

ibb

FREE

IBB Polish Building Wholesale

# BUILDER

MAGAZINE

ISSUE 4/2016 | April 2016

ISSN 2397-1355 (Print) ISSN 2397-1363 (Online)

## INSIDE THIS ISSUE

### REGULATIONS:

- Construction disputes

### NEWS:

- What could Brexit mean for the UK construction sector?
- Open BIM v Closed BIM
- London's expensive construction market

### TECHNOLOGIES:

- Dry lining

### ESTIMATION:

- Stud walls

### EDUCATION:

- Health and Safety Diagnostic Tool

# Building Strong FOUNDATIONS

# ENGLISH VOLLEYBALL CHAMPIONSHIPS SEMI FINAL



23<sup>RD</sup>-24<sup>TH</sup>  
APRIL 2016



TWO  
MATCHES  
Saturday & Sunday

BOOK YOUR FREE TICKETS  
at [polonia.eventbrite.co.uk](http://polonia.eventbrite.co.uk)

#GoPolonia

TIME:  
3 PM

"Let's build volleyball together"

Brentford Fountain Leisure Centre, 658 Chiswick High Road, TW8 0HJ

ibb  
BUILDER MAGAZINE

#### PUBLISHER/EDITOR

IBB Polish Building Wholesale

#### EDITORIAL OFFICE

18 Gorst Rd, Park Royal  
NW10 6LE London

T: 020 8965 7972

E: [editor@IBBbuilder.co.uk](mailto:editor@IBBbuilder.co.uk)

[www.IBBbuilder.co.uk](http://www.IBBbuilder.co.uk)

#### EDITOR

Magdalena Rosól

E: [mrosol@ibb.pl](mailto:mrosol@ibb.pl)

#### DESIGN

Perfect Design Group Ltd

T: 020 8856 5224

E: [office@perfectdesigngroup.com](mailto:office@perfectdesigngroup.com)

[www.perfectdesigngroup.com](http://www.perfectdesigngroup.com)

#### PRINT

Precision Colour Printing Ltd

Haldane, Halesfield 1

Telford, Shropshire, TF7 4QQ

#### IMAGE STOCK

[shutterstock.com](http://shutterstock.com)

We are the winner

Most Cost Effective

Building Merchant UK 2015



ibb  
ESTIMATOR

MOBILE BUILDING CALCULATOR

Available on the iPhone  
App Store

ANDROID APP ON  
Google play

FROM EDITOR

## FROM EDITOR



Hello Readers, Spring season has come. It is a great time to discuss some outdoor works. A hot topic this month is about foundations. Foundations works are not only about digging a hole and filling it with concrete. Just because they are invisible once the building is built does not mean they are not important. The entire building sits on foundations so they have to last forever. Any mistakes that will be made during foundation works stage will only get worse when building the structures up. And it won't be an easy fix. So there is need to choose proper type to the ground conditions and building weight, pay attention to the layout, not forgetting about watering and filling with the best quality concrete. There is plenty more I can say about it, but I will let the issue do that for you.

What's more this month- we prepared an ultimate guide focused on dry lining. You get there descriptions of the metal and timber framework technology, materials comparison and estimations. It is a compacted reference with great illustrations that provide a good understanding of dry lining. Valuable read!

As you dive more into this issue you will find the discussion on construction disputes. Disputes in business are inevitable. Clients have disputes with the main contractor. Developers have disputes with banks or investors. Main contractors with subcontractors or specialists. The main cause is money- disputes over variations, scope of works, delays and time of realisation or works quality. Find out more about various disputes' reasons and ways to solve them.

What is your position on EU referendum that the UK government is planning very soon? Are you wondering what Brexit would look like for the building industry? Have a look inside this issue.

April is the big month for IBB Polonia London VC! On the 2nd of April they will play at the finals of the National Volleyball Cup! On 23rd-24th April there will be two matches in semi finals of English Volleyball Championships. Read about volleyball, team and their loyal fan club – you are invited to join! We are keeping our fingers crossed and looking forward to the big celebration very soon!

Finally, if all that was a bit too serious we have a puzzle and quizzes for you and an entertaining humour from Sadurski.

We hope you will find valuable what we are discussing in this month issue.

Magdalena Rosól  
Editor

**06** **CONSTRUCTION NEWS**  
What could Brexit mean for the UK construction?  
Open BIM v Closed BIM  
April 2016 TAX CHANGES  
Ecobuild 2016  
BREEAM

**14** **BUILDING REGULATIONS**  
Construction disputes

**18** **BUILDER EDUCATION**  
The Health and Safety Diagnostic Tool

**20** **IBB ESTIMATOR**  
Software App  
Website Version

**25** **CONSTRUCTION TECHNOLOGIES**  
The Guide to Dry Lining  
- Walls & Ceilings

**39** **ESTIMATION**  
Dry Lining

**40** **BUILDER EDUCATION**  
The Foundation is forever

**46** **IBB POLONIA LONDON VC**

**54** **TENNIS**

**60** **FOOTBALL**

**62** **ENTERTAINMENT**

**66** **IBB MONTHLY DEALS**



# What could **Brexit** mean for the UK **construction**?

**Brexit is the main political issue of the year. In May 2015, the newly elected Conservative government published the EU Referendum Bill which will check whether Britain opts to remain in the EU. There are concerns that the UK withdrawal from the EU would be damaging for British economy.**

The UK construction has divided views on the prospects of EU withdrawal. We can read in the Building that 'a recent survey, carried out by accountants Smith and Williamson, showed that an overwhelming proportion (85%) of construction and real estate companies backed the UK's continued membership of the EU'.

What will happen if the UK leave the EU is not clear. Many of the key issues relating to a Brexit, such as changes in taxation and the effect of a Brexit on foreign investment into the UK, would inevitably impact upon construction industry.

However, the major issue is the access to labour. The restrictions on labour migration from EU

states can affect the cost of construction projects due to insufficient number of workers available. Access to labour is essential for UK construction sector, because the industry relies on foreign workers in both skilled and unskilled jobs. Foreign labour is vital to reduce skills shortages in the industry. The influx of workers from the Eastern Europe over the last 10 years helped to fill the gap. Demand for labour is forecasted to grow and if the free movement to UK will be restricted the construction foreign workers will choose France or Germany instead. That will mean that UK will have to invest major amounts for the training of huge number of British workers to meet the demand. However even that the apprenticeship numbers are starting to rise due to government incentives, they are unlikely ever to make up for the shortfalls in an industry that has always relied on overseas labour.

While the construction is subject to EU regulations, in terms of legislation there should be no major impact as most of the regulations are already in place. There might be changes in procurement rules, but UK-based contractors working on projects in EU will have to comply with EU legislation. In the post-Brexit situation the existing regulatory framework is likely to remain and non-member UK construction businesses will probably have to comply

with it. For instance energy efficiency or health and safety rules will still apply.

Even that the UK construction sector is one of the most domestically based, implications on investment should be also taken into consideration. The EU as a trading union removes barriers and encourages trade. Nowadays international cooperation is necessary. In the Brexit scenario there might be considerably lower investment in the real estate market what will have impact on construction industry. This could lead to the decrease in the commercial and residential development.

Furthermore companies supplying building goods and materials from EU to the construction sector in UK would be affected by the terms of any new trade agreements which may be established. The majority of construction products is manufactured domestically, however the end of the construction market sourced from abroad.

No country has ever withdrawn from the EU and the implication of possible opt out decision are difficult to predict. There are contradictory opinions within the construction industry on Brexit issue. It is worth to get as much information as possible to make an informative decision during the referendum. The prosperity of the UK construction industry may depend on it.



shutterstock.com

# OPEN BIM v CLOSED BIM

The construction industry is in transition process in building information modelling, moving from the 2D BIM to 3D BIM solutions. BIM is the preferred tool for pre-construction planning, construction management and post-construction facilities management. It is based on the collaborative approach of all parties involved in the construction process.

BIM requires collaboration based on the common language, platform to communicate and willingness to do so. One of the common challenges faced by clients, project managers and contractors of mid-sized to large projects is that not all project participants use the same BIM application. This is where the concept of closed BIM and open BIM comes into play. These two approaches are fundamentally different ways of looking at 3D BIM modelling.

Closed BIM is where the same software is used by all parties involved in project. It also includes the scenario when all participants use the BIM compatible applications, for instance Autodesk. In closed BIM no file conversion is required. This approach is restrictive in terms of collaboration.

Open BIM is an universal approach that supports transparent and open workflow and is based on a method where all parties can collaborate and exchange project information with each other using neutral file formats irrespective of the BIM tools and applications that they use. The information exchanged is not only limited to the BIM model's



geometric data but also includes other parametric data, such as specifications, quantity take-offs, material procurement, cost estimation, and construction phasing. OPEN BIM is an initiative of buildingSMART International (bSI) and several leading software vendors using the open buildingSMART Data Model. The most common open communication BIM protocols currently in use include Industry Foundation Classes (IFC) and Construction Operations Building Information Exchange (COBie). This approach is not restrictive in terms of collaboration.

## Why is it important?

**OPEN BIM** supports a transparent, open workflow, allowing project members to participate regardless of the software tools they use.

**OPEN BIM** creates a common language for widely referenced processes, allowing industry and government to procure projects in transparent commercial engagement, comparable service evaluation and assured data quality.

**OPEN BIM** provides enduring project data for use throughout the asset life-cycle, avoiding multiple input of the same data and consequential errors.

**OPEN BIM** enables small and large (platform) software vendors to participate and compete on system independent, 'best of breed' solutions.

**OPEN BIM** energises the on-line product supply side with more exact user demand searches and delivers the product data directly into the BIM.

source: SmartBIM Solutions

## BOOK REVIEW

# Management of Construction Projects by Brian Cooke (November 2014)

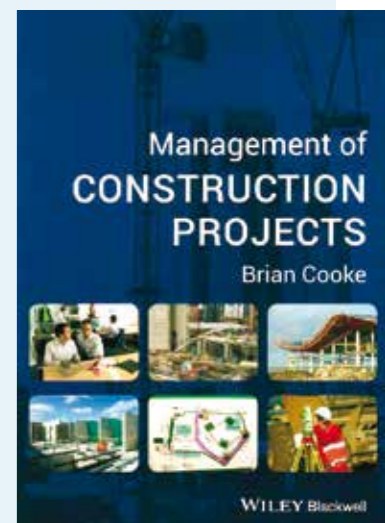
Management of construction projects is a broad discipline that requires a range of skills. It is a demanding work connected with workforce, plant and materials management to complete the project within the set schedule, on budget and to client satisfaction.

Management of construction projects by Brian Cooke is a guide based on seven construction projects to illustrate the nature of management in building industry. The case studies cover the variety of projects ranging from the new school building to superstore and car park. All of them demonstrate procedures and approach for a successful project manager. All issues connected with management are described in order they occur during the project phase. The reader will find information about the organisation

of construction process, development of a team, procurement, contracts, materials management, risk assessment, managing construction defects or managing a small business.

Book's author, MSc Brian Cooke is a former chartered civil engineer, quantity surveyor and builder. During his career he has held the posts of principal lecturer in Construction Management and visiting lecturer at universities throughout the northwest of England, Europe and the Far East.

It is a very informative book with a practical approach to project management. As it is based on examples, theory and practice melt in this book perfectly. It is an excellent introduction to the construction management.



# April 2016 Tax changes

## How will they affect your business finance?

From 6th April 2016, there are changes affecting small businesses and personal finance. Some of them are a part of 'Budget for small business' reform announced by the Chancellor, Mr Osborne. It is established to make the tax system easier for self-employed and small businesses.

1. There will be no business rates for some businesses. **The threshold for small business rate relief will be raised from £6,000 to £15,000 and higher rate relief will be increased from £18,000 to £51,000.** It means that approximately 600,000 businesses will not pay business tax rates.
2. **Personal savings allowance will be set at £1,000 for basic-rate taxpayers and £500 for higher-rate taxpayers. There is no personal savings allowance for higher rate taxpayers.** From 6th April 2016, there is a possibility to save that much before interest applies.
3. In the 2016-17 tax year, **the Personal Allowance will be £11,000.**  
**Income tax rates for 2016/2017:**  
Basic 20% - £0-£32,000; Higher 40% - £32,001-£150,000; Top 45%- £150,001+
4. **New tax-free dividend system will start to apply. Existing dividends tax credit will be abolished.** It simplifies current rules and from April 6 everyone will be able to earn **£5,000** of dividend income without paying any tax. However higher dividends tax rates will apply
  - Basic rate tax band (current effective rate - 0%) = 7.5% on dividend income
  - Higher rate tax band (current effective rate - 25%) = 32.5% on dividend income
  - Additional rate band (current effective rate - 30.56%) = 38.1% on dividend income.

A taxpayer who earns £43,000 will stay in the basic rate tax band (£11,000 tax-free allowance and £32,000 basic rate allowance). A taxpayer whose income is more than £43,000 will be at the higher rate tax band what means he will be liable for dividend tax at 32.5 per cent, not the 25 per cent as before reform. It means that choosing to operate as a limited company from April 2016 might be less tax efficient. Dividends and interest from ISAs and pensions still will be exempt from tax.
5. **The single rate state pension will affect those who retire.**
6. **There will be the new tax on pensions for those earning more than £150,000.** Their annual pension contribution will fall from £40,000 to £10,000.
7. **Commissions on ISAs, pensions and other investments will be banned.**
8. **New the 'Innovative Finance' ISA will be introduced.** It will allow tax-free investment in peer-to-peer loans made by private individuals to borrowers arranged through an accredited online platform like Zopa, Ratesetter or Funding Circle.
9. Changes to travel and subsistence expenses will apply. **Travel and subsistence relief for contractors will be restricted to supervisors, directors and controllers only.** From 6 April, any worker employed by an umbrella company or a limited company director working inside IR35, can no longer claim expenses for travel and subsistence costs and get tax relief on these costs.

For more information check HMRC website and 'Overview of tax legislation and rates (OOLAR)' at [www.gov.uk](http://www.gov.uk)

# QUALITY THERMAL INSULATIONS

## FOR FAÇADES & INTERNAL WALLS

Polystyrene (EPS) Panels | Polyurethane (PUR) Foam Panels  
Mineral Wool Rolls & Slabs | Polyisocyanurate (PIR) Boards  
Kingspan Insulated Plasterboards | Thermal Laminate Plasterboards



**IBB Park Royal**  
18 Gorst Rd,  
London NW10 6LE  
020 8965 7972, [sales@ibb.pl](mailto:sales@ibb.pl)

**IBB Croydon**  
ZK Park, Unit 6, 23 Commerce Way,  
London, Croydon CR0 2S  
020 8680 9026, [sales@ibb.pl](mailto:sales@ibb.pl)

**IBB Birmingham**  
425 Walsall Rd,  
Birmingham B42 1BT  
0121 356 8655, [sales@ibb.pl](mailto:sales@ibb.pl)

# ECOBUILD 2016

We find it important to attend the construction events or exhibit during the major shows to stay up to date with all innovations in construction sector. ECOBUILD is at the centre of the building industry and we were there as an exhibitors in London Excel on the 8-10th March 2016.

The exhibition hall was fully occupied by the exhibitors what shows how important it is to participate in such event. During the buzzing three days we were promoting MEGARON and IBB BUILDER. The turn-out was high and the appearance of the stand was welcoming.

We had opportunity to present new MEGARON products and build valuable business relationships. IBB BUILDER was positively welcomed by people from the industry. We engaged in conversations with representatives of other companies and promote IBB brand successfully. If you couldn't be there, have a look at photos and do not miss it next time.



