, Neymar's winning kick was delivered after Germany's Nils Petersen had his penalty saved by Weverton. It comes two years after the heaviest ever World Cup defeat when Germany thrashed Brazil 7-1 in the semi-finals in Belo Horizonte.

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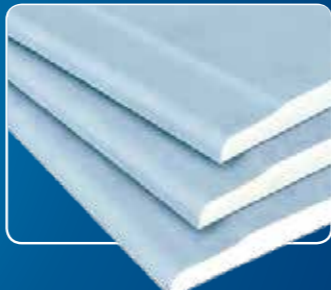
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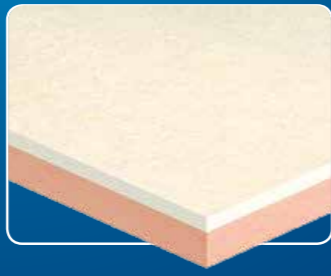
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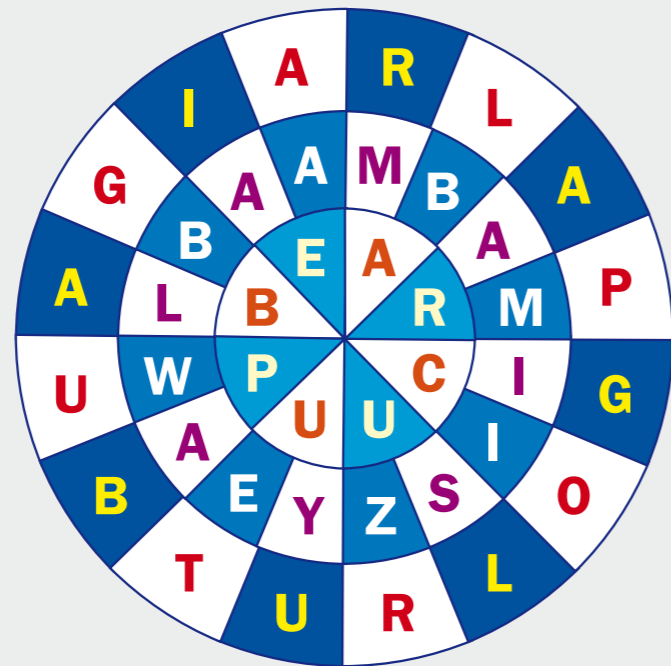
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# PRISM

TRACK down the six countries hidden in our prism. The words appear either clockwise or anti-clockwise and are on alternate spaces.



# COLOUR BLOCKS

This is like a jigsaw puzzle. All the blocks fit together to make nine five-letter words reading across. Each word is a different colour. The mystery answer will read down the middle.

ICNO AC  
 EUS RR  
 F  
 AOR S R  
 KND W L T  
 L  
 EXTS I D  
 MOW S  
 W W N W E  
 VO P O R

# Crossword with IBB

**Across:**  
 1. Lyrical verse Gender-biased  
 2. Ram's mate Garden entrance  
 3. Concept Investigate  
 4. Submits (application) Safe  
 5. Shady tree Of kidneys  
 6. Arrest Cold season  
 7. Whack Excitement  
 8. Convulsion Excel  
 9. Flag, ... Jack  
 10. Ran  
 11. Mind's eye Musical work  
 12. Fruit seed Fiddle  
 13. Ostrich-like bird Fairy  
 14. Cat's broods  
 15. Monarch's dominion  
 16. Health spring  
 17. Comply with  
 18. Neither this ... that  
 19. Recommen-  
 20. Winding around Plant juice  
 21. Cutlery used for sweets Stitch  
 22. Region  
 23. Pig meat Drenching  
 24. Swamp grasses Wages  
 25. Daytime soap opera  
 26. Debat-able matter  
 27. Gluttony Son of Adam & Eve  
 28. Top up, ... to Mad (dog)  
 29. Not water-tight  
 30. Grecian vases  
 31. Continental Radiance  
 32. Green gems Decorative  
 33. Monastery head  
 34. Cake layers  
 35. It is (2'1) Damsel  
 36. Nastily old woman Boulders  
 37. In-grained dirt  
 38. Baking chamber  
 39. Dollar division Picture theatres  
 40. Honey-makers' home Helm  
 41. Fellow Slopes  
 42. Dis-patched Flooded by waves  
 43. Mar-quees  
 44. Pleasing views  
 45. Sick Inflatable mattress  
 46. Painting & sculpture  
 47. Low-pitched High-landers  
 48. Records on VCR Intestine  
 49. Auction off Excise  
 50. Rants Northern Italian city  
 51. Wide awake  
 52. Cutlet Acorn or brazil  
 53. Leaf drink  
 54. Paper hanky  
 55. Numbs  
 56. Class-ifies

**Down:**  
 1. Hat Shirt  
 2. Perch  
 3. False god Dig  
 4. Safe  
 5. Figure  
 6. Rains lightly  
 7. Makes happen Strong desire Riding strap Actress, Emily ...  
 8. Cold season  
 9. Convulsion  
 10. Flag, ... Jack  
 11. Plumper  
 12. Down size (3,4)  
 13. Mar-quees  
 14. Pleasing views  
 15. Sick Inflatable mattress  
 16. Painting & sculpture  
 17. Low-pitched High-landers  
 18. Records on VCR Intestine  
 19. Auction off Excise  
 20. Rants Northern Italian city  
 21. Wide awake  
 22. Cutlet Acorn or brazil  
 23. Leaf drink  
 24. Paper hanky  
 25. Numbs  
 26. Class-ifies



# Laugh with IBB

by Szczepan Sadurski

## Find 10 differences ...



There were two sons in a family. The first - a pessimist, the second - an optimist. At Christmas the father gave a large number of electronic toys to his son- pessimist, whereas the room of his son-optimist the father filled with horse's faeces. The next day he comes by the rooms of both sons and hears that the son-pessimist is crying.

