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The Guide to

EXTERNAL RENDER AVAL SYSTEM



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IBB Croydon
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 020 8680 9026, sales@ibb.pl

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

IBB Manchester
 Unit 24, Piccadilly Trading Estate,
Manchester M1 2NP
 07500 786939, sales@ibb.pl



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
 www.IBBbuilder.co.uk

EDITOR
 Magdalena Rosól
 E: mrosol@ibb.pl

DESIGN
 Perfect Design Group Ltd
 T: 020 8856 5224
 E: office@perfectdesigngroup.com
 www.perfectdesigngroup.com

PRINT
 Precision Colour Printing Ltd
 Haldane, Halesfield 1
 Telford, Shropshire, TF7 4QQ

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FROM EDITOR

FROM
 EDITOR



Hello Readers, I would like to start from congratulations to IBB Polonia London VC on their success in the Volleyball National Cup! Have a look inside to read about their great performance. In next edition we will write about IBB Polonia London VC results in English Volleyball Championships Semi Final.

Back to the construction, this month we have a fantastic reference resource by ATLAS about AVAL thin coat render products together with the professional rendering guide. It explains all about a thin coat render in an easily understood manner even for the non-professional. You can, not only read what product to choose for a particular project but also compare materials with other alternatives. Have a look how to prepare the professional estimation for your rendering project- we have included the draft quotation. IBB Polish Building Wholesale offers this month great discounts on AVAL products - do not miss it! May is all about render and all about ATLAS! Enjoy!

This issue will be useful also for all interested in government grants for insulation. We have included the description of the Government ECO Scheme and the guide of how to become the BBA Approved Installer of Cavity Wall Insulation. There are details about The Cavity Insulation Guarantee Agency (CITGA) and Cavity Wall Insulation Self Certification (CWISC) - worth reading if you are interested in stepping into this kind of services. Also, we have found for you the limited time offer from the Mayor of London- London Boiler Cashback. Check if you qualify and apply now as it is on the first come first served basis.

What's more inside - we have compiled here the builder education guides, one about construction insurance and one about bricklaying. Both provide a good understanding of topics from which you can progress further.

Here comes also the next chapter of The Parent's thoughts - a fantastic resource for anyone looking to improve their tennis game. After reading it, I couldn't wait to grab my racket and get to work! We have prepared great updates on football too, together with the information on London Eagles FC.

Of course, we like to entertain. Have a look at the humour page edited by Polish satirist Szczepan Sadurski. There is an interesting article about the Happy Skyscraper invented by him. To finish off, we invite you to train your brain with our crossword and puzzles.

Well, enjoy this month content and if you had no chance before, have a look at our previous issues online. Stay tuned for updates on our website and facebook page! Thanks for reading

Magdalena Rosól
 Editor

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Construction Project

- The Hinkley Point C

The Hinkley Point C is the largest construction project in the UK with over 8,500 workers on the site. EDF is the world's leading nuclear power utility and one of Europe's largest energy companies with 38 million customers across Europe and 156,000 employees worldwide.

EDF, owned by the French government, plans to build the first new nuclear power station in the UK since 1995, which is the vital part of the solutions to the UK's electricity needs. The Hinkley Point C will provide 7% of the UK's generation needs whilst minimising carbon output. Hinkley Point C is a big opportunity for UK steel, construction and manufacturing sectors. It will create thousands of jobs.

- The construction and operation of Hinkley Point C will create 25,000 employment opportunities and aims to create 1,000 apprenticeships
- Over 60% of the project's construction

- value is predicted to go to UK companies
- Later projects will benefit from the skills gained from the construction of Hinkley Point C
- Additional benefits will be seen in the supply chain and from the planning and regulatory precedents set

Hinkley Point C will sit alongside an operating nuclear power station, Hinkley Point B, and one being decommissioned, Hinkley Point A, on the northern Somerset coast in the south-west of England. It is an extremely expensive project. Its two 1.65GW European pressurised reactors (EPR) would be among the biggest in the world. Of the original £16bn estimated cost, £14bn was for construction with another £2bn covering items such as the acquisition of sites, regulatory approvals and training future employees. In October, EDF increased its cost estimate by £2bn blaming the increase on inflation.

Finding work at HINKLEY POINT C

Hinkley Point C will be one of the largest and the most technologically complex projects in the UK

that will require the skilled workforce, for instance in excavation, groundworks, concrete pouring, steel fixing and scaffolding. There are procurement opportunities available for all qualified suppliers, but there are also vacancies for workers. Opportunities include construction, civil engineering, electrical installation, hospitality, catering, logistics, security, site services, support roles and others over the coming years.

Workers interested in working on Hinkley Point should email: hinkley-jobs@edf-energy.com for further information. Workers will be recruited from across the UK, with priority to those living within a 90 minute journey from the site. UCATT trade union is protecting workers rights for Hinkley Point C projects.

For contractors wishing to join the new build supplier chain for Hinkley Point C project should email: nnbsupplier@edf-energy.com for more details. To qualify there is need to meet the procurement requirements. Companies could work directly for EDF Energy or for one of their key partners or further into the sub-contract supply chain.

(Source: EDF Energy)



North England Build 2016 Expo

IBB Polish Building Wholesale exhibited at the North England Build 2016 Expo on 27th - 28th April 2016. As it is the ideal event for any new product, technology or business launches, we promoted our new IBB branch in Manchester and showcased IBB BUILDER magazine during the event.

North England Build is the new leading construction event attended by the major construction companies and numerous industry bodies. The exhibition presents the innovative technologies and products and will showcase the latest construction projects as well as updates on tender opportunities and regulations.

Visitors have access to Skills Hub zone for network opportunities with leading construction companies, recruitment agencies, and universities. There were 22 free CPD training workshops to attend for updates on the latest government policies and industry developments. All workshop attendees will be provided with a CPD certificate within 28 working days after the expo. Moreover there were numerous conferences and Live Demos of the latest products and solutions on the market. Visitors benefited from various networking opportunities including Meet the Buyer sessions. North England Build featured materials, technologies, green build, plant and equipment, infrastructure, building and interiors.



BOOK REVIEW

Spon's Architect's and Builders' Price Book: 2016 by AECOM (141st Edition)

This is an expensive book (approx. £150.00) but worth investing as it provides the most accurate and detailed construction price information for the UK market. Its unique Tender Index, updated through the year allows for the price adjustments for changing market conditions. It is a perfect guidance for all size projects including those exceeding £3,500,000 in value.

Inside the book reader will find the access code to set up an online account to this 2016 edition until the end of December 2016. SPON's Online is the data record available on computer, smartphone or tablet. Reader can browse and search the content of the book, highlight and share notes.

Book consists of:

- 20,000 prices for the most frequently specified items, the majority with labour constants and detailed build-ups.