# QUALITY TREATED TIMBER PLYWOODS & OSB BOARDS\*

47x50 mm

47x150 mm

47x75 mm

47x175 mm

47x100 mm

47x200 mm

47x125 mm

47x225 mm

\* Various sizes available



IBB Park Royal  
18 Gorst Rd,  
London NW10 6LE  
020 8965 7972, sales@ibb.pl

IBB Croydon  
ZK Park, Unit 6, 23 Commerce Way,  
London, Croydon CR0 2S  
020 8680 9026, sales@ibb.pl

IBB Birmingham  
425 Walsall Rd,  
Birmingham B42 1BT  
0121 356 8655, sales@ibb.pl

***BREEAM** is the leading international sustainable building scheme, and **BREEAM** certified properties are the most environmentally sound.*



#### What is BREEAM?

**BREEAM** is the recognised term associated with the environmentally friendly buildings. It is the world's leading assessment tool which measures the sustainable value of buildings in a range of categories like energy, health and wellbeing, innovation, land use, materials, management, pollution, transport, waste and water. It was founded in 1990 as the first sustainability assessment method for buildings. It is in use in over 70 countries worldwide. Developments get credits in each section for achieving targets and their total score evaluate rating. Assessments are carried out by licensed assessors who certify on a scale of Pass, Good, Very Good, Excellent and Outstanding. The owner of **BREEAM**, BRE Global Ltd is the provider of third party certification of fire, security and environmental products and services.

#### Why BREEAM?

It focuses on sustainable value and efficiency of buildings and addresses issues like the low impact design, carbon emissions reduction, design durability and resilience, adaption to climate change, ecological value and biodiversity protection. **BREEAM**



certified developments are attractive property investments which create sustainable environments. There is approximately over 500,000 **BREEAM** certified developments worldwide. **BREEAM** leads the construction sector to innovate and allows for increased financial returns for property investors. It helps designers, contractors, clients and all other parties involved in building process to use natural resources. Sustainable developments secure investor's savings in water and energy bills. Moreover, buildings that are not well designed for the future will devalue. For instance, Minimum Energy Efficiency Standards will in the future require rented homes and commercial property in the UK to reach a minimum energy performance standard. **BREEAM** makes the building more attractive to sell or rent as they offer a better quality of life for occupants.

**BREEAM** addresses four development lifecycle stages- master planning, new construction, in-use buildings, refurbishment and fit-out. In the case of refurbishments, **BREEAM** standards allow investors, developers and owners to assess an existing building structure and interior design to make it fit for the future.

#### How does BREEAM work?

**BREEAM** assessments are available for almost all buildings and are most common for offices, homes, industrial units, hospitals, schools and retail Units. **BREEAM** assessment can be done during every stage of construction or building life, but it is best efficient when started at the design stage. It is carried out by the certified assessor who should be appointed by the developer. Assessor evaluates the

rating, provides the detailed information of features to implement, check the compliance and carries on the post construction review. Criteria consist of everything that could have an impact on the environment at all levels of its construction and lifecycle, for instance, the building's carbon emissions and energy efficiency or its recycling facilities and location. Government organisations often demand **BREEAM** approval for construction of buildings, while English Partnerships require all new developments build on their land to achieve **BREEAM** score of very good or excellent.

#### Buildings performance is assessed in the following:

- ✓ **Management** - site management, contractors and procedures
- ✓ **Energy Use** - energy efficiency, carbon emission reductions
- ✓ **Health and Well-being** - exterior and interior features affecting occupants living conditions, e.g., ventilation, lighting control, temperature control
- ✓ **Pollution** - air and water pollution, e.g., low-emission boilers
- ✓ **Transport** - for instance location factors, how materials are supplied on site, provisions for cyclists
- ✓ **Land Use** - use of Brownfield rather than Greenfield sites.
- ✓ **Ecology** - habitat creation within the site
- ✓ **Materials** - an impact of building materials on the environment, use of reusable resources, recycling, procedures for hazardous materials, e.g., asbestos
- ✓ **Water** - water efficiency, e.g., water metering, water systems with leak detection, etc.

# DELIVERY



## FREE DELIVERY\*

\* Terms & Conditions apply

Purchase building materials for at least £180 net and get **free delivery**:

London (within M25)  
Birmingham (within M42, M5 & M6)  
Manchester (within M60)

**IBB Park Royal**  
18 Gorst Rd,  
**London NW10 6LE**  
020 8965 7972, sales@ibb.pl

**IBB Croydon**  
ZK Park, Unit 6, 23 Commerce Way,  
**London, Croydon CR0 2S**  
020 8680 9026, sales@ibb.pl

**IBB Birmingham**  
425 Walsall Rd,  
**Birmingham B42 1BT**  
0121 356 8655, sales@ibb.pl

**Disputes in the construction industry are fact of life. It is a combination of many factors that may lead to disagreement and construction business is never easy. Construction projects are usually long-term with some degree of uncertainty and complexity and it is very difficult to predict all difficulties that may arise during the project life.**

# Construction Disputes

The construction dispute may arise on various grounds and most common is the financial reason or contractual problems – variations, delays or quality. We briefly describe the possible reasons for conflicts that may occur during the construction project and available methods to resolve them.

## Tender and procurement process

Mistakes in the estimation of project's cost or the evaluation of the scope of works may lead to severe cost implications. The proper analysis of plans and specification and adequate quotation, method of statement or risk assessment help to avoid financial risks associated with undervalued contracts. Disputes on the basis of the procurement process are also possible.

## Delays and extension of time

Disputes often arise due to delayed realisation of the project. Most contracts include the schedules of realisation, deadlines and make provisions for extending the time for works completion. Overrun of the project may be due to unforeseen circumstances, supplier delays, changes in specification and plans, alternation in the scope of work made by the client. Inevitably delays have financial impacts and often lead to problems between the client and the contractor. To avoid disputes arising on the delays basis, it is recommended that contractor issues the relevant notice about the possible delays, their reasons and cost implication as soon as possible. In that scenario, contractor should not lose any rights to extend the time of completion or to issue of any payments arising from additional works. The client has the right to damages so all delays have to be reasonable.

## Deficiencies in design

Errors and adjustments in plans and specifications often lead to delays and additional costs, what is not often understood by the client. The common is also the situation in which contractor is left with inadequate specifications and deficiencies in the plans what requires additional time on site. To avoid such problems, it is recommended to

- properly estimate the project cost based on the available specification, pricing preliminaries
- ensure the contractual right to extend the time of realisation and costs in case of any changes made by client or architect or due to deficiencies in specification
- ensure to issue relevant notice in case of additional works required due to changes in design or specification

## Project complexity

The long-term and complicated projects may require the risk assessment. Inflation, adverse weather conditions, changes in building regulations, changes in VAT rates and all other factors may influence the project lifespan. Risk assessment before entering the contract is rarely done but may avoid disputes due to the delay and additional costs the contractor may incur and due to the owner's right to claim damages for delay.

## Quality

Often in construction contracts, problems arise due to questioned poor workmanship by the client. Disputes on works not done in accordance with the project specification or in the unacceptable standard are very common. It is difficult to resolve such disagreements as each party may have a different point of view

on whether the quality is acceptable. The deficiencies in specifications about the standard of materials may also add to the problems. In such case, the contractor may ask for the contractual right to claim for additional costs. To avoid disputes based on quality factors, it is recommended to collect at various stages the written acceptance of the architect and client before proceeding with further works. It is always recommended to try and make defects good if they are contractor's responsibility, however in the case of dispute it is worth to employ an independent surveyor who can assess the works' standard.

#### Site conditions

If the contract does not specify who is responsible for the site conditions, what is often the case

in small construction projects, dispute may arise for instance:

- due to ground conditions revealed by the contractor, which requires additional machinery or even changes in plans and specifications
- due to delays caused by the blocked access for materials supply
- due to costs associated with site clearance

In the case when the responsibilities are not properly stated in the contract, often the client may be responsible for all additional costs what may lead to dispute.

#### Variations and final account

Variations are the most common cause of the dispute. What's more, variations occur in most of the

construction projects. Problems arise when there are significant numbers of variations, variations impact on the partly or fully completed works, variations increase the projects costs beyond the acceptable level, variations are issued just near the project completion. The nature and number of variations can transform a relatively straightforward project into one of unmanageable complexity. Disagreements at the stage of the final account calculation are very common.

#### Value engineering

Value engineering means the identifying and proposing the alternative solutions or materials, plant, equipment. The dispute may arise if the saving in respect of the choices of supply the materials or installation technology is to be shared between the contractor and the client.

#### Disputes on the supply chain

Problems may arise due to different and not compatible commitments and goals of subcontractors co-working on site. Moreover, problems with workers' behaviour often cause disputes in construction projects. This is why the construction standards have to be broadened through various training.

#### Termination of the contract

Contract termination by client or contractor due to various reasons may cause disagreements.

#### Payment of retention

Retention is money held by the Client as a safeguard against defects which may subsequently develop and which the Contractor may fail to make good. It is usually set as between 2.5% to 5% of the value of works. This percentage is then deducted from all the interim payments made to the main contractor who then

deducts it from all his sub-contractors. The first half of retention monies is paid out at the completion stage if all remedial work is done. The second payment is after the defects liability period is between 6 and 12 months if all applicable defects are made good. Problems occur if retention is not released.

#### Culture

Construction firms employ workers from various backgrounds, nationalities and cultures. Forming a teamwork across culture may be difficult as each has its own values.

#### Co-ordination

Conflicts often arise because works during the project are not properly coordinated. Delays in one field cause delays and costs in the other what leads to conflict during installation which is often costly and time-consuming to resolve, with each party blaming the other for problems.

#### Acceleration

Clients often insist on the acceleration of project, especially in last phases of works. This is often caused by the need to occupy the property or sale the property. In larger commercial projects the construction costs associated with acceleration are likely to be less than the commercial risk the developer may face if key dates are missed. Here disputes arise once the contractor has carried out accelerative measures and incurred additional costs but the client refuses to pay.

#### Methods of resolving the dispute

In the UK, there are few methods for resolving the disputes in construction projects contracts. All disputes and businesses are different, so it is advised to consult with the solicitor the best possible solution for a particular case.

**Mediation** - in the first instance the cheapest and quickest way to resolve some construction conflicts is to ask the third party, often Contract Administrator, who is named in the contract, for a decision. Typically Contract Administrator is an Architect, Employer or a Surveyor. Not all disputes could be resolved in such way as often an Architect or Employer is in the centre of conflict too. The contract states the powers of decisions made by the Contract Administrator, but in most cases they are not binding and might be overturned in legal proceedings. Mediation can

maintain existing business relationships as the parties are aided towards a settlement.

**Negotiations** - quick and cheap solution, when parties have some degree of influence on the outcome. Negotiations are usually expressed to be 'without prejudice' which means that any admissions, or offers and counter-offers, made in them cannot be mentioned in later proceedings. Their effectiveness depends on the case complexity and parties bargaining power. It may not be effective unless parties have the same power, typically a sub-contractor is in a worse financial position to the main contractor and therefore not have much room for manoeuvre.

**Adjudication** - all parties involved in construction contract have a statutory right to an adjudication. It is a temporarily determinative form of resolution, swift interim dispute resolution. Compulsory adjudication provisions would apply to the vast majority of construction contracts. The process is administered by an appointed adjudicator and it can be commenced at any time, even while the project is still proceeding, and usually requires the adjudicator to make a decision within 28 days. It is convenient if the contractor or subcontractor can and wish to continue the works. The adjudicator must act impartially but does not usually go into nearly as much detail as an arbitrator or court would do. Decisions are binding if not referred to arbitration or litigation. Legal costs are awarded by the adjudicator.

**Litigation** - the dispute is referred to the court for legal proceedings. It is slower and more expensive than other options but with the binding decision. In the process multiple parties may be involved. It requires the full disclosure of documents, evidence from witnesses. The complexity and value of dispute should be taken into account before entering the litigation process.

**Arbitration** - it is the formal system of the dispute resolution which final decision is binding on the parties and the appeal is difficult. Procedures are similar to those adopted by the court, but arbitrations are private, cheaper and quicker than court. Arbitration features convenience and privacy. The process is administered by an appointed arbitrator subject to any relevant contractual rules and subject to the statutory, regulatory framework applied by the domestic courts. There are only limited rights of appeal and legal costs are usually awarded to the successful party.



*Mediation can maintain existing business relationships as the parties are aided towards a settlement.*

# The Health and Safety

# Diagnostic Tool (HSDT)

The Health and Safety diagnostic toolkit has been developed by the construction industry's Leadership and Worker Engagement Forum and it is recommended mainly for small and medium enterprises to help identify their health and safety standards. It is the online diagnostic tool available at Health and Safety Executive (HSE) website. It allows for easy assessment and should be completed by the person responsible for organisation's health and safety. Tool consists of six blocks with questions – Commitment, Worker Engagement, Prioritisation of Health and Safety, Compliance, Measurement, Organisational Learning.

These key areas should be considered to ensure the proper health and safety approach. The tool allows comparing measurements to be taken at different times to check the improvement and it is recommended to use once every six months to track the progress. The summary of the company's performance is based on answers to questions within each block. The assessment gives the view on how well the health and safety culture is developed within the company, at what level it is performing at each block and gives advice how to improve the situation.

To ensure proper health and safety standards in your company, consider the following blocks by HSE

**Commitment - the importance you and workers attached to Health and Safety**

Health and safety roles and responsibilities are clear to everyone at all levels, from the boardroom to the site. All managers from director to supervisor lead by example (i.e. behave in a healthy and safe manner). Senior managers work hard to show their workforce that they are committed to health and safety. Managers are approachable and act promptly when faced with health and safety concerns.

Managers see the importance of health and welfare standards on site. Senior management, directors, owners show a passion for health and safety and make sure this runs through the organisation.

**Worker engagement - the involvement your workers have in H&S decisions**

Everyone buys into the idea that health and safety is every worker's responsibility (directors, managers and workers). The workforce is directly involved in developing the risk assessments, method statements and safe systems of work. There is a good mix of formal and informal ways of engaging with the workforce. Workers suggest ways to improve the way health and safety is managed on site. All workers, including agency and temporary workers, know how they can raise safety concerns and make suggestions. Consultation is a two-way process. Managers work hard to identify gaps in knowledge and training need for their workers.

**Prioritisation of Health and Safety - the attention given to Health and Safety**

Everyone prioritise the health and safety over the production in spite of recession. Workers know that they can stop work if they feel that a work

situation is unsafe and will always be supported by management in doing this. The organisation has a history of maintaining high standards through the life of a project even if deadlines overrun and projects are late. Controlling health risks at source (avoiding or protecting against exposure) is a priority- not just caring for worker's well-being after exposure. Supervisors know how important it is not to cut corners where health and safety is concerned, even on lower risk tasks.

**Compliance - how the company is complying with its Health and Safety responsibilities**

When planning work senior managers try to eliminate the risk if possible. If this is not possible they find a safer way of working or put preventive measures in place to control the risk. PPE is only relied on as a last resort. Senior managers/directors always seek to go beyond mere compliance and adopt the highest standards that they can. Senior managers/directors clearly communicate to all levels of the workforce what is expected of them when it comes to health and safety. Senior managers/directors devote as much effort to controlling health risks as they do safety risks. Senior managers/directors recognise that all workers can make mistakes and plan work so that conditions on site reduce the chance that they will happen.