- Why are you crying, Son?  
- Because I've got so many toys and I have to read so many operation manuals! For sure there aren't any batteries in them, we will have to buy them. I think they will soon be damaged!

The father comes to the second room and there the son-optimist throws pieces of muck from one place to the other, singing:  
- Somewhere here must be my pony, Somewhere here must be my pony!

\*\*\*

Two fellows from a dorm are talking:  
- Come round this evening. There will be a party: vodka, beer, good music and nice lasses!  
- Seriously? But how many of them will be there? - Seven gigabytes!

\*\*\*

Three criminals go to jail. Each of them has with him one thing owing to which he won't be bored in jail. One of them asks the other sitting next to him:  
-What have you taken with you?

The other criminal takes out paints and says:  
-I'll be painting, the time will fly fast. And what have you taken with you?  
-Cards. I'll be playing and the time will fly faster.

The third criminal sits silently in the corner and smiles.  
-Why are you so happy? - ask him the others.  
He takes out a box of tampons and says:  
- I've got these!  
- What are you going to do with them?  
The third one starts to read from the box: - One can ride a horse, swim, skate

\*\*\*

A fiancé and a fiancée are strolling in the park. When they go past a group of pensioners, they start to mutter:

-It's no use going hand by hand! You'd better take her to a motel and slip her a length! The boy is embarrassed, he pretends that he doesn't hear it. After a while the couple go by a construction site, where the workers are shouting:

-Hey you, jerk! Stop strolling like that! Take her to the bushes and slip her a length! The who is now more embarrassed pretends that he doesn't hear anything. After an hour he sees a fiancée off to her house and says:

-See you tomorrow, darling.  
She says:  
-See you tomorrow, DEAF STUPID MAN!

\*\*\*

A beggar knocks at a rich lady's door and asks:  
-Have you got any empty beer bottles?  
-Outrageous! Do I look like a person who drinks beer?  
-Oh, I'm sorry. Have you got any empty vodka bottles?

\*\*\*

After a fierce party a guy comes to work without one arm. His workmates are shocked.  
-What happened? Where is your arm?  
We got drunk like a swine yesterday. After the midnight I dropped off. I wake up in the morning and on my hand a bint is sleeping, over a hundred kilos, ugly as death and a November night taken together.

-And what?  
-I bit my arm off silently so that she doesn't wake up and I ran away.

Illustrations by Szczepan Sadurski

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<b>10 mm</b> (RP £1.03 net)	<b>£0.62 net</b>	<b>50 mm</b> (RP £5.17 net)	<b>£3.10 net</b>
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<b>30 mm</b> (RP £3.10 net)	<b>£1.86 net</b>		

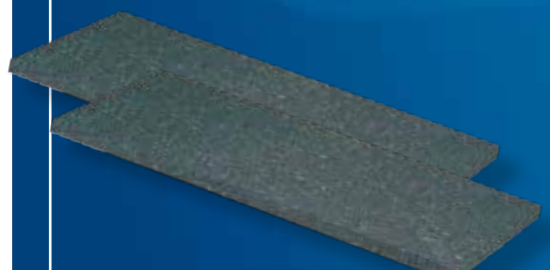
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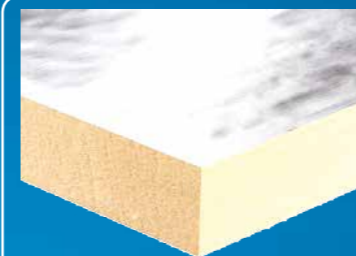
<b>10 mm</b> (RP £0.52 net)	<b>£0.31 net</b>	<b>50 mm</b> (RP £2.58 net)	<b>£1.55 net</b>
<b>20 mm</b> (RP £1.03 net)	<b>£0.62 net</b>	<b>80 mm</b> (RP £4.13 net)	<b>£2.48 net</b>
<b>30 mm</b> (RP £1.55 net)	<b>£0.93 net</b>	<b>100 mm</b> (RP £5.17 net)	<b>£3.10 net</b>

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Price per roll 2x0.6x9.17m

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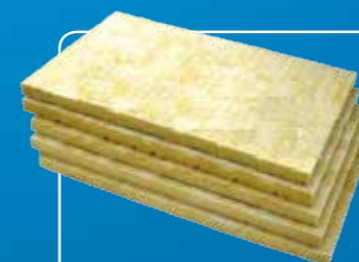
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Price per pack

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