- Hundreds of alternative materials prices for the more unusual items.
- Detailed guidance on wage rates, daywork, cost limits and allowances, property insurance and professional fees, plus useful formulae, design criteria and trade association addresses.
- Updated, free of charge, two or three times a year – see inside for registration details. Updates are available online at www.pricebooks.co.uk

Book is aimed at those who are estimating the cost of projects or looking for saving possibilities while making the material, technology or labour decisions. It is a highly recommended excellent builders' price guide!



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020 8680 9026
sales@ibb.pl

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

IBB Manchester
Unit 24, Piccadilly Trading Estate,
Manchester M1 2NP
07500 786939
sales@ibb.pl

UCATT

- the UK's only union specialising in construction

UCATT is the trade union dedicated to construction workers in the UK with over 80,000 members. UCATT ensures the fair conditions and working rights for builders. Construction employers still try to exploit builders by employing under umbrella companies, use agencies or through bogus self-employment. UCATT emphasises the importance of the basic employment rules with paid holidays and sick pay.

UCATT campaign for builders rights, support them during employment problems and offers range of services to its members. Members get access to various legal services, tax return specialists or employee benefits and financial services like Building and Civil Engineering Schemes (B&CES).

Whatever the problem the construction worker encounters, it will be dealt with by UCATT. Help is available during negotiations concerning worker's pay, terms and conditions of employment with employer- private or public sector. Whether it will be a matter related to contract terms, disciplinary and grievance procedures or training and health and safety trade union representatives are there to help.

UCATT was established in 1971 when four unions joined - the ASW (Amalgamated Society of Woodworkers), the ASPD (Amalgamated Society of Painters and Decorators), the ABT (Association

of Building Technicians) and the AUBTW (Amalgamated Union of Building Trade Workers). Since then UCATT has been campaigning against the self-employment status for construction workers. Self-employment enables employers to avoid sick pay and holiday pay and to attempt to deny basic employment rights and protection against unfair dismissal. It undermines safety and training standards. UCATT has 500 branches across the country and UCATT member can choose the shop steward or safety rep to represent them at their workplace.

UCATT helps CONSTRUCTION WORKERS to get

- Paid annual and public holidays
- Industry sick pay on top of statutory sick pay
- Rights to a guaranteed 39-hour working week, plus overtime rates
- Proper notice and notice pay
- Adequate rest and lunch breaks
- Full implementation of construction safety regulations
- Union safety representatives on every site
- Accident compensation
- Free legal advice
- Training
- Discounted financial services

If your site falls short on any of minimum rights, then contact UCATT on freephone **0800 262 467**. For information on membership rates and how to register visit the UCATT website www.ucatt.org.uk

BENEFITS OF TRADE UNION MEMBERSHIP

- Workers in trade union organised workplaces earn on average 9% more.
- Representatives allows worker to have a stronger voice on pay or health and safety.
- Trade union agreements in the construction industry have delivered more holidays than the statutory minimum for workers.
- Union fight to get better working conditions and have stronger voice in health and safety issues.
- Trade union solicitors will support workers in any legal cases, tribunals and compensation claims.
- Trade union solicitors win settlements on behalf of members and all monies awarded are paid to members.
- Trade union protects the employment rights in the workplace, ensures worker are not unfairly dismissed.
- Trade union supports the training and development opportunities at workplace.

(Source: UCATT)



London Boiler Cashback Scheme

On the 2nd of February 2016 the London Boiler Cashback Scheme was opened on a first come first served basis. It is administered by the Energy Saving Trust on behalf of the Mayor of London. The £400 can be received towards the boiler replacement to the highly efficient upgraded model. As stated on the Mayor of London website replacing of old boiler gives the benefits per year of 20% reduction in energy used for heating, £340 saving on heating bills, save approximately 7640 KWH and 1.5 tonnes of CO2.

The Scheme is open to homeowners or private landlords of properties in London. The rented property has to be managed by the agent accredited by the Mayor's London Rental Standards. Private landlords may apply for cashback for a maximum of ten properties. The accredited private landlord must obtain the tenant's consent to the works before applying for a voucher. Other criteria are the model of existing boiler to be a gas, LPG, oil or solid fuel boiler that is in working order, is 70 per cent, or less efficient and is the main boiler at the property.

The scheme will not be available if:

- the main source of heating is an electric boiler or electric heater(s)
- the existing boiler is more than 70 per cent efficient
- the existing boiler is not the main boiler used to heat the property
- the existing boiler is not working
- the applicant is a boiler installer or manufacturer
- the property is not in London
- the applicant is a private landlord and neither he nor any agent managing the property, are London Rental Standard-accredited
- the applicant is a council, housing associations or private tenant

To apply for the grant applicant has to complete the following steps:

1. Check boiler efficiency

The existing boiler has to be 70 per cent or less efficient. It might be the one when it has a permanent pilot light; it is gas fired and over 15 years old or it is oil fired and over 25 years old. This is typically a G-rated boiler that is either gas, LPG, solid fuel or oil fuelled. Electric boilers or electric heaters do not qualify for the scheme.

Get the quotation for the replacement from the Gas Safe registered qualified installer or a Micro-generation Certification Scheme (MCS) certified installer or equivalent, or a member of a competent persons scheme (such as OFTEC or HETAS). It is suggested to get few quotes for cost comparison.

2. Apply for the scheme by completing an online application at boilercashback.london.gov.uk

The following details will be required: contact details, the make and model of your current boiler, bank details, the details of the installer and their accreditation or registration number.

3. If successful receive the £400 cashback voucher.

Voucher is valid for 12 weeks from the date of issue. If the boiler is not installed within the 12 weeks, the cashback voucher will expire and claim



will be rejected. Payment for the installation will be required before receiving the cashback.

4. Install boiler

The replacement must be an A rated gas or condensing oil boiler (at least 90 per cent energy efficient SAP2005 rating or a renewable/low carbon heating technology).

5. Claim £400 cashback

The voucher may be redeemed when the installation of the new boiler has been completed. Send the voucher; invoice marked paid, and all information required (terms and conditions are available from www.london.gov.uk). All this should be sent to by post and must arrive no later than ten working days after the voucher expiry date. The voucher must be signed by the applicant and his installer, and the invoice or receipt must include the installer's accreditation/registration number. The payment will be processed via BACS transfer, within 21 working days of receipt. Payment will only be made to the applicant, and not to the installer or a letting agent.

The record of documents obtained with a new boiler installation, including the original of any quotations and invoices from installer must be kept for six years following payment of the rebate, and authorised representatives of the Greater London Authority must be allowed to inspect and take copies of these records if required.

To prevent fraud, there will be checks of installers' accreditation, boilers compliance with the scheme, property checks to avoid multiple applications, accreditation checks of landlords.

The scheme is a time limited offer so apply now to avoid disappointment.