**Measurement- the way Health and Safety is measured**

Senior managers/directors measure health and safety performance using a mix of leading and lagging measures (leading- measuring the attitudes

! SITE SAFETY STARTS HERE

ALL PERSONNEL MUST COMPLY WITH THE HEALTH AND SAFETY PLAN FOR THE CONSTRUCTIONS PHASE WHICH IS AVAILABLE FOR INSPECTION IN THE SITE OFFICE, FAILURE TO COMPLY WITH THE PLANS WILL RESULT IN BEING PROHIBITED FROM SITE

YOUR COMPANY HERE

YOUR LOCATION

SAFETY STARTS WITH YOU, ACCIDENTS ARE AVOIDABLE. SAFETY FIRST !

! HEAVY PLANT AND MACHINERY OPERATE ON THIS SITE

UNSUPERVISED REVERSING IN AND OUT OF SITE IS STRICTLY FORBIDDEN

NO SAFE PASS NO ENTRY ALL VISITOR MUST REPORT TO SITE OFFICE

VECHILE MUST NOT ENTER TO THE SITE WITHOUT THE AUTHORITY

SPEED AND PARKING RESTRICTIONS MUST BE OBSERVED

NO SMOKING, NO OPEN FLAME IN THIS SITE

HARD HATS MUST BE WORN

SAFETY GOGGLES MUST BE WORN

HIGH VISIBILITY JACKETS MUST BE WORN

HAND PROTECTION MUST BE WORN

PROTECTIVE FOOTWEAR MUST BE WORN

REPORT ALL INJURIES TO HEAD SITE SOON

DANGER RESTRICTED AREA KEEP OUT

FIRST AID AVAILABLE AT SITE OFFICE

NO BASIC PPE, NO JOB !

A random example of Health and Safety diagnostic tool outcomes

The screenshot shows the 'Health and Safety Diagnostic' interface. It features a header with 'Help' and 'Reset' buttons. Below the header, there are two main sections: 'This is how your organisation is doing' and 'This is what you need to do'. The 'This is how your organisation is doing' section contains three circular progress indicators for 'Measurement', 'Compliance', and 'Prioritisation of H&S'. The 'This is what you need to do' section contains a list of actions: 'Starting blocks', 'Getting going', 'Walking', 'Running', and 'Sprinting'. A 'Key' section on the right explains the meaning of the progress indicators and the actions. The 'Key' section includes a legend for the progress indicators (Starting blocks, Getting going, Walking, Running, Sprinting) and a list of actions (Starting blocks, Getting going, Walking, Running, Sprinting). The 'Key' section also includes a legend for the progress indicators (Starting blocks, Getting going, Walking, Running, Sprinting) and a list of actions (Starting blocks, Getting going, Walking, Running, Sprinting).

of the workforce, checking they are motivated to comply; lagging- monitoring cases of accidents, incidents and ill-health). They encourage all workers to report situations where accidents are narrowly avoided (near misses) and they measure the extent and quality of worker engagement and set realistic targets for improvement. They also

**Organisational Learning - Learning from experience**

Senior managers/directors are aware of how well their peers perform and take opportunities to learn from the best. They ensure that near miss reports and worker engagement feedback are analysed to improve site health and safety performance. Moreover they want to keep learning and improving and take on board ideas from other industry sectors. Senior managers/directors thoroughly investigate incidents, accidents and/or ill-health cases to find out the root cause. They strive to develop a no-blame culture (i.e. workers are not always blamed for things that go wrong), recognising that their decisions could be the cause. All lessons learned are communicated to the whole workforce. This includes accidents, incidents and ill-health cases, learning from other companies, post projects reviews, etc.

Health and Safety Diagnostic tool is available at [www.hse.gov.uk](http://www.hse.gov.uk)

18

19



# ibb ESTIMATOR

Mobile Building Calculator



## SCAN ME



ANDROID APP ON  
Google play

Available on the iPhone  
App Store

## Download the App!



18 Gorst Road | London NW10 6LE | 020 8965 7972 | sales@ibb.pl  
[www.IBBestimator.co.uk](http://www.IBBestimator.co.uk)

ibb MOBILE BUILDING CALCULATOR  
**ESTIMATOR**

## mobile app PART 4

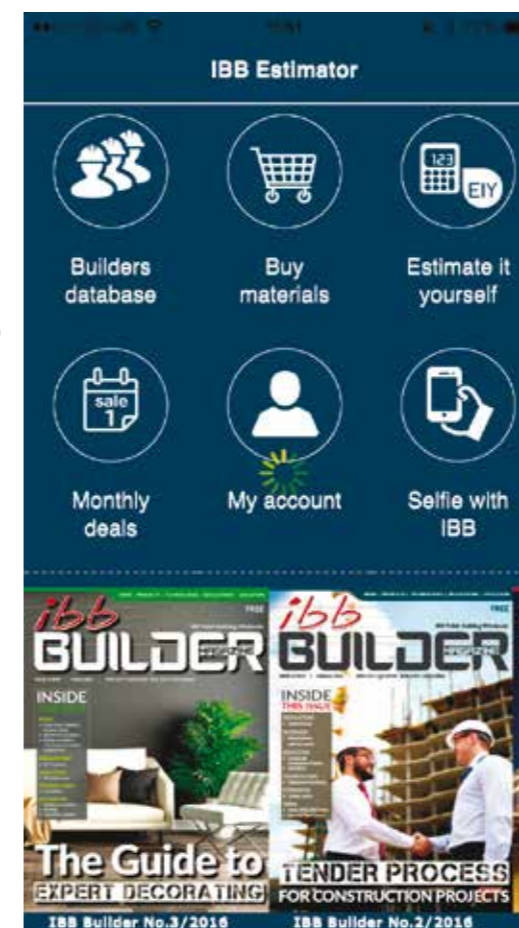
Nowadays it is very difficult to live without a tool like a mobile phone. Sometime ago we decided to exist also in mobile phone space.



Step  
by Step  
GUIDE

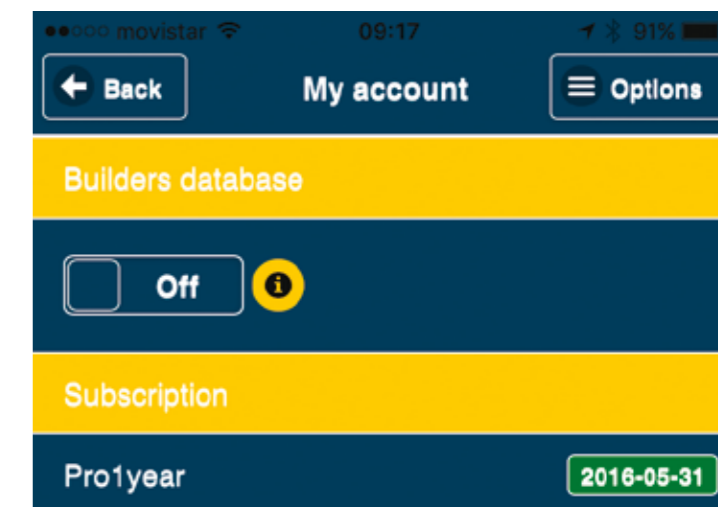
# My account

In this part of our guide to mobile version of IBB Estimator we are presenting features of **MY ACCOUNT**.



You can access **MY ACCOUNT** from the main panel of your application. There are displayed information when your PRO or PayAsYouGo subscription terminates. By sliding the button **ON/OFF** you can enable/disable the option of showing your business details in the **Builders Database**.

To view all options press the **OPTIONS** icon at the right upper corner of your application's screen.

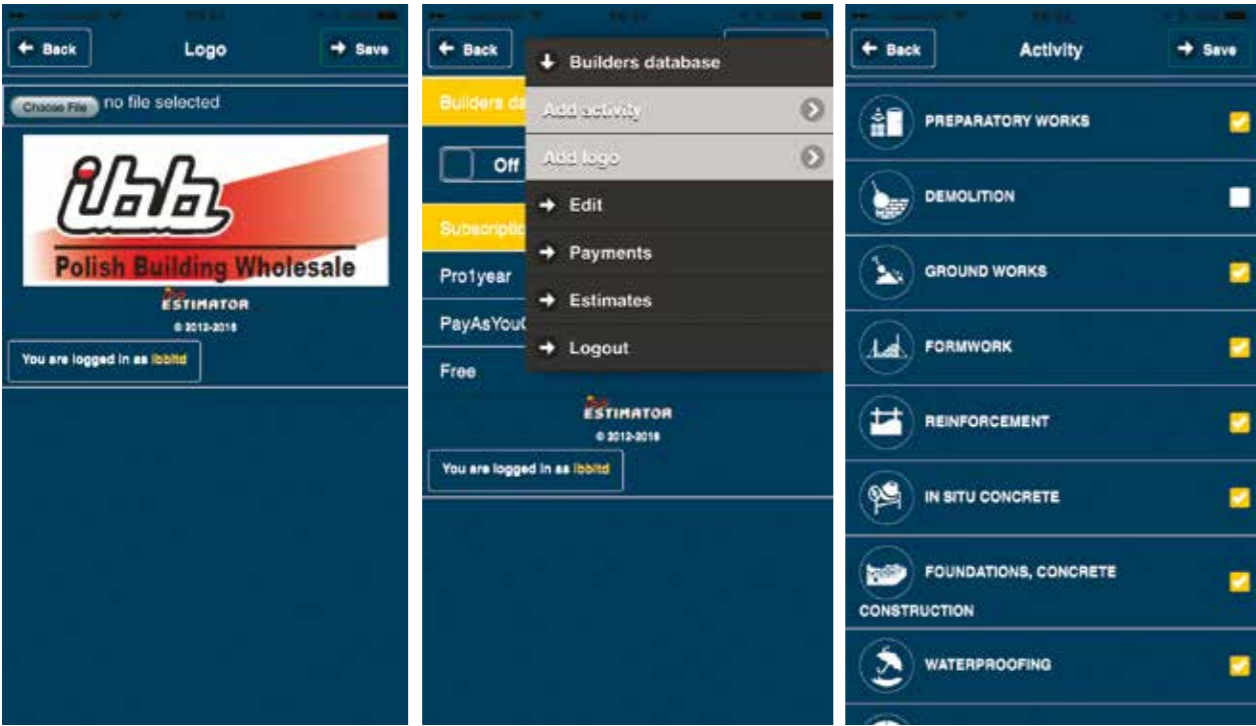
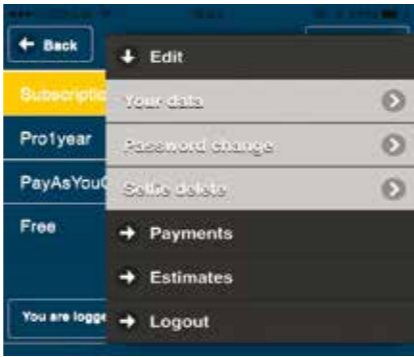


CUT HERE AND SAVE

Panel with options available includes links to:

**Edit**

- **Your data**  
Here you can amend your personal details including address, email and contact numbers. Also you are able to add your business logo and to add or edit your business activity.
- **Password change**  
Here you can change your password
- **Selfie delete**  
Here you can delete any selfie you have taken with IBB Estimator app

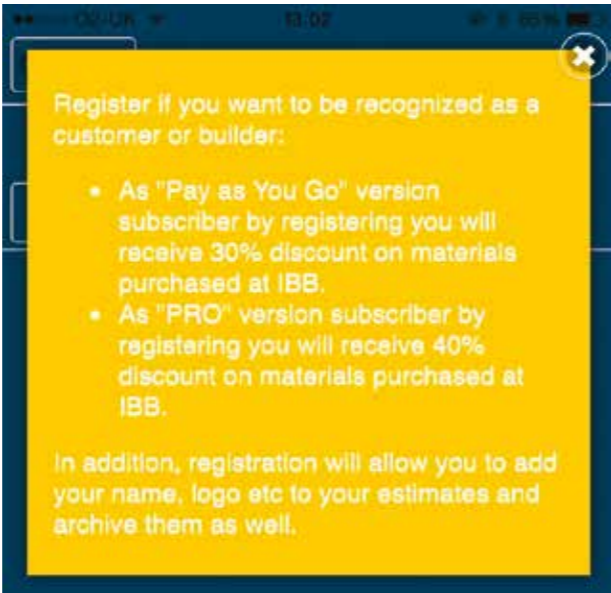


**Payments**

Here you can access the history of your recent payments and upgrade the IBB Estimator versions.

**Estimates**

Here you can access the library of your saved estimations.



**Download the App!**

ANDROID APP ON Google play Available on the iPhone App Store

# website version step by step



## How to manage your account, rates, overheads and profits?

1. Log in to your account at [www.ibbconstruction.co.uk](http://www.ibbconstruction.co.uk)
2. Click on icon **YOUR ACCOUNT** in the left panel



You will be able to choose four different options:

**Your account**

- By clicking Your account you will receive **INFORMATION** where you can check your subscription status, gold card status and total orders. You are able to change your details by pressing icon **CHANGE** in the down left corner. You will be transferred to [www.ibbconstruction.co.uk](http://www.ibbconstruction.co.uk) where you have to LOG IN again to see the panel with your data. You are now able to update your address, change password. In icon **ESTIMATIONS** you are able to access or delete your previous estimations. Icon **CREATORS** or **TRANSLATIONS** is to check your past presentations and translations, while **PURCHASES RECORDS** is to view your order history.



- Change from **INFORMATION** to **ORDERS HISTORY** in the right panel.



You will be able to view on screen your previous orders details.

**Your rates**

By clicking Your rates you will be able to view and amend cost of **Labour** or **Plant&Tools**.

Select category - **Labour** or **Plant&Tool** in right corner. Your choice will be highlighted in green colour.

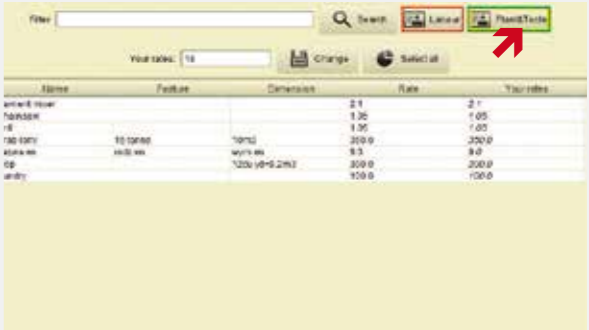
**Labour:**

Use the **FILTER** search to find trader or in the **NAME** column choose the appropriate trader. Insert your preferred rate into the empty **YOUR RATES** box and click **CHANGE** button. If you are happy with your amendments click **SAVE** icon in the down right corner.



**Plant&Tools:**

Use the **FILTER** search or in the **NAME** column choose the appropriate **Plant&Tool** position. Insert your preferred rate into the empty **YOUR RATES** box and click **CHANGE** button. Click **SAVE** icon in the down right corner to apply changes.



For both **Labour** and **Plant&Tools** rates you can also use **SELECT ALL** button and insert the preferred rate in **YOUR RATES** box to apply changes for all selected positions.

CUT HERE AND SAVE

CUT HERE AND SAVE





**A stud wall is the most common way to divide rooms. Its framework as with ceilings can be constructed either with timber or metal system.**

**Timber stud wall system**

Firstly it is required to choose the appropriate plasterboard for the walls (as per specification)- standard, fire, acoustic, water moisture. The thickness of plasterboards affects how far apart the stud walls should be positioned. General rule is that studs should be installed no more than 400mm apart from a board that is 9.5mm thick or 600mm if it is 12.5mm thick or 15mm. Taking into account the final finish, use taper-edged plasterboards for dry line finish only or square-edged plasterboards for plaster. How much plasterboard to buy? Calculate the wall's area and multiply its height by its width. Divide this by the area of one sheet. Buy a little extra to cover for cuts.