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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

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!
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Working Rule Agreement

Working Rule Agreement is negotiated by trade unions CIJC and BATJIC and it sets the National Conditions of Employment and Wage Rates. It is simply a set of terms of employment negotiated between employer representatives and trade unions. There are a large number of collective agreements operated throughout the UK and Europe and the CIJC or BATJIC agreements are

considered to be the most commonly used in the UK construction industry.

The legal requirement for every employer is to issue the employee with the written contract. However, there is no legal requirement for an employer to incorporate the terms of the Working Rule Agreement. It is up to employer's to decide whether or not they wish to include the agreement into the

terms and conditions of employment or at least based their contracts on its rules. As the Working Rule Agreement is widely used in the UK its terms and conditions are often regarded as the norm. It is available for all employers in the construction industry to utilise. It is constantly updated to remain up to date with the fast changing building industry and its regulations.

THE CONSTRUCTION INDUSTRY JOINT COUNCIL (CIJC)

The Construction Industry Council (CIC) is the representative forum for the professional bodies, research organisations and specialist business associations in the construction industry.

CIJC Working Rule Agreement is the largest industrial agreement which sets out rules of employment for workers in the construction sector. Approximately 500,000 workers are covered by its terms and conditions, all of them with regards to pay rates and most of them with regards to travel and fare rates.

Agreement includes the pay rates, travel and fare allowance, the subsistence allowance, industry sick pay, allowance for loss or damaged to stored tools. 2015/16 Working Rule Agreement took effect on Monday 29th June 2015. There were wage rises for the standard wage rates. The Adult General Operatives' (general labourer) rate increased to £8.52 per hour. For skilled workers

(for example carpenters, bricklayers, plumbers, plasterers, roofers etc.) S/NVQ2 wage rates increased to £9.18 per hour and for S/NVQ3 increased to £11.33 per hour. To attract new apprentices hourly wages increased also. Daily fare allowance was agreed to increase by 2.5% while sick pay will be of £115 per week. Employer's maximum liability for tools is set for £750.00. It also includes the subsistence allowance of £35.32 per night. Under the revised Working Rule Agreement it has been agreed that holiday entitlement will rise to 22 days holiday plus 8 bank holidays. The extra day's bank holiday comes into effect for the Summer holiday period of 2016. Under the agreement the basic working week is 39 hours, 8 hours Monday to Thursday and 7 hours on Friday however employer can vary this depending on project requirements. Under the provisions of the Working Time Regulations workers are

entitled to a minimum rest break of 20 minutes in 6 hours but it also can be customised depending on requirements. Overtime hours are paid at double. Termination of employment can be with one week notice by the employee or one week plus additional week for every year of work by the employer. It includes provisions for accident and death benefits and much more.

The Britains General Union (GMB), Unite and Union of Construction, Allied Trades and Technicians (UCATT) states that in terms of remuneration, "the Construction Industry Joint Council (CIJC) working rule agreement is by far the worst agreement in the UK construction industry". Unions emphasis the importance of the London Living Wage payout to workers living in London. It is considered that the construction industry employers should put forward rates of pay in the national working rule agreement. (Source: CIJC)



THE BUILDING AND ALLIED TRADES JOINT INDUSTRIAL COUNCIL (BATJIC)

BATJIC is the Building and Allied Trades Joint Industrial Council, a valuable forum which helps to maintain good industrial relations in the workplace. The BATJIC Working Rule Agreement came into existence on the 29th June 2015.

Standard rates of wages for **39 hours working week for skilled S/NVQ3 worker** are currently at **£11.50 per hour**, for **skilled S/NVQ2 worker** at **£9.90 per hour** while for general operative at **£8.65 per hour**. BATJIC Working Rule Agreement also states the additional amounts, which should be paid in addition to standard rates of wage, to workers with particular skills for instance:

44 pence per hour more for workers operating air or electric percussion drill, hammer, rammer etc; cartridge gun operator; compressor driver; concrete mixer driver; barrow hoist operator; pumpman; handroller operative; mechanical barrow operator; electric operated vibrating plate operator, and paint sprayer etc.

67 pence per hour more for Drag shovel operator; dumper driver (up to 2,000kg); power roller driver (up to 4,000kg); light tyred tractor driver;

pipelayer (up to 300mm); concrete screeder/leveller; forklift/sideloader driver (up to 3,000kg).

97 pence per hour more for Batching plant driver; dumper driver (over 2,000kg); power roller driver (over 4,000kg); banksman; watchman; pipelayer (over 300mm); concrete trowel and planthand; forklift/sideloader driver (up to 3,000kg)

The BATJIC Working Rule Agreement includes also provisions for working at heights- discomfort and inconvenience for risk or to semi-skilled workers with responsibility like crane operators etc. Agreement states that employers should pay operatives for their one-way travel time at their standard hourly rate of pay. The travel time to be paid should be agreed in advance between employers and operatives. Sick Pay is payable at **£25.00 per day**, with a maximum of **£125.00 per week**, for a maximum of 12 weeks, and subject to a maximum of one waiting day at the beginning of the period of sickness. In addition to payment under this rule employer is required to pay Statutory Sick Pay due. BATJIC recommends **22 days holiday plus the 8 bank holidays**. BATJIC Agree-

ment states also about benefits scheme contributions - Death benefit scheme of **£50,000** including **£25,000** Accidental Death Double Indemnity Insurance. There are no provisions on pension arrangements in the BATJIC Agreement. However, under the Pensions Act 2011 which came into effect in October 2012 employers are required to automatically enrol certain members of their workforce (eligible jobholders, who are aged between 22 and State Pension age, working in the UK and earning more than **£833 per month**) into a workplace pension scheme, unless the worker is already in a qualifying scheme. The minimum employer contribution prior to 30th Sept 2017 under pension auto-enrolment rules is 1% of pensionable pay between **£5,824** and **£42,385**.

It is important to ensure that all employees have been issued with up-to-date written contract with terms of employment. Both CIJC and BATJIC Working Rule Agreements can be incorporated by the employer. The full version of the Working Rule Agreements can be obtained from UCATT or FMB website.

(Source: BATJIC)



The Government ECO Scheme

The Government is providing funding for the installation of FREE Cavity Wall and Loft Insulation to all UK homes. The Energy Company Obligation (ECO) scheme introduced by the Government in 2013 obliged the energy companies to install the cavity wall and loft insulation and new boilers to properties in the UK. As the energy suppliers have to meet the targets to avoid fines they are lowering the criteria and most of the households qualify for funding. The free Cavity Wall and Loft insulation are now available for all households. The only limitation is that property has to be owned or rented privately with the landlord's permission to undertake the work.

Cavity Wall is the structure of wall consisted of the inner wall (usually block with plaster finish) and outer wall (blockwork and render or brickwork) with the gap in between. This gap is called the cavity. Cavity Wall Insulation is a filling of the cavity with an insulating material. Such solution can be very effective in reducing heat loss and cutting the cost of energy bills.

Cavity wall may be insulated with the mineral wool, granules, beads or foamed insulation. It is suitable for properties built after the 1930s, where the external walls are made up of two layers. The insulation is installed by pumping the insulation material through the

small holes made in the mortar. It takes a few hours and must be done by the approved installers. Approximately £115 per year can be saved when cavity insulation is done, with expected payback within three years.

Other energy saving home improvements offered by the energy providers include free loft insulations. Loft insulation usually takes a couple of hours to install. It is quilt rolled out flat on the loft floor, between and over the joists. Any existing insulation can be topped up to the required level of 12" (300mm). To qualify for free loft insulation, the existing depth of roof must not exceed 50mm. When it is more than

50mm the loft insulation can be installed from approximately £299. Loft insulation will give the roughly saving of £150 per year, and the payback can be expected in 3 years.

Wall and loft insulation are amongst the most effective ways to improve the energy saving. Installing the insulation can reduce energy bills by £300 per year.

Benefits of Cavity Wall Insulation and Loft Insulation

- Energy saving, more efficient heating
- Saving on energy bills
- Reduced carbon dioxide emissions
- 25 years guarantee by CITGA
- Limitations
- Not suitable for every property
- In case of damp seek a surveyor assessment

In addition to these improvements, energy companies have been offering the Boiler Replacement Scheme to customers. The new, free boilers can be installed in properties if customers

meet the qualifying criteria set by the government, for instance the applicant or someone living in the property has to be in the receipt of the government benefits. The scheme is available for homeowners with grants of up to £1000 if an existing boiler is more than 15 years old.

The Boiler criteria include:

- Existing Boiler rating from C to G
- A and B rated boilers can also be replaced if there is a fault
- Boiler must be under 86% efficient
- Boiler is more than 5 years old
- Check PCDB Database if not sure
- No grants for radiators or full central heating
- Property must have mains gas

ECO funding is delivered to customers either directly from the supplier or by organisations who cooperate and have made special arrangements. To apply for funding, it is best to contact the energy provider and arrange the expert to carry out a no obligation survey.

Some energy providers offer online assessment tools to check the eligibility.

The Cavity Insulation Guarantee Agency provides an independent 25 years guarantee for Cavity Wall Insulation fitted by registered installers. CIGA has the broad database of certified installers and offers the guarantee for both commercial and private properties. All installers of CIGA are assessed for competence and must follow the technical guidance for the material used and CIGA Best Practice Guidance. CIGA also runs the Cavity Wall Insulation Self Certification Scheme (CWISC) in association with the British

Board of Agrément (BBA). The scheme provides homeowners with the assurance that work is done by registered contractors and in compliance with the Building Regulations. Before installation begins, a CIGA registered installer carries out an assessment to ensure that the property is suitable for Cavity Wall Insulation.

The installation of the insulation is applied taking into accounts technical standards by CIGA. Once the work is completed and the final payment has been received the installer asks CIGA for

a Guarantee, and a certificate is sent directly to the client. The Guarantee may be required in case of a claim or while selling the property. The CIGA Guarantee provides cover against defects.

If the work is completed in England and Wales by an installer registered under the CWISC competent person scheme, then the Certificate also incorporates evidence of compliance with the Building Regulations.

Cavity Wall insulation savings

BUILDING	ANNUAL SAVING	INSTALLATION COST	PAYBACK TIME	CARBON DIOXIDE SAVING PER YEAR
Detached	£275	£720	4 Years or fewer	1,200 KG
Semi Detached	£155	£475	4 Years or fewer	660 KG
Mid Terrace	£105	£370	4 Years or fewer	440 KG
Bungalow	£110	£430	4 Years or fewer	450 KG
Flat	£90	£330	4 Years or fewer	370 KG

source: The National Insulation Association www.nia-uk.org

Loft Insulation savings

BUILDING	POTENTIAL SAVING PER YEAR	INSTALLATION COST	CARBON DIOXIDE SAVING PER YEAR
Detached	£240	£395	1,000 kg
Semi Detached	£140	£300	590 kg
Mid Terrace	£135	£285	560 kg
Bungalow	£195	£375	820 kg

source: The National Insulation Association www.nia-uk.org



BBA Approved Installers Schemes

British Board of Agrément (BBA) is an independent, non-profit organisation committed to providing reassurance in the UK construction industry about the high quality of products, services and installers. It is accredited by the United Kingdom Accreditation Service (UKAS) and BBA testing is carried out under ISO/IEC 17025.

The BBA is a partner with the Cavity Insulation Guarantee Agency (CIGA) to provide quality assurance for Cavity Wall Insulation installations carried out under the CIGA guarantee scheme. The BBA and the CIGA collaborate with the Cavity Wall Insulation Self Certification Scheme (CWISC), which provides homeowners with the additional reassurance that installations carried out by CIGA-registered contractors comply with the requirements of the Building Regulations.

The BBA is a leading independent assessment agent of services for Energy Suppliers under ECO Scheme. The BBA accreditation opens more opportunities for contractors as clients are looking for reassurance about the standard of services.

How to become BBA Approved Installer of Cavity Wall Insulation

BBA assess the installer skills and compliance during the inspections at the different stages of installation process:

1. Competence of operatives on site
2. Scoring based on ECO guidelines carried out at the post installation stage
3. Installation standards (carbon/cost)

The first step of the approval process is the

completion of a BBA contract by the installer. It is available on the BBA website, by telephone 01923 665300 or by e-mail request to construction@bba.star.co.uk.

The Installer is subject to an assessment by the BBA and when accepted, and becoming an Approved Installer, will be subject to regular compliance checks. The BBA witnesses a satisfactory site installation for each system and completes an office assessment. The BBA carries out a pre-approval site inspection for each additional system the installer applies to be approved for. Moreover, there are ongoing approval and surveillance checks each year after the initial approval. The Approved Installer will be issued with a variation report by the BBA after each visit in case of non-compliance. When serious concerns are raised the BBA reserves the right to carry out extra visits, which will be charged to the Approved Installer. The installer shall advise the BBA of the contact names, addresses and telephone numbers for all offices. The Approved Installer shall also provide BBA with details of all planned or completed installations on a weekly basis. The Approved Installer is responsible to maintain a database of Approved Assessors but also has to assess the skills of Assessors to meet the requirements of the Scheme. The Approved Installer is responsible for their training.