**Plasterboard types:**

To meet various performance requirements there is a selection of plasterboards available. There are solutions for enhanced moisture, fire,

acoustic, impact or thermal performance. The most common are ordinary plasterboards 9.5mm or 12.5mm or fire resistant plasterboards 12.5mm or 15mm. For special requirements like soundproofing there are 15mm or 19mm sound block plasterboards available. Plasterboard generally comes in 1200mm wide sheets, designed to suit the standard 600mm stud spacing. Other widths- 900mm or 600mm are available for specific systems or where space is limited.

We can distinguish between square edge plasterboard and tapered edge plasterboard. Tapered edge boards are ideal for either jointing or skimming, while square edge is generally used for textured finishes.

**Standard plasterboard** - most common, comes in ivory/brown colours, suitable for applications with standard sound levels, structural properties or fire specifications. Can be installed in double layer.



CUT HERE AND SAVE

CUT HERE AND SAVE



**Vapour shield plasterboard** - usually comes with thin layer of metallic film on the reverse of the sheet. Used for thermal insulation and moisture resistance purposes.

**Acoustic plasterboard** - usually comes in blue colour, with higher density core to provide the sound blocking features. To be used with resilient bars in soundproofing metal frame system which prevents the passage of sound vibrations.

**Fireproof plasterboard** - usually comes in pink colour, consist of glass fibre and other additives that protect against fire.

**Waterproof plasterboard** - usually comes in green colour, consist of water repellent additives so can be used in humidity areas- kitchen, bathrooms, wet areas.

**Impact plasterboard** - very dense core to resist the impact.

**Insulation board** - (Thermal Laminate, Kooltherm Insulated), expanded polystyrene core, two component insulation board used for thermal purposes.

**Cement board** - ideal for wet area walls as provides strong bond with adhesives to ceramic or stone tiles and has the water-resistant formula.

In next step choose proper timber. Standard lengths of softwood measure 100x 50mm or 75x50mm. How much wood to buy? Calculate total length by adding the measurement of the length of each stud, plate and nogging. Buy extra as timber lengths will not divide exactly as required.

Before installation of frame work locate existing pipes and circuits to allow for water connections and electricity. Fixing stud wall must be carefully positioned. Generally it is easier to fix it

to the masonry then to another timber wall. Ideally a new wall should be fixed to studs in the existing one. In case when it is installed between the studs of existing wall position fixings at the top and bottom, into the ceiling and sole plates and into a central nogging. While fixing the wall to the floor and ceiling remember that the ceiling plate must be attached to the solid structure, ideally directly to the joist. In case where it is not possible fit noggins every 600mm between two joists and install ceiling plate to this. Use same method for the floor.

Ensure that the corners form the exact right angle. The corner is two walls butt-joined. On one wall an extra stud is added close to the corner and that is the fixing point for the plasterboard.

1. Mark the frame where you would like to position the wall
2. Install the floor plate - position it along the guide line and fix it to the floor.

3. Install the wall and ceiling plates- position them along the guide lines and fix to the wall or ceiling with screws.
4. Keeping the stud secure it to the ceiling and floor plates with 100mm nails inserted diagonally
5. Create the door frame by adding the noggin to the width of the doorway and installing it to the door studs. Cut the stud to fit it between the top of the doorway and the ceiling plate- secure it at the centre of the doorway width.

**Metal stud wall system**

Measure and mark the guide lines on the floor, walls and ceiling where to install the wall channels (profile C) and ceilings and floor tracks (profiles U). Mark the opening for doorway and where to install the vertical channels (profile C).





Use the snips to cut the profiles where required. Screw the floor tracks with TEX screws no more than 600mm apart. It is recommended to use an acoustic tape for insulation. Fix the wall channels and secure them with screws placed no more than 600mm apart. Fit the ceiling tracks again with screws 600mm apart. To create the doorway insert the timber into the floor track for extra support and position the channel for the door head with drywall KSGM or KSGD screws. Insert the vertical channels into the tracks- you can properly fix them with TEX screws. Fix noggins if you require extra support. Attach plasterboards to both sides of the wall.

### Applying plasterboard

Dry-lining a wall means attaching plasterboard to a wall, which results with a smooth surface ready to decorate. It's quicker and

easier to get a perfect finish this way than with wet plaster.

Dry-lining is straight forward. First of all draw the guide lines on the wall to properly install plasterboards. Allow an extra 10mm for the adhesive. Mark a finish line across the top allowing 12.5mm for the thickness of the board and 10-15mm for the adhesive.

In case of uneven wall attach a framework of timber studs or metal channels to it before dry-lining. Fix the plasterboard to the studs or profiles with nails or screws rather than adhesive. You can also fit thermal insulation before fixing plasterboard, or use soundproof plasterboard.

If your wall is levelled use an adhesive to fix the plasterboard. Apply the adhesive on the wall and stick the plasterboard in line with your guide lines. Use the wooden batten to press the

plasterboard against the wall and self levelling tool to ensure it is perfectly vertical.

When applying plasterboards to the timber or metal framework, firstly mark on the floor and ceiling the positions of studs to easily find the fixing points. Cut plasterboard to the right measurements (start from wall to the centre of the doorway). Position the first plasterboard and secure it with KSGM or KSGD screws. Its edge should run down the centre of the stud above the doorway to avoid cracking. Apply screws every 150mm. Fix into noggins and studs in the middle of the sheet and at the edges. Use the drywall saw to cut the section of plasterboard that overlaps. If you cover the whole framework use plaster to fill any cracks or gaps between plasterboards and walls or ceiling.



### Timber system ceiling

Firstly it is important to note that this is an old fashioned method of ceiling installation. It is not recommended nowadays as it is not effective enough due to load transferring, being less resilient to cracks, absorbing moisture easily or being more difficult to level properly.

Timber system ceiling can be constructed with the use of battens. Using spirit level or other levelling tool, mark guide lines on walls for the new ceiling. To level the ceiling, attach battens to joists and noggings of the existing ceiling structure. Attach plasterboards to battens with dry lining screws.

### Metal frame ceiling

Metal frame ceiling is built with metal profiles, channels, connectors and brackets. For the ceiling grid construction most frequently are used metal profiles CD60 mounted in one- or two- level cross. Suspended ceiling hangers are ES brackets, hangers WSO with wire or joist hangers WKK. Ceiling can be lowered with ES brackets for profiles CD60 which are used to lower the ceiling from 75mm to 225mm. ES brackets are attached to joists or battens. To lower the ceiling from 10cm up to 2000mm-3000mm use the ceiling revolving hanger WSO and suspension wire. To create sloped ceiling

use joist hangers WKK. Attach wire to joists or battens and connect with WSO hanger. In the case of ceilings with fire protection hangers WSO noinius or ES should be used, while for the acoustic ceilings the **acoustic hangers**. Metal frame ceiling is constructed with the metal channels attached to the existing joists. Using spirit level or or laser, mark guide lines on walls for the new ceiling. Follow steps for the required ceiling type:

**Single metal grid ceiling system** - Install wall metal edge channels (perimeter profile UD27 or UD30), then fix brackets to the joints at intervals of 400mm for 2400 x 1200mm plasterboards. Attached channels to the brackets (main profile CD60) and then apply plasterboard with metal screws. Bracket high can be altered to level the ceiling appropriately.



**Single metal cross grid ceiling system** - Install wall metal edge channels (perimeter profile UD27 or UD30), then fix brackets to the joints at intervals of 400mm for 2400 x 1200mm plaster-

boards. Install channels (profile CD60) on brackets every 1.2-1.5meter and add additional metal channels (profile CD60) every 400mm on the cross brackets. Install plasterboard and dry lined. Bracket high can be altered to level the ceiling appropriately.



**Double metal cross grid ceiling system** - Same as the single metal cross grid system but on double metal channels (profile CD60). To achieve stronger ceiling construction use cross side connectors between main channels (profiles CD60). Such ceiling system is used for higher loading, for double plasterboards.





### Resilient metal grid ceiling system

Resilient bars are designed to upgrade ceilings to Building Regulations Approved Document E acoustic standards, which will virtually eliminate the possibility of movement problems. Resilient metal grid improves the acoustic performance of the suspended ceiling.

Resilient bars are installed directly on to the joists. Plasterboard is then installed directly to the resilient bar so there is no connection between plasterboard and the joists. This allows the resilient bars to vibrate and absorbs sound. This metal bar can provide the sound reduction of 10dB. Install resilient bars every 400mm directly to ceiling joists, first gap from wall should have no more than 200mm. Attach plasterboards to resilient bars with screws.

Acoustic hangers provide option of resilient suspension. They do similar job as resilient bars by stopping the direct connection of plasterboard which is fitted to the metal grid. Acoustic hangers allow for deeper depth between the suspended ceiling and the ceiling structure what allows the increased sound insulation. They reduce the airborne noise which gets to adjoining rooms or from the floor above.

#### Acoustic hanger



#### Resilient bar



Solution	Ceiling height loss	Performance	Impact improvement	Airborne sound
Acoustic hangers	85-91mm (ceiling retained)	Good airborne (4db better than resilient bar)	Preferred over resilient bars where impact sound is high	Approx 18dB improvement
Resilient bars	29-35mm (ceiling removed)	Medium airborne	Good	Approx 16dB improvement

### Fitting suspended tile ceiling

Suspended tile ceiling is a complete range of ceiling panels including mineral, soft fibre, wood or metal and a wide choice of suspension systems. There are various options of ceiling designs, materials and performances to meet the demand of architecture concepts. Suspended tile ceiling systems features include not only functionality but also design, acoustic features or environmental aspects.

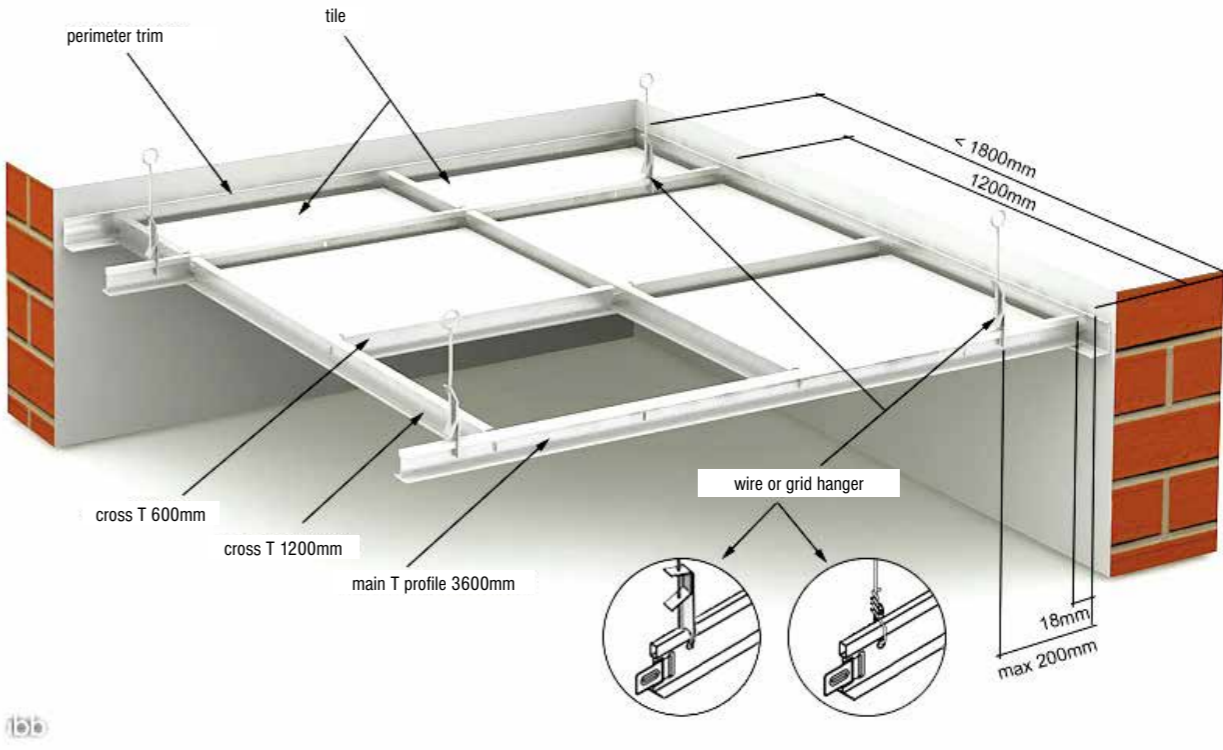
The suspension systems products include a full range of solutions for all ceiling suspension requirements: general applications, designer options, specific applications, perimeter trims and accessories for most applications. Suspension systems are designed for use with a wide variety of ceiling products- mineral, soft, metal, wood and our special solutions.

Suspended tile ceiling panels range is very broad and there is choice for both residential and commercial purposes. The commercial options are the most popular. Based on requirements there are varied mineral solutions available- laminated, non laminated and decorative options. Laminated range provides daylight optimisation, acoustical control and scratch resistance. The classic range of non laminated products is a mixture of performance, quality and affordability. The decorative range is all about modern geometric designs. Apart of mineral there are also soft fibre, wooden, metal or specific solutions to choose from.

There are options with visible grid or a fully concealed grid. For a fully concealed grid with mineral fibre tiles, there are planks or edges. Metal tiles can be installed on the 'clip-in' systems which do not expose the grid. If a semi-concealed grid is acceptable then any

'Vector' edge tiles in mineral, wood or metal are recommended. The minimum void depth for installing suspended ceilings depends on panels chosen. For 'lay-in' tile systems, where the tile is offered up through the grid before being dropped into place, about 150mm from the soffit to the top of the main runner bulb, is necessary. For edge tiles or clip-in tiles, which are installed from below the grid, less height is necessary. All services in the void, such as ducts, pipes or electrical cables may increase limits.

Briefly the installation of the suspended tile ceiling should start from marking the guide line on the walls, attaching wall angles and inserting tees and cross tees. In next steps suspending tees from the ceiling above using wires that can be adjusted to keep the framework level and at the final step -installing panels.



COMPARISON

METAL FRAME SYSTEM v TIMBER FRAME SYSTEM

- 1. Dry lining is an alternative method to plastering.
- 2. It costs less and is more effective than traditional plastering.
- 3. Metal frame system based on profiles is an alternative to traditional timber wall and ceiling construction.
- 4. Metal frame is quicker and easier to install, while it meets the highest performance requirements. It offers high strength to weight ratio for long lasting results.
- 5. Metal frame is more effective than timber one, especially in case of ceilings.
- 6. Metal frame system allows creating curves walls and arch ceilings easily.
- 7. In case of metal frame system it is not necessary to finish the whole surface with plaster, joints are enough.
- 8. Messy job of plastering is not required what cut costs and time.
- 9. Timber battens may be a cheaper solution but ceiling based on timber batten framework is less resilient and more prone to cracks.
- 10. Metal frame systems is up to 50% lighter than timber one, whilst it offers a more sturdy framework for plasterboard to be fixed.
- 11. Resilient metal grid improves the acoustic performance of suspended ceiling.
- 12. Metal profiles and channels are easier to transport. Can be stored outside and install in any weather conditions.
- 13. Metal profiles and channels are easy to cut on site, non flammable and will not rot or twist.
- 14. This is a quicker method of installation than using timber battens.
- 15. Metal stud frameworks enable the incorporation of insulation within the structure and offer same acoustic performance.
- 16. Metal won't bend, bow or differ in performance.
- 17. Metal studs are also less heavy then timber what cuts the installation time.



To sum up dry lining (metal frame system) is a cost effective solution to build a new internal partition wall or ceiling, or to improve any existing wall or ceiling.

DRYLINING

metal dry walls and suspended ceilings are more effective than based on timber battens and brickwalls

1.

Rate per 1 sqm suspended metal grid ceiling include:

- fixing perimeter track UD-28/4m around walls
- fitting ceiling main channel CD-60/4m
- CD-60 connector – for joining CD-60 where necessary
- CD cross connectors – not included - necessary with double layer of plasterboards
- Adjusted WSO brackets and PM wires for suspending ceiling grid
- it is possible to use WSO brackets with PM wires 12.5cm, 25cm, 50cm, 75cm, 100cm or 150cm
- the strongest suspended system dedicated for suspending up to 3m or more is based on nonius hangers



MATERIALS

1sqm metal-grid suspended ceiling

No	Material	dimmensions	Price* excl.VAT pcs/pack	Price per unit	Usage per 1sqm	Price* excl. VAT 1sqm	Price* incl. VAT 1sqm
1	Metal UD perimeter track	UD-28mm/4m	£2.42	£0.61/m	0.65 m	£0.40	£0.48
2	Hammer screw SM6*60	Pack 200pcs	£7.42	£0.04/pcs	3.00 pcs	£0.12	£0.14
3	Main ceiling channel CD	CD-60 - 28mm/4m	£3.91	£0.98/m	2.65 m	£2.60	£3.12
4	Adjusting rotate hanger WSO		£0.33	0.33/pcs	6.12 pcs	£2.02	£2.42
5	Wire for WSO hanger PM	250 mm	£0.21	£0.21/pcs	6.12 pcs	£1.29	£1.55
6	Connector for joining main channels CD-60		£0.29	£0.29/pcs	0.62 pcs	£0.18	£0.22
7	Self-drilling screws TEX 3.9*9.5mm	Box=1000pcs	£8.25	£0.01/m	13.00 pcs	£0.13	£0.16
8	Additional materials - from above 1.5%					£0.10	£0.12
Total						£6.84	£8.21

\* all products available at IBB; prices before discounts

LABOUR

1sqm metal-grid suspended ceiling

No	Description	Labour per sqm	Company rate* excl. VAT	Cost excl. VAT	Cost incl. VAT
1	Labour	1.44 lh/sqm	£27.00	£38.88	£46.66

Price per 1sqm of suspende ceiling metal grid = L+M = 6.84 + 38.88 = £45.72 net

## 2.

Rate per 1 sqm finished suspended ceiling include:

- fitting insulation – for thermal and acoustic purposes - included
- fitting DPM to profiles – only with thermal insulation
- thermal insulation 100mm thick included
- fixing plasterboards to CD chanles
- fixing self-adhesive joint tape, gypsum based plastering
- finishing and sanding
- priming and painting white - first coat
- second coat painting

### MATERIALS

1sqm suspended ceiling covered with one layer of plasterboards

No	Material	dimmensions	Price* excl. VAT pcs/pack	Price per unit	Usage per 1sqm	Price* excl. VAT 1sqm	Price* incl. VAT 1sqm
1	Insulation KNAUF Acoustic roll	100mm roll=11.00sqm	£37.20	£3.38/sqm	1.05 sqm	£ 3.55	£ 4.26
2	Standard plasterbord – fixed both sides	12.5*1200*2400mm	£6.99	£2.43/sqm	1.04 sqm	£ 2.53	£ 3.04
3	DPM membrane	Roll=100sqm	£41.00	£0.41/sqm	1.10 sqm	£ 0.45	£ 0.54
4	Drywall metal screws KSGM 3.5*35mm	Box=1000pcs	£8.25	£0.01/pcs	19 pcs	£ 0.19	£ 0.23
5	Selfadhesive joint tape-scrim tape	Roll 90mb	£2.67	£0.03/m	1.75 m	£ 0.05	£ 0.06
6	Finishing filler – Super Finisz	Bag 20kg	£12.08	£0.60/kg	0.25 kg	£ 0.15	£ 0.18
7	Primer AVAL KT 17	5l can	£11.25	£2.25/L	0.07 L	£ 0.16	£ 0.19
8	Acrylic paint SuperMatt	10l can	£19.58	£1.96/L	0.12 L	£ 0.24	£ 0.29
9	Additional materials - from above 1.5%					£ 0.11	£ 0.13
Total						£ 7.43	£ 8.92

\* all products available at IBB; prices before discounts

### LABOUR

1sqm suspended ceiling covered with one layer of plasterboards

No	Description	Labour per sqm	Company rate* excl. VAT	Rate [GBP] per 1sqm excl. VAT	Rate [GBP] per 1sqm incl. VAT
1	Fitting thermal insulation	0.12 lh/sqm	£27.00		
2	Fixing one layer od plasterboards	0.15 lh/sqm	£27.00		
3	Finishing with gypsum plaster	0.61 lh/sqm	£27.00		
4	Painting: priming, two coats paint both sides	0.18 lh/sqm	£27.00		
Total		1.06 lh/sqm	£ 27.00	£28.62	£34.34

Price per 1sqm finished suspended ceiling with grid and acoustic insulation = L+M = 6.84+7.43 + 38.88 + 28.62 = £81.77 net

## 3.

Rate per 1sqm metal-frame stud wall include:

- Measure and mark on the floor and ceiling where to fix chnnels
- fixing perimeter U channel to floor and walls at 600mm centres
- fixing metal C studs cut to length to fit within and between the top and bottom perimeter channels
- position the studs in line at 400 or 600mm centres and srew using TEX sreews
- fixing plasterboards to metal studs with KSGM drywall screws at 600mm centres horizontally and 250mm vertically
- hold and fix plasterboards min. 10mm above the floor level
- fitting aluminium corners
- self-adhesive joint tape, gypsum based plastering
- finishing, sanding
- priming and painting white - first coat
- top coat painting



### MATERIALS

1sqm suspended ceiling covered with one layer of plasterboards

No	Material	dimmensions	Price* excl. VAT pcs/pack	Price per unit	Usage per 1sqm	Price* excl. VAT 1sqm	Price* incl. VAT 1sqm
1	Acoustic tape under U channel	Roll 70mm/30m	£4.13	£0.41/m	0.84 m	£ 0.49	£ 0.59
2	Metal U channel	U-75mm/4m	£5.33	£1.03/m	1.50 pcs	£ 0.87	£ 1.04
3	Hammer screws SM 6x40mm	Box=200pcs	£3.29	£0.03/pcs	2.08 m	£ 0.05	£ 0.06
4	Metal C stud	C-75mm/2.60m	£8.25	£1.27/m	13.00 pcs	£ 3.56	£ 4.27
5	Self-drilling screws TEX 3.5x9.5mm	Box=1000pcs	£25.40	£0.01/m	1.05 sqm	£ 0.13	£ 0.16

CUT HERE AND SAVE

CUT HERE AND SAVE

6	Insulation Rockwool RWA45	75mm pack=2.88sqm	£6.99	£8.82/sqm	2.08sqm	£ 9.26	£ 11.11
7	Standard plasterbord – fixed both sides	12.5*1200*2400mm	£8.25	£2.43/sqm	38 pcs	£ 5.05	£ 6.07
8	Drywall metal screws KSGM 3.5*35mm	Box=1000pcs	£2.67	£0.01/pcs	1.75 m	£ 0.38	£ 0.46
9	Selfadhesive joint tape-scrim tape	Roll 90mb	£12.08	£0.03/m	0.50 kg	£ 0.05	£ 0.06
10	Finishing filler – Super Finisz	Bag 20kg	£11.25	£0.60/kg	0.14 l	£ 0.30	£ 0.36
11	Primer AVAL KT 17	5l can	£19.58	£2.25/l	0.24 l	£ 0.32	£ 0.38
12	Acrylic paint SuperMatt	10l can		£1.96/l		£ 0.47	£ 0.56
13	Additional materials - from above 1.5%					£ 0.31	£ 0.37
Total						£ 21.24	£ 25.49

\* all products available at IBB; prices before discounts

LABOUR

1sqm metal-frame partition wall with one layer of plasterboards both sides

No	Description	Labour per sqm	Company rate* excl. VAT	Rate [GBP] per 1sqm excl. VAT	Rate [GBP] per 1sqm incl. VAT
1	Fitting metal-frame stud wall	1.43 lh/sqm	£27.00		
2	Fitting thermal insulation	0.12 lh/sqm	£27.00		
3	Fixing one layer od plasterboards both sides	0.30 lh/sqm	£27.00		
4	Finishing with gypsum plaster both sides	1.22 lh/sqm	£27.00		
5	Painting: priming, two coats paint both sides	0.36 lh/sqm	£27.00		
Total		3.43 lh/sqm	£27.00	£92.61	£111.13

Price per 1sqm of finished metal frame partition wall with insulation = L+M = 92.61 + 21.24 = £113.85 net



CUT HERE AND SAVE

CUT HERE AND SAVE

4.

Rate per 1sqm timber-frame stud wall include:

- fixing sole plate and wall plate buttons to floor, ceiling and walls creating frame
- fixing timber studs as verticl at 400 or 600mm centres using zink plated screws KDH
- fixing timber noggings as horizontal support of timber frame using zink plated screws KDH
- nails should be driven diagonally through the studs
- any heavy items require additional noggings and studs for support
- fixing plasterboards to profiles with KSGD drywall screws
- fixing self-adhesive joint tape, gypsum based plastering
- finishing, sanding
- priming and painting white - first coat
- top coat painting



MATERIALS

1sqm timber-frame with one layer of plasterboards both sides

No	Material	dimmensions	Price* excl. VAT pcs/pack	Price per unit	Usage per 1sqm	Price* excl. VAT 1sqm	Price* incl. VAT 1sqm
1	Accoustic tape stick to sole plate	Roll 70mm/30m	£12.33	£0.41/m	0.84 m	£0.49	£0.59
2	Sole plate, noggings - timber joist regularised C16/24	47*75*3000mm	£4.36	£1.45/m	1.20 m	£1.74	£2.09
3	Timber screw KDH 5.0*80mm	1kg=152 pcs	£4.99	£0.03/pcs	13.0 pcs	£0.39	£0.47
4	Wall stud - timber joist regularised C16/24	47*75*3000mm	£4.36	£1.45/m	2.08 m	£3.02	£3.62
5	Timber screw KDH 5.0*80mm	1kg=152 pcs	£4.99	£0.03/pcs	1.5 pcs	£0.05	£0.06
6	Insulation Rockwool RWA45	75mm pack=2.88sqm	£25.40	£8.82/sqm	1.05 sqm	£9.26	£11.11
7	Standard plasterbord – fixed both sides	12.5*1200*2400mm	£6.99	£2.43/sqm	2.08 sqm	£5.05	£6.07
8	Drywall timber screws KSGD 3.5*35mm	Box=1000pcs	£8.25	£0.01/pcs	38 pcs	£0.38	£0.46

9	Selfadhesive joint tape-scrim tape	Roll 90mb	£2.67	£0.03/m	1.75 m	£0.05	£0.06
10	Finishing filler – Super Finisz	Bag 20kg	£12.08	£0.60/kg	0.50 kg	£0.30	£0.36
11	Primer AVAL KT 17	5l can	£11.25	£2.25/l	0.14 l	£0.32	£0.38
12	Acrylic paint SuperMatt	10l can	£19.58	£1.96/l	0.24 l	£0.47	£0.56
13	Additional materials - from above 1.5%					£0.32	£0.38
Total						£21.84	£26.21

\* all products available at IBB; prices before discounts

LABOUR

1sqm timber-frame with one layer of plasterboard both sides

No	Description	Labour per sqm	Company rate* excl. VAT	Rate [GBP] per 1sqm excl. VAT	Rate [GBP] per 1sqm incl. VAT
1	Fixing sole plates and wall plates	0.50 lh/sqm	£27.00		
2	Fixing wall studs	2.47 lh/sqm	£27.00		
3	Fitting thermal insulation	0.12 lh/sqm	£27.00		
4	Fixing one layer od plasterboards both sides	0.30 lh/sqm	£27.00		
5	Finishing with gypsum plaster both sides	1.22 lh/sqm	£27.00		
6	Painting: priming, two coats paint both sides	0.36 lh/sqm	£27.00		
Total		4.97 lh/sqm	£27.00	£134.19	£161.03

Price per 1sqm of finished timber frame partition wall with insulation = L+M = 134.19 + 21.84 = £156.03 net

Notice!

Above estimation is only an example and you can use it on your own risk. Use PPE – Personal Protection Equipment and establish Health&Safety practice.



FIRST POLISH

Leading Concrete Supplier

- We mix concrete on site using professional Volumetric equipment. It means, you pay for concrete we used for you.
- Our concrete and screed are certified by british standards.
- We work **24/7**
- Cash or card payment available
- We use professional concrete pumps up to 120m.



For each referral customer you get 5% profit of each mixing truck.



0800 678 5359

07789 392718

www.polskabetoniarnia.co.uk

CUT HERE AND SAVE

# The Foundation is forever

## How to build the lasting foundation

**Foundations are the supportive structures on which the whole building is built. They are the most heavily loaded structural element in the building. The data indicate that approximately 20% of building projects are delayed due to problems at the foundation stage.**

Foundations should work not only as the support for the building but also as moisture insulation. What is the most important - they should last forever. That is why the proper foundation has to be adequately planned with soil conditions, water tables and quality of the backfill taken into account. It has to be also well built - the base properly compacted, the formwork set up right, the concrete free of voids. Long lasting foundations should be plum, level and free of discolorations (sign of poor quality concrete). The slab foundation should have a sturdy footing with a vapour proofed reinforced concrete pads that sits on the compacted crushed stone.

First of all we can distinguish between shallow and deep foundations. It refers to the depth of soil foundations are made. Shallow foundations can be made in depths of as little as 3ft (1m), while deep foundations can be made at depths of 60 - 200ft (20 - 65m). First are built in small buildings and on the hard and level surfaces, while deep ones are for large structures. Shallow foundations can be also called spread footings or open footings, what refers to the fact that they are made by the excavation of soil to the bottom of footing and constructing the footing. Deep foundations are used for more complex projects or when soil conditions are poor or when building a structure on a hill. Deep foundations are more than 3 feet (91.44 cm) deep and can have varying depths throughout. The type of foundation used depends on the building age and the type of ground. We will describe two main types of shallow foundations - trench, strip and raft and one type of deep foundations - pile foundation.

### SHALLOW FOUNDATIONS

#### STRIP and TRENCH

Strip foundations are the most common type due to their simplicity and cost effective-

ness. We can distinguish between traditional shallow strip, wide strip for higher-load structures, and deep strip - trench/fill foundations. It is the long strip that supports the weight of the entire wall. Exterior loadbearing walls sit on channels filled with concrete. Any internal loadbearing walls may also be built up from trench foundations. The depth of the foundation will depend on the geology of the underlying ground and the size of the building. Shallow and wide strip foundations are similar to trench but less concrete is poured into the channels with the wall from below the ground level. Walls may be constructed from the bricks or blocks that form the main walls or from different blocks rising to just above the ground level.

Trench foundations avoid bricklaying below the ground with the concrete poured to within 150mm of the surface ground level. Both the sides and bottom of the trench play the supportive role so can be built on the strong soils like clay or chalk soils.

Strip foundations are typically 300mm thick, with the exact thickness determined by the masonry courses of the walls up to the DPM





(damp-proof course) level. As they spread the load of the building on the larger area then the trench foundation they are often build in softer soils like sand.