The detailed scheme description and responsibilities of the Approved Installers and Approved Assessors regarding general duties, assessment of suitability of property, installation criteria, work instructions to technicians, the system of insulation, material storage are available at BBA website from the following documents:

1. BBA Assessment and Surveillance Scheme for BBA Approved Installers of Cavity Wall Insulation
2. BBA Approved Assessor Scheme for Assessing the Suitability of Buildings for the Installation of Cavity Wall Insulation

The Approved Installer is required to provide the BBA with records of all work carried out:

- the customer's details
- a brief specification for the works, including the quantity of material used/required

- a written form of the contract agreement
- the site address
- the commencement date of install
- instructions to the Technicians
- the Assessors building Assessment Reports and risk assessments
- records of training, the required qualifications, and experience of all Technicians, etc.
- a register of all complaints received concerning work carried out under the approval issued by the BBA. The register shall identify the address, the work/job number, brief description of the complaint, action taken and resolution dates.

Records shall be kept for a minimum of 6 years.

How to become BBA Approved Assessor for Assessing the Suitability of Buildings for the Installation of Cavity Wall Insulation

The Applicant has to prove to the BBA that they are competent to work in accordance with the Scheme, during the assessments at up to 4 sites. An Applicant must complete a BBA contract available at the BBA website or via e-mail insulation@bba.star.co.uk. BBA Approved Installers must forward details of their Assessors to the BBA.

The Assessor is responsible for writing the assessment reports that shall state whether or not a property is suitable for the Cavity Wall Insulation and must identify any related potential problems that may occur with appropriate remedial steps to be taken before installation. All responsibilities,

competence details and reporting requirements of the Approved Assessor are available from the following document on BBA website-BBA Approved Assessor Scheme for Assessing the Suitability of Buildings for the Installation of Cavity Wall Insulation.

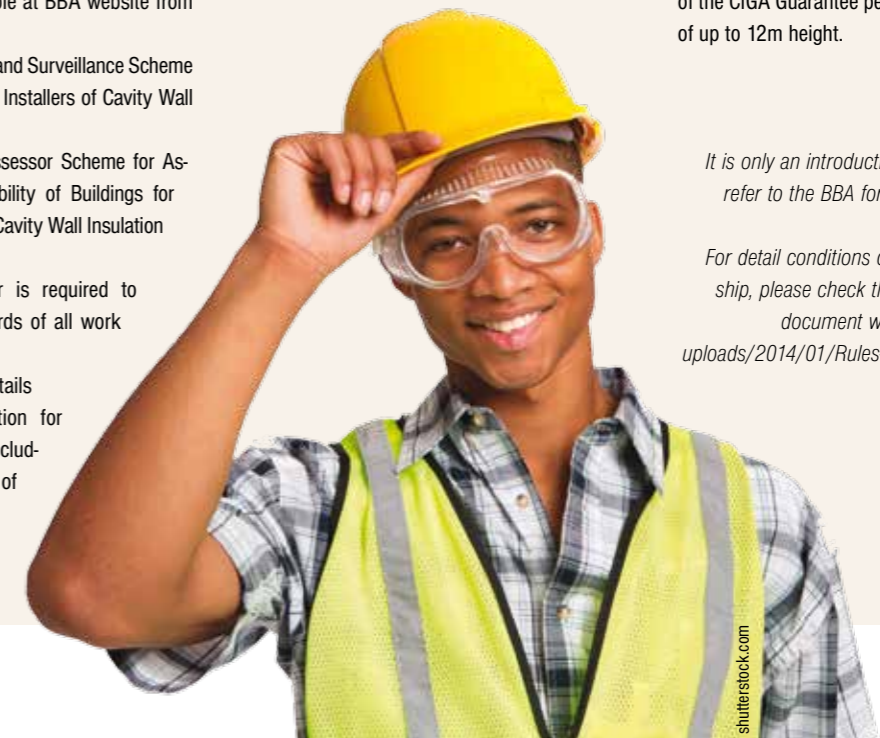
Cavity Wall Insulation Self Certification (CWISC)

The Cavity Wall Insulation Self Certification Scheme (CWISC) was launched in 2010 and is run by the CIGA and BBA to provide reassurance about the services provided by registered contractors and their compliance with the Building Regulations. So far over 1 million CWI projects have been done under CWISC scheme.

The database of registered installers is available at CWISC website. All installers working under the scheme must comply with technical requirements and Building regulations, and their work is regularly assessed. When work is completed, the homeowner receives the certificate confirming that work was done up to the CWISC standards. Eligible installations also receive a CIGA independent 25 year Guarantee against defects in materials and workmanship. So far over 5 million Guarantees have been issued, and there is the claim procedure open to all unsatisfied with the work done. Any contractor undertaking the cavity wall insulation and being approved by BBA can be a member of CIGA and can subscribe to CWISC Scheme. The membership is free, and once the installer is accepted to join the scheme, there is the fee of £7.50 plus VAT inclusive of the CIGA Guarantee per each completed property of up to 12m height.

It is only an introduction into the subject, please refer to the BBA for the complete information.

For detail conditions on application for membership, please check the CWISC website and this document www.cwisc.org/wp-content/uploads/2014/01/Rules-of-CWISC-v7-Final-3-13.pdf





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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

Start to estimate

Create your first estimate with the following step by step guide.

To start creating your document, CHOOSE icon **ESTIMATE IT YOURSELF**.

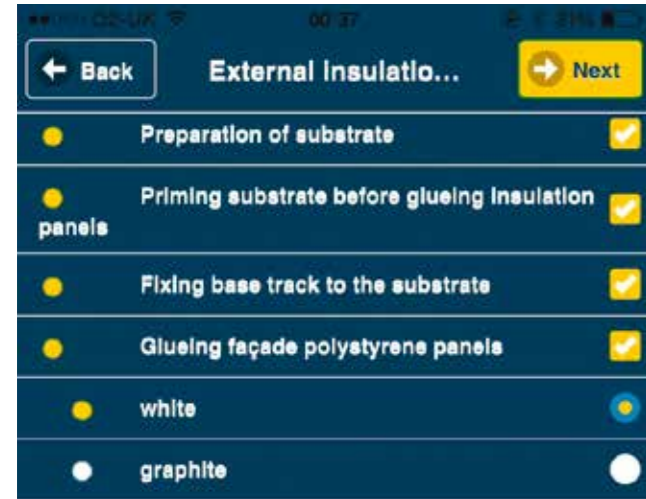


On screen you will see four cards each representing different version of IBB Estimator. Select one equivalent to the account that you hold. For example select **FREE REGISTERED** and on screen there will pop out the comparison table of all Estimator versions.

Press button **NEXT** to continue.

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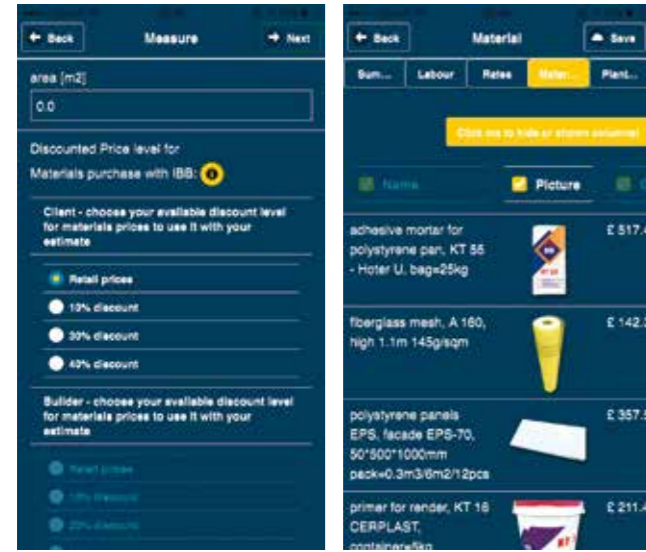
In **step 1** choose Estimate. Our guide will be based on External insulation render system AVAL



In **step 2** select all options relevant to your requirements. Press **NEXT** to continue



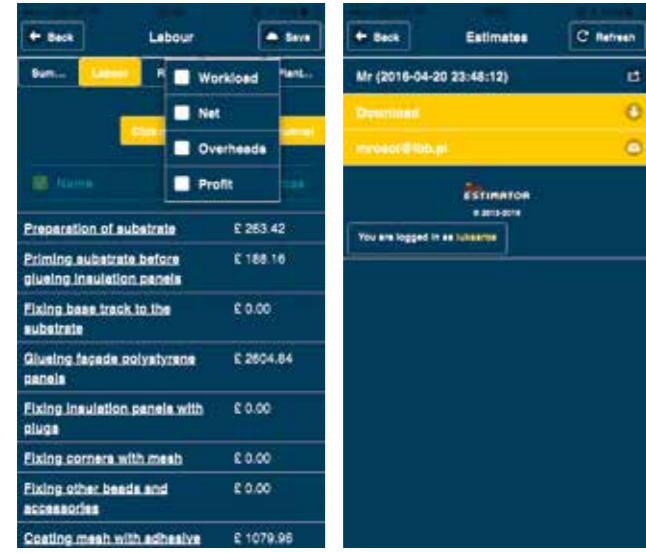
In **step 3** input the measurements. You are also able to set the discount level for your calculations for materials purchases in IBB Polish Building Wholesale for either client or builder. Press **NEXT** to continue



On screen you will receive the estimation summary. You can filter data by selecting icons **LABOUR, RATES, MATERIALS, PLANT&TOOLS**.



Moreover you are able to hide/show data like workload, net, overheads or profit. When you select the particular position by clicking twice on it, you will get the estimate detail.

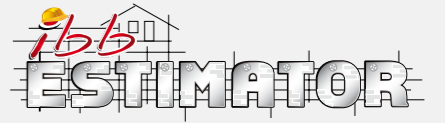


Click button **SAVE** to fill your estimation details. When all completed press **NEXT** to **DOWNLOAD** or **POST** your estimation. Moreover you can now select the relevant sections that you would like to include in your final document. Click **NEXT**.

If you are logged in you will be able to archive your estimates and use **Download** or **Post** option again.

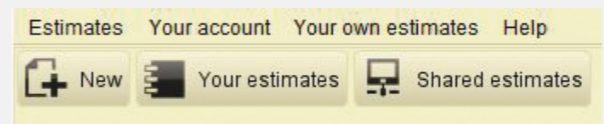


website version step by step

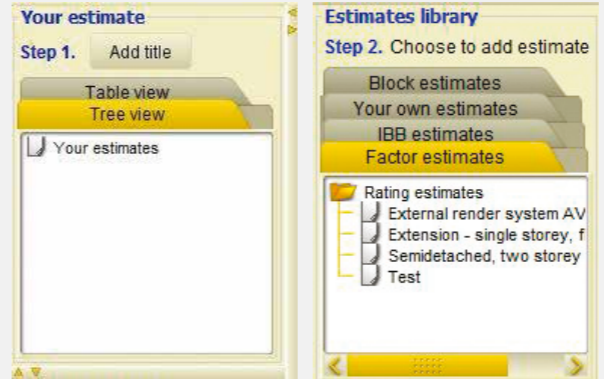


START TO ESTIMATE

Create your first estimate with the following step by step guide. To start creating your document, **LOG IN** to your profile on www.ibbconstruction.co.uk



1. Click icon **NEW** in the left upper panel. On the screen you will be able to work on your new calculation.
2. **Step 1** in the left panel enables to personalise estimate by adding a title - click icon **ADD TITLE**
3. **Step 2** in the left panel enables to choose the appropriate for your needs option from estimates library.
4. For the fastest results choose **FACTOR ESTIMATES**. To start your factor estimate choose the relevant option. This guide will be based on External render system AVAL.



When you select the External render system AVAL on the screen the question box will show up.

5. Choose whether you would like to base your estimation on **YOUR OWN** prices or **IBB** prices.



Refer to the previous guide on how to create your Own library and work with Your own estimates plus to the guide on how to manage overheads, profits and rates.

6. If you press icon IBB you will get set of questions on screen to answer in order to produce your estimation.

- In **step 1** set dimensions - input your data into the box and press icon **NEXT**
- In **step 2** and **3** **CHOOSE/DELETE SECTIONS** according to your needs. Press icon **NEXT** to continue



- In **step 4** follow the same procedure - **CHOOSE/DELETE ESTIMATIONS** by selecting the boxes relevant to your requirements. Slide down to check all options.



In the **step 5** determine the quantity according to your project specification. Input your data into the boxes and press **NEXT** to continue.



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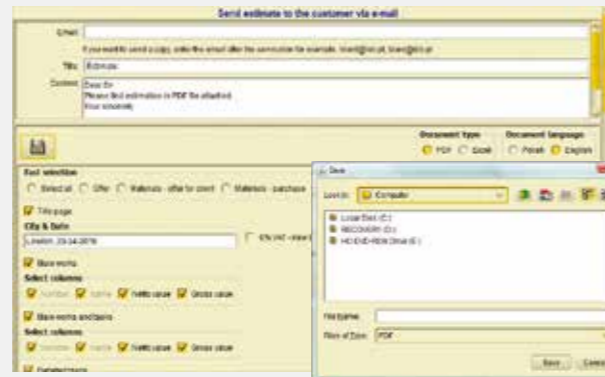
- In **step 6** you will be able to determine your Labour rates, costs and profits. Mark the required option and input your data in the box. Press icon **CHANGE** to apply your amendments. Press icon **NEXT** to continue.



- Step 8** is where you can alter your overheads for Materials. You can input data for both the cost of supply and profit.
- In **step 9** fill in **Estimate info** - all details related to your estimation.