#### STEP BY STEP

1. Foundation layout based on specification
2. Digging the foundation openings
3. Building Control inspection
4. Install the shuttering play around the opening to prepare for concrete
5. Fill up with concrete
6. Building Control inspection

#### Block or brick foundations

These are similar to strip foundations but build up with bricks or blocks. Not very common in the UK.

#### STEP BY STEP

1. Foundation layout based on specification
2. Digging the foundation openings
3. Building Control inspection
4. Fill the thin (approx. 10cm) layer of the concrete in the opening
5. Install the reinforcement box
6. Building Control inspection



7. Fill up the box with the concrete
8. Building Control inspection
9. Build up walls from engineering bricks or high dense concrete blocks

#### RAFT

Raft foundations are the concrete slabs, reinforced with steel which covers the entire area on which the house is based (the whole ground floor area). Well insulated, often used on soft and compressible subsoils eg. clay and peat. Raft foundations are also common when basements are to be built. The entire basement floor slab acts as a foundation with the weight of the building spread evenly over the footprint of the structure.

Beneath a ground-bearing concrete floor slab, the ground must be properly prepared. Firstly, the site should have been stripped clear of topsoil and vegetation before the foundations were dug. Hardcore should be used in a layer, at least 150mm thick, but no greater than 300mm, in selected aggregate. It's then compacted down in layers with a plate compactor. If this task is done badly or with the wrong material, settlement is to be expected, causing the slab to crack.



#### STEP BY STEP

1. Foundation layout based on specification
2. Digging of the hole on the entire surface
3. Building Control inspection. Check the depth of the hole
4. Fill up the hole with the hardcore
5. Compacting the hardcore
6. Cover compacted hardcore with sand, sharp sand etc.
7. Install DPM
8. Install reinforcement- one or two layers
9. Building Control inspection
10. Fill in with concrete

#### DEEP FOUNDATIONS

##### PILE

Pile foundations are capable of bearing higher loads than the spread footings and are used in cases:

- when there is a layer of weak soil and the load of the building has to be based on the stronger soil or rock deep into the ground, below the weak layer
- when building has very heavy, concentrated loads

Pile foundations are mostly pre-engineered. The walls are built on a concrete beam. This rests on the solid and loadbearing reinforced concrete, or steel beams, drilled into the ground - up to 15m below the surface. The piles might be precast and drilled into the soil or cast on site. The depth and frequency of beams depend on the type of ground and building size. Piles might be required for internal loadbearing walls too.

We can distinguish between two types of pile foundations: end bearing pile and friction pile.

In the end bearing pile the bottom of the pile rest on the intersection of the stronger soil or rock with the weaker soil layer. The bearing load of the building is transferred into the strong layer of soil. The friction pile transfers the load of the building to the soil across the full length of the pile. The amount of the load that the friction pile can support is proportionate to its length.

#### STEP BY STEP

1. Foundation layout based on specification
2. Machinery drills holes for piles. Every few meters there is soil test.
3. Building Control inspection, Soil and concrete test required for approval certificate.
4. Insert the steel reinforcement
5. Building Control inspection
6. Fill with special mixed concrete
7. Install the reinforcement box in the opening for foundation between each pile. Standard reinforcement box is 500x500 mm, made of reinforcement bars
8. Building Control inspection
9. Fill with concrete



The position of the walls on the foundations can be assessed and any relevant issues inspected.

Building control inspections on foundations

There is requirement to notify the building control officer at the certain stages of the groundworks to receive the approval to proceed with works.

First inspection- Commencement (statutory)

The Building Control Officer will come on site for the first time to discuss the specification and requirements for foundations. Trial pits should be ready for the inspection. Trial pits are usually 1 to 4 meters deep hole of excavated ground in order to check the soil condition and existing foundations.

Second inspection- Foundation excavation

This inspection is to ensure that the ground upon which the building is to be founded is satisfactory.

The Building Control Surveyor will consider various aspects during this inspection, including:

- The load bearing capacity of the ground
- The proximity and depth of any drain runs and manholes
- Any indication of filled ground, generally or limited areas
- The depth of existing foundation
- Proximity of trees, or trees already removed

In ground with any clay content a minimum foundation depth of 1000mm is normally required.

Third inspection - Foundation concrete

It is after the foundations openings are filled with concrete to establish how the blockwork will be built up to damp-proof course level. The position of the walls on the foundations can be assessed and any relevant issues inspected.

Why foundations fails?

ATTENTION IMPORTANT

**Soil Type.** Soils expand with moisture and may cause the up and down movements. Clay or organic matter absorbs water like a sponge, what increase the risk of foundation cracks. Expansion, shrinking or contraction of soils can disturb the foundation Curing time. Concrete must cure slowly to reach proper strength (full concrete set approx 30days, brick/block laying after 3days). Keep it damp by often watering. Insufficient compacting. If the fill material is poorly compacted, the slab will likely settle or crack.

**Interrupting the concrete pour.** A concrete form should be filled in one go. If you interrupt the pour may occur which is likely to crack and leak.

**Erosion.** If the poor drainage was done and there is the uncontrolled water flow which will

take away a soil around foundation. It can cause additional underpinning works.

**Trees Adjacent.** Before construction of foundation, there is need for careful check if there are no obstacles like tree roots. The closer the tree is to the building the deeper foundation must be done. The minimum depth is 900mm.

New foundation technologies

Technopor foundations- are the latest innovation in foundation green building technologies. The foundation is built on the glass, with no concrete required. It can be installed on almost all ground conditions, for structures up to three storeys high. It offers thermal insulation, load bearing, capillary breaking and provides drainage. After the soil is excavated the entire hole is laid and overlapped with the geo-textile. On the top of the geo-textile, granulate is evenly distributed than compacted. Such surface is ready for the construction of the floor slab.

Underpinning

Underpinning is a method of improvements on the existing foundation. It allows repairing or checking and increasing the depth of the foundations. The soil beneath the existing foundation is excavated and is replaced with foundation mate-

TIPS

1. Do not excess the foundation's excavations.
2. Try to level the foundation bottom.
3. Use the good quality concrete as soon as possible after excavations. Remember if there is not enough water the concrete will not dry properly.
4. Control the boarding – that will have an impact on the amount of used concrete.
5. Isolate horizontally the foundation.
6. Compact backfill material approx at every 20cm; in the case of poor ground conditions make drains.
7. Allow for all services- gas, water, electricity cables, lighting, phone etc.
8. Before laying the concrete ensure the sewage levels and secure all pipes.
9. Densify the sand around all pipes.
10. Pour concrete at once or in sections. If you do by sections, never start from the foundation's corners.
11. Smooth over the concrete with float to even the surface.
12. Avoid the foundation to dry too quickly by watering.

rial, usually concrete. Underpinning works requires proper risk assessments and professional approach as if carry out negligently may cause damage or collapse of the existing building.

Underpinning is undertaken in situations where for instance:

- The existing foundations of the building have moved – this is caused by poor soil or changes to the soil conditions
- There has been a decision to add another storey to the building and the depth of the existing foundations is inadequate to support the modified structure.

Species	Distance from Building												
	1m	2m	4m	6m	8m	10m	12m	14m	16m	18m	20m	22m	24m
English Oak	*	*	*	2.30	2.15	1.95	1.70	1.60	1.40	1.20	1.10	0.90	
Black Poplar	*	*	*	*	2.30	2.20	2.10	1.90	1.80	1.70	1.60	1.50	1.40
Weeping Willow	*	*	*	2.20	2.00	1.80	1.60	1.30	1.10	0.90			
Hawthorn	*	*	2.10	1.80	1.50	1.20	0.90						
Cypress Leylandii	*	*	2.10	1.80	1.40	1.20	0.90						
Cedar	1.80	1.70	1.50	1.30	1.20	1.10	0.90						
Douglas Fir	1.70	1.50	1.20	0.90									
Pine	1.70	1.50	1.20	0.90									
Spruce	1.60	1.40	1.10	0.90									
Horse Chestnut	1.80	1.70	1.50	1.40	1.30	1.10	0.90						
Ash	1.80	1.70	1.60	1.40	1.30	1.20	1.00	0.90					
Lime	1.80	1.70	1.50	1.40	1.30	1.10	1.00	0.90					
Sycamore	1.80	1.70	1.50	1.40	1.30	1.10	1.00	0.90					
Pear	1.70	1.50	1.30	1.10	0.90								
Orchard Cherry	1.70	1.50	1.30	1.10	0.90								
Alder	1.70	1.60	1.50	1.30	1.20	1.00	0.90						
Maple	1.70	1.60	1.50	1.30	1.20	1.00	0.90						
Beech	1.70	1.60	1.50	1.40	1.20	1.10	0.90						
Plum	1.60	1.50	1.20	0.90									
Laurel	1.60	1.50	1.20	0.90									
Apple	1.60	1.50	1.20	0.90									
Silver Birch	1.20	1.10	0.90										

Foundation Depth in Metres

\* Foundations greater than 2.5m deep to be engineer designed.

## THE WIN OF IBB POLONIA OVER THE LEEDS VOLLEYBALL CLUB

**The volleyball players of IBB Polonia won the away game with a definite advantage against Leeds Volleyball Club. After that winning game the guys from Polonia strengthened their positions in the Super 8 League table in the first place. There is only one meeting ahead of #GoPolonia in regular season.**

Previous meeting between the two teams took place in November last year. The IBB Polonia was the accelerating locomotive without mercy over their rivals, Mantees of Vangelis Koutouleas won the autumn game with the Leeds VC without a single miss of a set. The same was this time. Ambition was not enough to win this game by the hosts.

After this match IBB Polonia is in the first place of the Super 8 League table having scored 8 points in their account. In the second place is Team Northumbria (29 points), in the third is Sheffield Hallam (18 points). Leeds VC - IBB Polonia London 0:3 (14:25, 21:25, 17:25)

After the match they said:

**Vangelis Koutouleas, the coach of IBB Polonia:**

We won, but as always, even after a winning game, there is a lot to be analysed of possible mistakes, but also positive aspects in respect of awaiting meetings. There is one more meeting in regular season, and then we are playing the most important games - within semi-finals of the league and the finals of the league.

**Bartek Kisielewicz, the captain of IBB Polonia:**

The winning makes us glad, particularly after a previous defeat in Newcastle. The rival played ambitiously, they didn't give up that game. We thank our fans for arriving to Leeds and supporting us in this game. Now, we are focusing on a decisive stage of current season. IBB Polonia is inviting to a match with London Docklands

On Saturday, 19th March, IBB Polonia will play in their own court with London Docklands. The meeting will be held at Brentford Fountain Leisure Centre (658 Chiswick High Road, Brentford, TW8 0HJ). The start of the game is at 15:00. You can follow IBB Polonia on [www.polonia.vc](http://www.polonia.vc) and on Facebook [www.facebook.com/poloniavc](http://www.facebook.com/poloniavc).



### BREAKING NEWS

IBB Polonia London VC won England League for the first time since 1986! 17 matches won, only one lost.

# IBB Polonia London in Champions League semi-final

Chant after any point scoring play...

Ahhhh sweet !!!

After a loss of point ...

Ahhhh team !!!

To pump up your team ...

One, two, three, four  
everybody hit  
the floor !!!

Cheer for Spiking ...

Bump, Set, Hit, Spike  
That's the way we like  
to fight !!!

Remember!!!

Every chant or cheer is great if it pumps your team to fight.

Know better chants?

We are waiting for your e-mail: [editor@IBBbuilder.co.uk](mailto:editor@IBBbuilder.co.uk)

# IBB Polonia London Supporter

## Do you support our Team?

### Here's A Few Things You Should Know ...

#### Supporter's Solemn Vow



POLISH  
ORIGINAL VERSION

Ja Kibic IBB Polonia przysięgam :

- Być obecnym na każdym meczu.
- Że usiedzę na miejscu i nie będę biegać między zawodnikami :-).
- Kibicować aż do zdarcia strun głosowych.
- Być wiernym barwom Biało-Czerwonym.
- Czy wygrana czy przegrana obiecuje mej drużynie wznosić toast aż do rana.



ENGLISH  
VERSION

I hereby, Fan of IBB Polonia London VC, swear with the fan oath that:

- I shall be present at every match of my team.
- I shall be sitting in a place not running amongst the players.
- I shall be cheering until I wear out my vocal cords.
- I shall be loyal to white and red colours.
- No matter the game result, I shall be there with toast until daylight.

#### Supporter's Equipment

IBB Polonia London Fan Club is looking forward to every match and is always ready equipped with drums, flags, banners and other gadgets. Members of the club have their shirts with their names and lucky numbers. We sing our cheering songs to the beat of drums and some of us wave our flags. It is all about laughter, joy and positive energy. We invite everyone to join us during the next game so together we can promote the strength of our team.



#### Supporter's Polish Chants

- Polonia Nasza drużyna, Polonia mecz rozpoczyna, Polonia dzisiaj nie przegra bo wiara w nią to potęga (x4)
- My się nie damy, Polonia - dziś się nie damy, dziś się nie damy, bo każdy set wygrywamy (x4)
- Dziś Polonia jest na fali i wygramy na tej hali (x4)
- Puchar jest nasz puchar do nas należy, nie damy nikomu, nie damy nikomu nie damy nikomu co do nas należy (x2)
- Barwy Biało-Czerwone to barwy nie zwyciężone, Biało-Czerwone to barwy nie zwyciężone (x4)
- Hej Polonia lalalalala, hej Polonia lalalalala..... (x4)
- W górę serca Polonia wygra mecz, Polonia wygra mecz... (x4)
- Polonia raz, Polonia dwa Polonia mistrza Anglii ma.... (x4)
- Jeśli mamy piłkę setową krzyczymy  
Last one, Last one... ewentualnie Ostatni, Ostatni...

Resztę przyśpiewek można usłyszeć na meczach, na które serdecznie wszystkich zapraszamy.



# IBB Polonia London Supporters

**POLONIA  
LONDON.  
VC**

IBB  
POLONIA LONDON  
VOLLEYBALL  
CLUB



## Volleyball England's Chief Executive Visits Top Polish Event

Volleyball England Chief Executive Officer, Lisa Wainwright has recently returned from the final of the Polish League Volleyball Cup, where she saw PGE Skra Belchatow edge out

ZAKSA Kędzierzyn-Koźle after a close five-set encounter. Held at the packed out Hala Orbita in Wroclaw, the 3,000-strong crowd created an incredible atmosphere, as the teams battled it out for victory.

"We were really impressed with the size and scale of the event," said Lisa. "Not only the high level of Volleyball which was being played, but also the Polish audience. Their enthusiasm and support was a wonderful thing."

Volleyball England, through IBB Polonia London one of the top clubs in England, has excellent links with PGE Skra after both teams competed in the inaugural London Legacy Cup in 2015.

"We are always looking for inspiration and best practice from our volleyball peers so we were delighted to be invited to Wroclaw to see the top Polish teams play, to see how we can learn from them in order to further promote volleyball in this country. "It was fantastic to see whole families in the crowds, supporting their teams and the volunteers."

While volleyball in Poland is considered a national sport, and indeed is one of the highest participation sports in the world, in England it is still

considered a minor sport and unable to compete with the football, rugby and cricket powerhouses, especially in the mainstream media.

"We do have challenges when it comes to media coverage for example," added Lisa. "We had fantastic success during London 2012 but we hope to replicate the atmosphere of the Olympics and the Polish cup, in the future. "Our goal is to bring more fantastic events to England. We will be looking for bigger, better venues for our events to accommodate more spectators and create the same excitement as we've seen this weekend, to showcase our sport."



Rohan West (participation Director Volleyball England) Lisa Wainwright (CEO Volleyball England) Bartek Łuszcz (Chairman IBB Polonia London)



# IBB Polonia London Supporters

Let's rise England Volleyball to this level !



## 7

## The Parent's thoughts

shutterstock.com

# Mobility

**Mobility is the general physical fitness of a body. However, it must be added that this fitness is important as a function in time. Here is where the supplementary concepts come into play, that is oxygenation and energy management.**

The main aim of a tennis player's motility is to combine motoric fitness with so-called cardio, that is the body's ability for maximum oxidization of muscle, brain and nervous system during increasing strain and fatigue. This ability is informally referred to as "condition".

Condition is measured by the VO2 max levels, that is the body's ability to absorb oxygen.

Cardio increases metabolism, the transformation of matter, influencing positively the body's energy management and cellular regeneration.

These conditions are decisive of victory on the highest level of championship. There are reasons why a tennis player starts to make foul plays in the 3rd set. He is tired, just like his opponent. But, most importantly, they are suffering from oxygen deficiency. Their breathing is becoming shallower and more labored. Their cells, both nervous and muscular, are beginning to feel the shortage of oxygen.

The aim of mobility training is intermittently applying functional and aerobic exercises, to achieve:

- the longest possible duration of oxygen strain, and delaying the mixed or oxygen-less phase as long as possible
- the quickest possible return to oxygenated functioning

The above factors are characterized by HR (heart rate).

The lower the HR, measured by rpm (rates per minute), the better the economy of heart work. The lower the HR, including the rest rate – the longer the life span. The heart is a pump, and just like a mechanical device it favors economy of operation, with no jerks, jumps and deviations.

For every organism, age and gender we may determine an HR level for oxygen work.  $HR = (220 - \text{body weight}) * 0.85$

The best possible economy of operation is obtained by oxygen work to the value of a level calculated by the above equation, e.g. for a teenage boy with weight of 55kg  $HR = (220 - 55) * 0.85 = 145 \text{rpm}$

Proper mobility training starts right after waking up. Here are some tips:

- Get up slowly, so as not to excite the blood circulation too much, do not jump out of bed
- Move around a bit, stretch out like a cat
- After getting up, take a few deep breaths, to oxygenate and expand your chest, reducing pressure on heart and lungs (your lungs will be very grateful to you)
- Do some gymnastics
- Eat a hearty breakfast, rich in carbohydrates, required to give you energy to train.

- There is a theory advising to start a day with a run on an empty stomach, teaching the body to burn fat. I don't stand by it, as a sportsman has little fat to start with and needs all of it for the process of vitamin absorption
- You need to give your stomach some time to digest the food before training
- Classic motblity training involves mixing functional exercises, involving coordination, stretching, dynamic, strength building with increasing intensiveness and relaxing – mainly running
- Functional exercises should raise HR to the oxygen border level, that is, in our example, to  $HR = 145$ , and relaxing exercises should lower the HR to, e.g.,  $HR = 110$
- A young person, due to undergoing development, should avoid exercises within oxygen-less zone or even mixed zone
- An adult may enter the oxygen-less zone, above mixed zone, as oxygen-less work improves the brain participation in the training process, improves technique
- Training in elevated mountainous areas, with lesser oxygen concentration, is aimed at teaching the body to absorb it efficiently
- The time of interval training is, for example, 3:1 Or 4:1, or 3:2 minutes, depending on intensiveness
- Training requires controlling the HR and time to achieve optimum effects and not have to utilize other measures in the future, medically and philosophically suspect, such as supplements to improve oxygenation, like Maria Sharapova in tennis or Marit Bjoergen in cross-country skiing
- For increasing improvement in endurance, a longer running training is recommended, based on the same principles, that is heart rate control
- Recording the results across a longer period of time allows for control of training correctness for a given body
- The aim is to increase the heart effectiveness, that is increasing the time of heart operation in the oxygenated phase, so that it can sustain longer strain and return to oxygenated work as fast as possible after exertion, that is increase of HR to mixed or oxygen-less work



*The tennis player's  
most important and best  
coach is... himself.*

### Functional training

Should be appropriately chosen, according to a few simple rules:

- it should impact the whole muscular structure, especially the so-called muscle strips, that is not muscle in isolation, but as a whole complex
- it should emulate the moves from tennis and engage the muscle that takes part in tennis plays
- muscle parts should be trained antagonistically, that is flexors and extensors in parallel
- Muscle should contract and expand in strips, not individually
- Movements should be performed in full range, so as not to shorten the muscle
- Also stretching should not be neglected, so that the muscle doesn't get shortened
- The exercises should increase coordination and nerve conductivity, hand-eye coordination
- Strengthening of joints, tendons and ligaments must be performed slowly and over a relatively long period of time, before more dynamic training is introduced
- Massages should be applied, as they increase the blood circulation and elasticize the fascia, that is the membrane that encircles the muscle, which is subject to many strains

### Locomotive training

Warm-up run, also an element of mobility.

Running is a skill:

- Before starting – take care of a balanced, stable position
- In tennis, before the opponent's play – split step for time benefits during launch reaction
- Start in the chosen direction by means of a wide and long step with the fore-leg
- Run on mid-foot
- Strong, proper arm work
- High knees
- Warm-up runs should be performed downhill
- Endurance work should be performed uphill
- Running in tennis is frequent changes in direction
- More important than getting to the incoming ball is returning to starting position
- You should run not only forwards, but also diagonally and backwards

### Training periodization

Training must be varied and intensified, for various reasons:

- For building muscle – larger loads and shorter sets
- Proportional “wrapping up” of a player's

skeleton with muscle strengthens them, but also builds up a larger reservoir of energy, in form of a carbohydrate reservoir

- For building power – first building muscles and then making them dynamic over time
- For pre-game dynamics, perform quick, repetitive sets
- For getting rid of effects of overtraining, perform light, relaxing workouts and disciplines.

Some of those workouts take months, such as building mass, and must lead to periodical decrease of tennis skills.

### Sore muscles

The side-effect of intensive training is muscle acidification, that is production of lactic acid in muscles. Energy in cells (in cytoplasm and mitochondria) comes from break-down of glucose, with oxygen activity:  $C_6H_{12}O_6 + 6O_2 \Rightarrow 6CO_2 + 6H_2O + \text{Energy}$ . Lactic acid results from glucose break-down in muscles without oxygen.

The chemical reaction in this case looks like this:  $C_6H_{12}O_6 + 6O_2 \Rightarrow CO_2 + \text{lactic acid without Energy}$ .

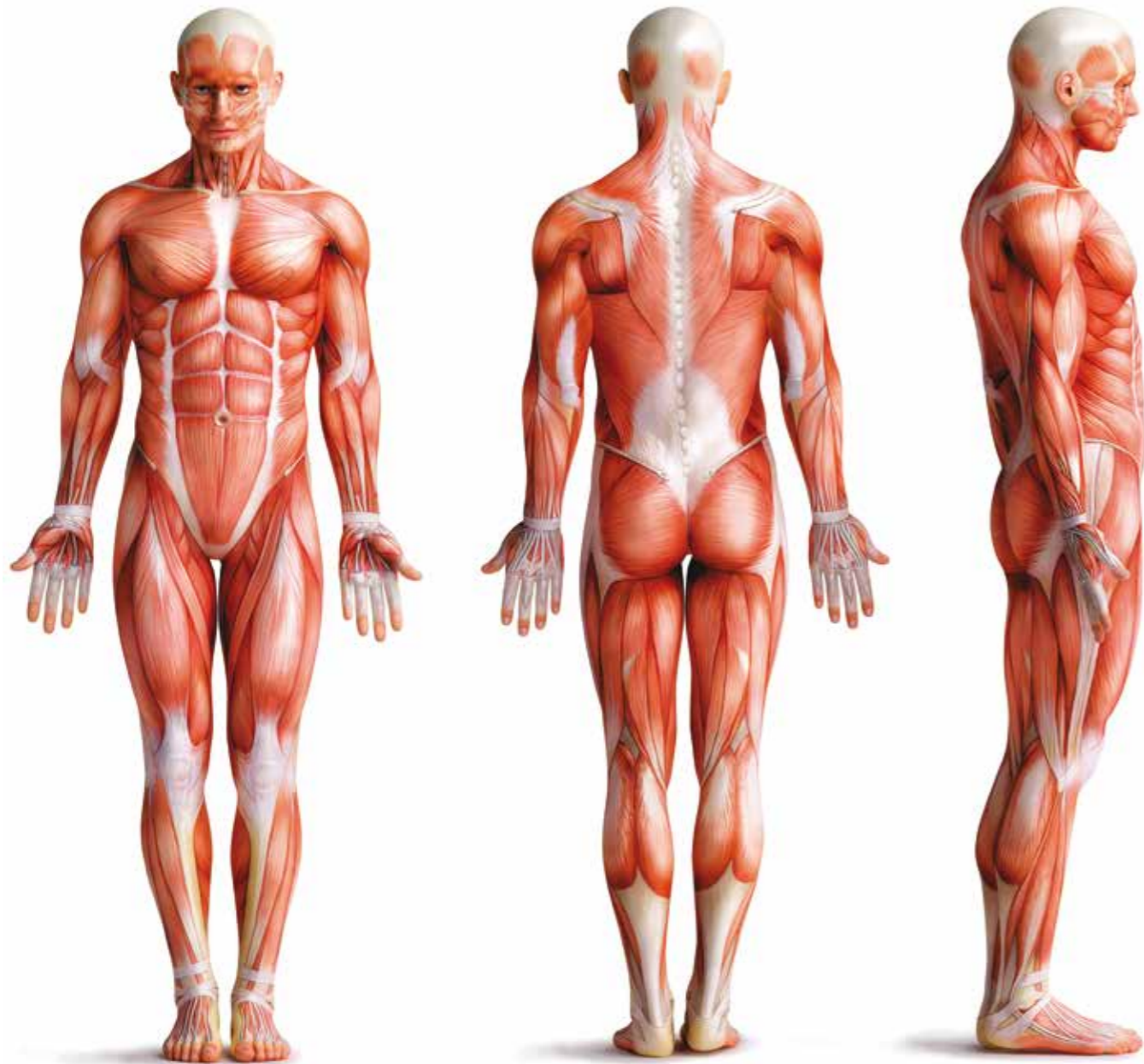
There are two adverse results of this:

- Break-down of glucose gives less energy, only 1/40 compared to oxygenated reaction
- The break-down of lactic acid requires oxygen consumption, but the process does not produce energy

Thus, the level of muscle acidification needs to be minimized. Controls may be performed, using an appropriate apparatus.

### How to counteract sore muscles?

- After an intense workout, jog for 10-15 minutes at a slow pace, with oxygen-zone HR of about 110
- Dip in cold water for better circulation afterwards
- Massages
- Eat grapes after a workout



### Breathing

An old Chinese wisdom says „Longer breath-longer life“. Breathing is very important for:

- calming down the heart rate
- oxygenation!

A shortened breath doesn't oxygenate or remove  $CO_2$ . Diaphragm plays a large role in carbon dioxide removal.

Proper breathing exercises strengthen the diaphragm, e.g. breathing in and pushing the stomach out at the same time.

Emotions and the nervous system also influence breathing and heart rate. The ability to relax and control emotions in the context of cardio work should also be trained.

### Control and measurements

For the proper evaluation of mobility training effects, anthropological measurements and evaluation of stance is also necessary.

A hunched-up tennis player is a too common sight, as this is not fully appreciated. Faulty stance, deformities from wrong foot and leg positioning, lack of corrective shoe inserts are very common.

### Medical examinations.

These should be routine. Blood examinations offer loads of information important for a sportsperson, e.g.:

- is there no excess production of bilirubin in the liver, suggesting overload
- does the body not "eat up" proteins and calcium, needed for building muscle and bones, causing deficits

What is the number of red blood cells, responsible for oxygen transportation:

- Is there no excess of toxins
- Is the blood pressure on a proper level
- What is the level of hydration, etc.

Of course, visiting a sports physician is the most important, but it is worth to observe and understand your own body. I think that a tennis player's most important and best coach is ... himself. He should also be his own "foremost physician".

The matters of a sportsman's health are very much up to their diet, which we'll talk about in the next chapter.



## NEWS 1

### Gianni Infantino - new Fifa president



The leader of FIFA represents the organisation and is very often seen with presidents and prime ministers. He is the figurehead for football world.

Gianni Infantino won with 117 votes, 27 more than Sheikh Salman bin Ebrahim al-Khalifa. He has been at UEFA for 15 years and general secretary for the last seven and he is now hoping to restore image and good name of Fifa.

The election started with four candidates:

- **Prince Ali bin al-Hussein:** Aged 40, president of the Jordanian Football Association
- **Jerome Champagne:** Aged 57, a former Fifa executive from France
- **Gianni Infantino:** Aged 45, the Swiss is Uefa's general secretary
- **Sheikh Salman bin Ebrahim al-Khalifa:** Aged 50, the Bahraini is Asian Football Confederation president

## NEWS 2

### FIFA's new rules

The new rules comes after UEFA' Executive Committee introduces goal-line technology to European competitions which will take place from Champions League next season. It allows to check the accuracy whether the ball crossed the goal-line or not on certain referring decisions.

The International Board reform about fouls, red cards and potentially fourth substitution will take place from Euro 2016. Fifa also agreed to trials to widen the use of instant replay video technology.

- There will no longer be red card and suspension for foul on a running striker, unless the foul is violent or consists in a hand-ball in the box. The defender will be given yellow card if it is and honest attempt at taking the ball.
- Hand-balls in open play will result in booking if they significantly interrupt the game.
- Another rule is about allowing a fourth substitution during game's extra time.



## NEWS 3

### Manchester City win the Capital One Cup

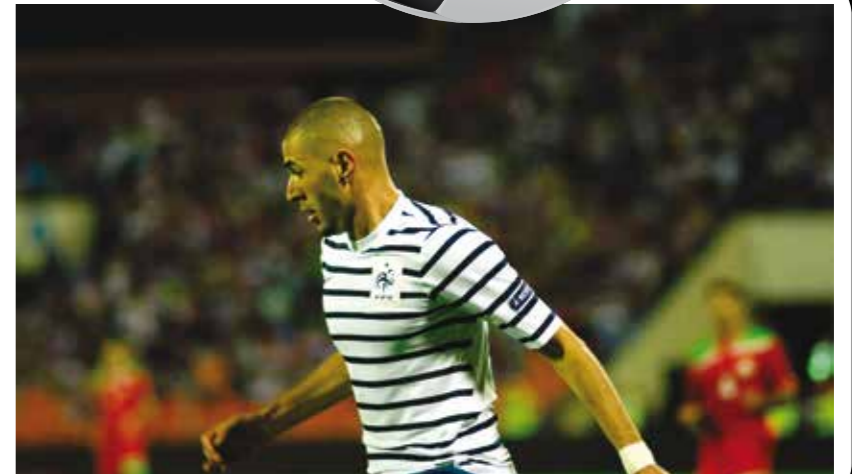
In the finale played at Wembley, Manchester City faced Liverpool. After 90 minutes and score 1:1, the extra time was needed. However this did not helped and penalties decided who will win the trophy. Willy Caballero was the shootout hero who saved three penalties in a row from Lucas Leiva, Philippe Coutinho and Adam Lallana. The Argentinian brought Manchester City to glory and has certainly secured his place in the team.