- In **step 10** you can send your estimation directly to your customer by filling in details and writing a message. You are able also to choose the format of your document to be either **PDF** or **EXCEL** and to choose the language of your estimation - either Polish or English. Also select sections of your estimation that you would like to include in saved option. For fast selection choose one of the proposed versions- select all, offer, materials-offer for client, materials-purchase, workload, schedule of works.



- In **step 7** follow the same procedure for amendments in rates, costs and profits for Plant&Tools.



- Press icon **SAVE** to save your estimation. You can choose the destination where to upload your document.



PROVED QUALITY



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QUALITY DRYWALL

Regular



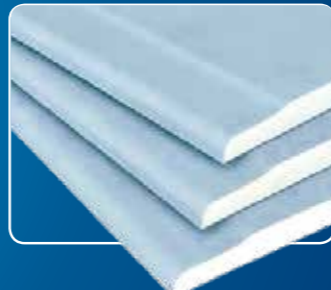
Waterproof



Fireproof



Soundroof



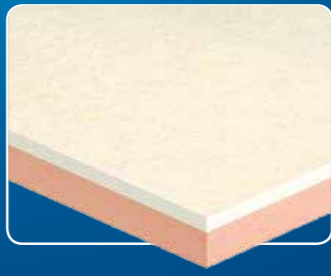
Vapourshield™



Thermal Laminate



Kooltherm Insulated



Cementboard



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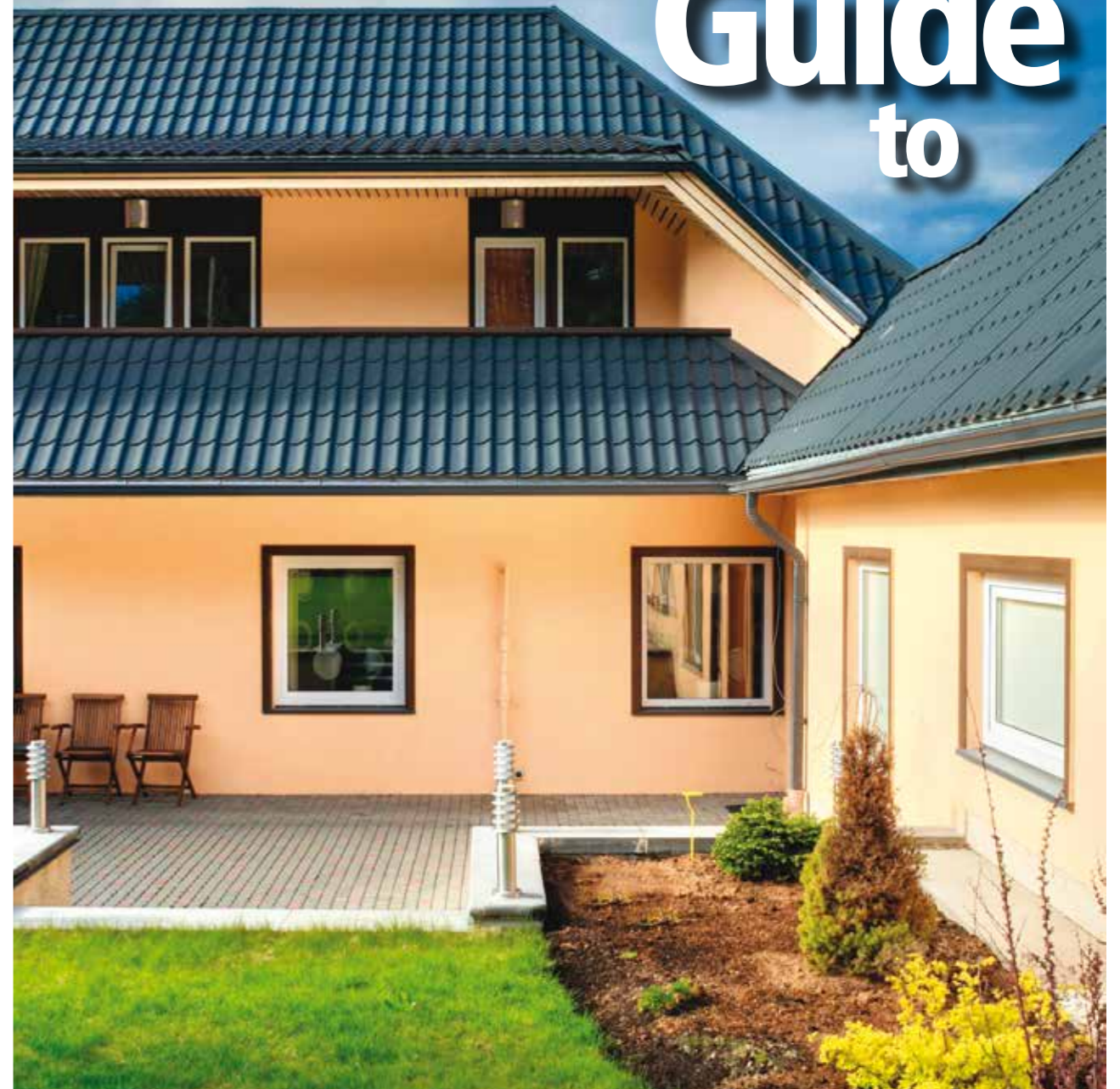
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External Render AVAL System

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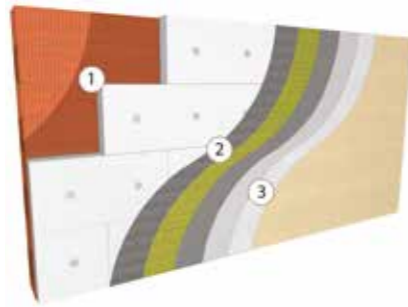


In this edition we focus on an insulation element that gives the final character of the building - the rendering.

Why render plays such an important role in the insulation system? Why cannot we finish the façade just with a painted reinforcing layer?

The answer is simple. To meet all the insulation system functions which are assigned to it, and to meet them in 100%, the system must be complete, that is made up of:

1. adhesive for application of thermal insulation material;
2. reinforcing layer, that is the adhesive with the mesh;
3. thin-coat render or tile cladding.



The role of renders

Therefore, what function a thin-coat render performs in the thermal insulation systems?

First of all:

- Protects layers beneath – the reinforcing layer, the insulating material as well as the façade of the building - both from

the harmful effects of weather conditions and against mechanical damages caused by various factors;

- Regulates „breathing of building“, i.e. transports in and out molecules of water vapour;
- Gives a unique, attractive appearance, final character of the buildings.

That is why only the full thermal insulation provides adequate protection for the building as well fulfills all the functions of the system. Therefore, render on the façade is necessary.

Types of renders

Types of renders and, hence, their suitability to a particular project, are determined mainly by the binder used for the production and the type of insulating material used for thermal insulation. The most popular types of

prevent this, we recommend acrylic render which is highly flexible and can make up for tension. The render can be easily cleaned with a pressure washer.