## NEWS 4

### Benzema eligible for Euro 2016

French striker Karim Benzma will be able to play at Euro 2016 after some legal restrictions were lifted. He had been accused of taking a part in a plot of blackmail teammate Mathieu Valbuena. Benzema, who denied the accusations, was not allowed to contact Valbuena so they could not be together at the Euro games. The appeals court has now lifted the restrictions however if Benzema will be found guilty, he can spend a minimum of five years in prison.



## NEWS 5

### Newcastle's Steve McLaren sacked

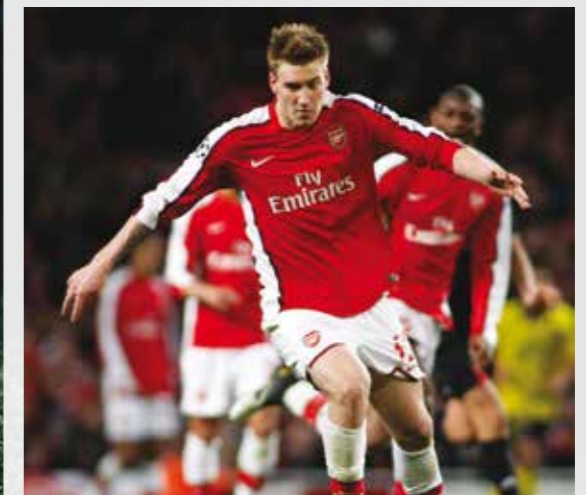
The head couch of Newcastle United had been fired after loosing 3-1 with Bournemouth at St James's Park on Saturday 5th March. Since then there have been speculations about his future. Newcastle are just one place off from the bottom of the table. The possible replacements are former Liverpool, Chelsea, Real Madrid and Inter Milan Rafael Banitez.



## NEWS 6

### FA Cup favourite, Arsenal, lost to Watford 1-2

After two victories from previous years, Gunners finished the FA Cup 2016/17 on quarter-final game against Watford. They had a chance to become the first team since 1886 with victories in three consecutive seasons. Watford secured their place in semi-finals at Wembley after Odion Ighalo scored first goal in 50min and Algerian Adlene Guedioura another one in 63min. Watford will now face Crystal Palace in semi-finals.



# SUDOKU

To solve a Sudoku puzzle, every number from 1 to 9 must appear in: Each of the nine vertical columns; Each of the nine horizontal rows; Each of the nine 3 x 3 blocks. Remember no number can occur more than once in any row, column or 3x3 block.

Rating: ★ ☆ ☆ ☆ ☆

8								
	9	6				2		
3		4	8	1				5
				5	2		9	3
5	1			3			6	2
6	3		9	7				
1				2	5	9		6
		8				5	3	
								1

Rating: ★ ★ ☆ ☆ ☆

						3		
5	8						4	2
4	3		5	9		8		
			1	2		5	7	9
8		1		7		4		3
9	5	7		4	3			
		4		6	7		8	5
2	7						3	1
		5						

Rating: ★ ★ ★ ☆ ☆

			8			1		2
					2	5		
				3		9		4
6						2		5
	2		4		1		9	
9		8						1
2		6		5				
		4	7					
5		9			8			

Rating: ★ ★ ★ ★ ☆

			2					
	6							3
		7		4	5			9
8		6						
	3		6	5	1		7	
						5		2
2			3	6		7		
4							8	
					9			

# SHAPESHIFTER

To solve these warped Sudoku puzzles, every number from 1 to 9 must appear in:

- Each of the nine vertical columns
  - Each of the nine horizontal rows
  - Each of the nine different coloured shapes
- Remember no number can occur more than once in any row, column or colour.

				5		9	
			9	7		2	4
8			7				5
	9	2	4		5	8	
		1	5	6	8	2	
	3		1		4	9	5
3					6		2
7	5			8	3		
	8			1			

# LONDON WORD SEARCH

Find all the words listed hidden in the grid of letters. They can be found in straight lines up, down, forwards, backwards or even diagonally. The leftover letters will reveal the mystery answer.

CANARY WHARF, CHELSEA, CITY, COVENT GARDEN, EAST END, FULHAM, HEATHROW, KENSINGTON, KNIGHTSBRIDGE, LORD'S, PADDINGTON, RED BUS, RIVER THAMES, ROYAL BALLET, SELFRIDGES, SLOANE SQUARE, SOHO, SOUTHWARK, TUBE, WEMBLEY

A 10x10 grid with 10 'N' characters placed at various intersections. The 'N' characters are located at the following (row, column) coordinates (starting from the top-left corner): (0, 0), (0, 5), (1, 9), (2, 7), (2, 9), (3, 2), (4, 9), (6, 6), (7, 9), (8, 7), (9, 1), and (9, 5).

# Crossword with IBB

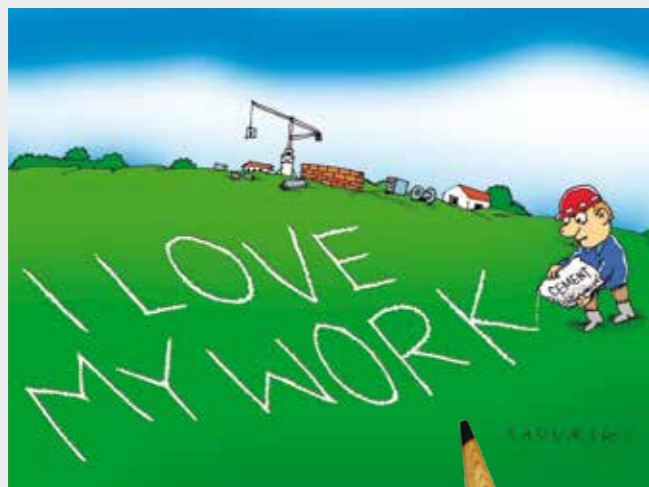
[illegible]

by Szczepan Sadurski



# Laugh with IBB

## Find 10 differences ...



- How did the Irish dance originate?
- There was too much whisky and too few bogs.

\*\*\*

A homeless drunkard sat down next to a priest in a streetcar and started to read a newspaper. At some point he asked:  
- Father, what is arthritis?

The priests thought that it was a great opportunity to edify the stray sheep, so he answered:  
- Well, son, when someone drinks, smokes and lives sinfully, he comes down with arthritis.

The drunkard thanked him and turned away. The priest came to a conclusion that he had exaggerated a bit and asked him more lightly:

- Son, why do you ask? Do you have arthritis?

The drunkard answered:

- I don't, but they write here that pope does.

\*\*\*

Clock

Two snails are sitting on hands of the clock. The snail sitting on the minute hand overtakes the snail sitting on the hour hand and says:

- Buuuuuddy, what heeeeeeell of a riitiiiiide!

\*\*\*

An owner of a restaurant had a beautiful daughter. A young man came to ask for her hand. The owner of the restaurant asked:

- Young man, have you completed studies?
- No.
- Have you got some property, some business?
- I don't.
- So what do you have?
- Prospects.
- Then you need binoculars, not my daughter!

\*\*\*

A blonde comes to the doctor and after 10 minutes she leaves, sits down on a chair outside the surgery and starts to cry.

- I'm pregnant, I'm pregnant, but who am I pregnant by? I am single after all.

A moment later she stops crying and says:

- Wait a moment, maybe the baby isn't mine?

\*\*\*

A wife asks her husband:

- Have you seen that new movie "Stupid says no"?
- No.

\*\*\*

An old man walks out of a public toilet. A woman sitting on a bench and feeding her kid notices that his fly is not done:

- Close the birdhouse or it's gonna fly out!
- It did years ago. - says the man calmly, zipping his fly - Though it forgot to take the worm.

Illustrations by Szczepan Sadurski



# MAJA

## Your Delicatessen

### Visit us!



## ZAPRASZAMY DO NASZYCH SKLEPÓW:

Maja Polish Deli Ltd.  
67-69 Oldfield Circus  
NORTHOLT  
London, UB5 4RU  
+44(0) 208 864 9900

Maja Polish Deli Ltd.  
73 Oldfield Circus  
NORTHOLT  
London, UB5 4RU  
+44(0) 208 864 9900

Maja Polish Shop Ltd.  
5 Yeading Lane  
HAYES  
London, UB4 0EL  
+44(0) 208 707 0173

Maja Polish Shop Ltd.  
33-35 Market Place  
HATFIELD  
AL10 0LJ  
+44(0) 170 727 5541

Maja Polish Shop Ltd.  
37-39 Market Street  
TORQUAY DEVON  
TQ1 3AW  
+44(0) 180 339 0406

Maja Polish Shop Ltd.  
284-286 Wightman Road  
TURNPIKE LANE  
London, N8 0LT  
+44(0) 208 245 1830

Maja Polish Shop Ltd.  
382-384 Oldfield Lane North  
GREENFORD  
London, UB6 8PU  
+44(0) 208 930 5280

Maja Deli Ltd.  
30-34 Eastover  
BRIDGWATER  
TA6 5AD  
+44(0) 127 845 0309  
**NOWY SKLEP!**

HEAD OFFICE  
Maja Polish Deli Ltd.  
Unit 33, Taunton Road  
Metropolitan Centre  
London, UB6 8UQ  
+44(0) 208 813 26 04  
info@majadeli.co.uk



[www.facebook.com/MajaPolishDeli](https://www.facebook.com/MajaPolishDeli)

## MAJA - TWOJE DELIKATESY!

# 40% OFF

## MONTHLY DEALS

## APRIL 2016

### PLASTERBOARDS, CEMENTBOARDS



1200x2400 mm  
1200x2600 mm

**Standard SE/TE Plasterboard**

12.5 mm Thickness

**£3.90 net\***  
(RP £6.99 net)



1200x2400 mm

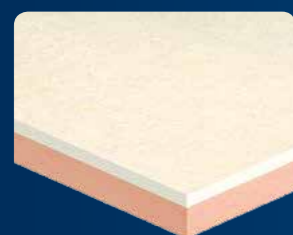
**Fireproof SE/TE Plasterboard**

12.5 mm Thickness

**£6.48 net\***  
(RP £10.80 net)

15 mm Thickness

**£7.79 net\***  
(RP £12.99 net)



1200mm x 2400mm x 12.5mm

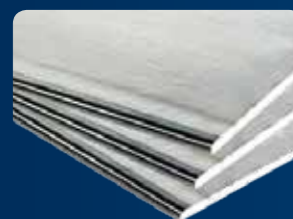
**Kingspan Kooltherm Insulated Plasterboard**

30 mm Thickness

**£35.22 net\***  
(RP £58.70 net)

25 mm Thickness

**£34.19 net\***  
(RP £56.99 net)



1200mm x 2400mm

**Plasterboard TE Vapourshield™**

12.5 mm Thickness

**£7.06 net\***  
(RP £11.77 net)

1200x2400 mm

**Soundproof SE/TE Plasterboard**

**£6.58 net\***  
(RP £10.96 net)

12.5 mm Thickness

**£9.08 net\***  
(RP £15.13 net)

15 mm Thickness

1200x2400 mm  
1200x2600 mm

**Waterproof SE/TE Plasterboard**

**£7.74 net\***  
(RP £12.90 net)

12.5 mm Thickness

1200x2400 mm

**TE Thermal Laminate plasterboard**

**£9.80 net\***  
(RP £16.33 net)

22 mm Thickness

**£11.34 net\***  
(RP £18.90 net)

30 mm Thickness

**£13.45 net\***  
(RP £22.42 net)

40 mm Thickness

1200x2400 mm

**Cement board**

**£17.94 net\***  
(RP £29.90 net)

10 mm Thickness

**£20.70 net\***  
(RP £34.50 net)

12 mm Thickness

\*Price for collection only. Delivery: +£0.70/pc (T&C)

Spend £200 net or more and get ... High **Visibility** Jacket!

**T&C**

All presented products are subject to availability. Products may vary from those illustrated. All prices are net exclusive of VAT. Some prices shown are for collections only. Some prices are subject to additional delivery charge per item with the minimum £180.00 net value of delivery.



500 mm

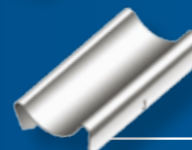
**Suspension wire for WSO hanger**

**£0.17 net\*\***  
(RP £0.29 net)



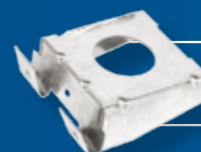
**Joist hanger WKK for CD 60 profiles**

**£0.23 net**  
(RP £0.38 net)



**CD channel connector ZPD**

**£0.17 net**  
(RP £0.29 net)



**CD cross side ZPP connector**

**£0.17 net**  
(RP £0.29 net)



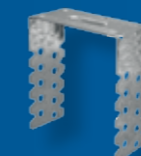
**Ceiling revolving hanger WSO**

**£0.20 net**  
(RP £0.33 net)



**Cross bracket ZK for CD 60 profiles**

**£0.17 net**  
(RP £0.29 net)



**ES bracket for CD60 profile**

**£0.17 net\*\***  
(RP £0.29 net)



**WDH Double hanger for WSO**

**£3.90 net\***  
(RP £6.50 net)



30 mm

**Acoustic tape**

**£4.75 net\*\***  
(RP £7.92 net)



35 mm

**Acoustic hanger with anchor RSH35**

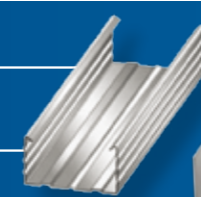
**£1.79 net**  
(RP £2.98 net)

### CEILING PROFILES

**Ceiling stud CD 60 mm**

**Length 3 m**  
**£1.76 net**  
(RP £2.93 net)

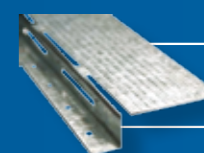
**Length 4 m**  
**£2.35 net**  
(RP £3.91 net)



**Ceiling track U 27 mm**

**Length 3 m**  
**£1.10 net**  
(RP £1.83 net)

**Length 4 m**  
**£1.45 net**  
(RP £2.42 net)



0.55 x 50mm x 3 m

**Resilient bar**

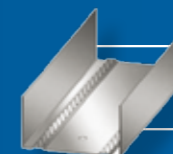
**£2.50 net**  
(RP £4.16 net)

### WALL PROFILES

**Stud C 75 mm**

**£2.40 net**  
(RP £4.00 net)

Length 3 m



**Stud U 75 mm**

Length 4 m

**£2.48 net**  
(RP £4.13 net)

\*\* Various sizes available with 40% discount. Check our Catalogue or ask salesman for prices.

# QUALITY DRYWALL

Regular



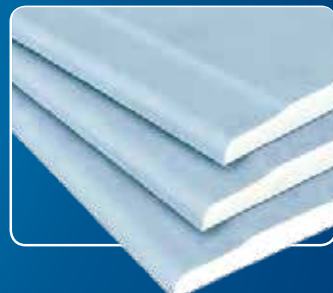
Waterproof



Fireproof



Soundroof



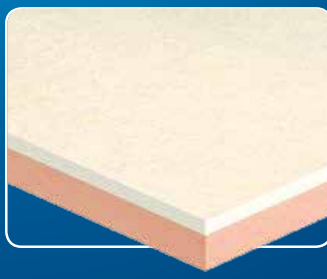
Vapourshield™



Thermal Laminate



Kooltherm Insulated



Cementboard



**IBB Park Royal**

18 Gorst Rd,

**London NW10 6LE**

020 8965 7972, sales@ibb.pl

**IBB Croydon**

ZK Park, Unit 6, 23 Commerce Way,

**London, Croydon CR0 2S**

020 8680 9026, sales@ibb.pl

**IBB Birmingham**

425 Walsall Rd,

**Birmingham B42 1BT**

0121 356 8655, sales@ibb.pl