WHAT COLOURS WILL BE USED ON THE FACADE?

Atlas offers wide range of unique render and paint colours - 400 ready recipes allow to meet any expectations. An important element is the choice of an appropriate combination of colours as well accurate joining of colours. Special programs available on the website www.atlas.com.pl can assist you in this regard.

WHAT KIND OF RENDER WE CHOOSE IN TERMS OF TYPE AND AGGREGATE THICKNESS?

In this case, the decision mainly depends on aesthetics. We have a choice of two types of renders: spotted ones marked with letter "N" and rustic ones marked with letter "R". You should choose the aggregate thickness - from 1 mm to 3 mm. The coarser the grain, the visual effect is more clear. It also allows you to hide any shortcomings.

The best way is to leave the render choice to the system designer and put it in the project documentation. However, if it is not possible, and there are doubts as to the choice of a suitable render and place of application, you should consult the manufacturer's Technical Advisor.

Choose the render

Before you choose the render for your house, you must answer a few questions:

WHAT IS THE DIFFUSION RESISTANCE OF THE WALLS?

The render should not significantly restrict the flow of water vapour through the partition (the wall with all of its elements: internal plaster, external render, thermal insulation, etc). Before deciding it is advised to check the project documentation.

You can also use the calculation program available on the web-site www.atlas.com.pl. It will help you to design the partition properly. If the renders are applied on the walls made of high vapour permeability materials, such as aerated concrete, then they should have similar characteristics. Then, use the renders based on the silicate or mineral binder. Similarly, when the wall is insulated with the mineral wool.

WHAT IS THE AGE OF THE BUILDING?

For rendering decades-old buildings, which have very high vapour permeability, you should definitely use the renders of similar characteristics (e.g., those that should not significantly restrict the flow of water vapour through the partition), especially silicate ones.

IS A GREEN AREA LOCATED IN THE NEIGHBOURHOOD?

If so, there is always a risk of organic dirt, algae and fungi. In this case, the façade should be covered with mineral or silicate renders which have strong alkaline reaction (pH~12) and practically prevent the growth of microorganisms. Also the silicone dispersion renders, which contain the biocide additives that reduce the growth of microorganisms, can be used. Another ally in the fight with the biological corrosion is low water absorption, making the spores difficult to settle.

IS THE HOUSE LOCATED BY A BUSY ROAD OR ANOTHER „SOURCE“ OF PERMANENT SOILING?

If the answer is yes, then we have to deal with two problems. First, building close to such roads get dirty quickly, so it is recommended in this situation to use silicone renders, which can be easily kept clean.

This render is called „self-cleaning“ as the smaller dirt is being removed itself during the rainfall. Secondly, due to high traffic, the render may be subject to cracking under vibration. To



renders are: mineral, acrylic, silicone and silicate. The main parameters of the renders are presented in the table.

Render application

As we have acquired the knowledge about renders and we know from the previous lessons, how to prepare the basecoat, we can safely go to the renders application.

Substrate priming

The process of renders application must be preceded by the preparation of the substrate on which they will be applied. To do it we should use a primer professionally known as a priming mass.

Its purpose is to enhance the adhesion of the render to the façade surface and to unify the absorption of the whole substrate.

These elements are very important and have significant impact on the render application and its future appearance.

Types of priming masses:

It is very important to choose the right primer for the render. Thus, for example, Atlas/Aval products need following primers:

- ATLAS CERPLAST (AVAL KT 16) - a primer under mineral, acrylic, mosaic renders;
- ATLAS SILKON ANX (AVAL KT 76) - a primer under silicone renders;

Priming

Priming mass is usually applied one day before the render, depending on weather conditions. It can be applied in three ways: manually with a brush or a roller, or mechanically with the use of a spray gun or an aggregate.

The most common application mistakes

One of the most common mistakes is the excessive dilution of the primer. It results in much more difficult render application, reduced substrate adhesion and unequal absorption.

Following, it can result in uneven render drying (render dries faster locally). In case of colourful (dyed) renders it might cause stains and local render discolouration.

TYPE OF RENDER	MINERAL	ACRYLIC	SILICONE	ACRYLIC-SILICONE	ACRYLIC-SILICONE
Type of main binder	Cement	Styrene-acrylic resin	Silicone resin	Styrene-acrylic and silicone resin	tyrene-acrylic resin, water glass
PROPERTIES					
Water vapour permeability	✓✓✓	✓	✓✓	✓	✓✓✓✓
Impact resistance	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓	✓
Surface absorption resistance	✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓
Ageing resistance	✓✓✓✓	✓	✓✓	✓✓	✓✓✓
Dirt resistance	✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Biological factors resistance	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
AREA OF APPLICATION					
Urban zone	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Suburban unwooded zone	✓✓✓	✓✓	✓✓✓✓	✓✓✓	✓✓✓✓
Proximity of green areas and water tanks	✓✓✓	✓	✓✓✓✓	✓✓✓	✓✓✓✓



AVAL KT 16



AVAL KT 76

Render application

After the application of a priming mass, you can start the rendering. Depending on the render type and application method, this process is divided into several phases.

The manual application of ready-to-use renders (acrylic, silicone, hybrid).

When applying this type of renders you should take into account the type and size of the façade and the weather factor. Why? Thin-coat dyed renders should be unconditionally applied „wet on wet“, without any interruption over the entire façade surface, i.e. from a corner to a corner. In the case of detached houses, where wall surfaces are rather small, this type of work should not be a problem.

The problem may appear on larger surfaces, e.g. on blocks of flats. How to deal with it? The best solution is to plan appropriate technological gaps. You should choose a place where the render joints – vertical or horizontal line that will not be conspicuous. These places, e.g. where the render colours are changed, are often planned by the designer. Generally the lines of windows, staircases vertical separations, or other places are used for that purpose. Each project has its characteristic design, so if you know that one whole wall cannot be done in one cycle, you should list down not only the time, but also a place of a technological break. To sum up: the laying of the dyed renders must be carefully planned.

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CUT HERE AND SAVE



How to apply the render?

Ready-to-use renders are supplied in buckets. They should be opened and thoroughly mixed with a ribbon mixer to unify their texture and colour. It is recommended to mix a number of buckets of render in order to avoid colour differences between the buckets (it sometimes may happen, especially when buckets are of different batches).



Steel float



Ribbon mixer

After proper mixing, we proceed to the render application. It is applied "wet on wet" with a stainless steel float by pressing to the surface so that, depending on weather

conditions and the number of persons involved in the application, you are able to connect it vertically and horizontally with the following render areas.

The render is applied with the thickness equal to its aggregate size. If we apply too much, we will not be able to form the proper structure. When we put the render we remember to collect the excessive amount at the same time.

The next step is the texture forming, which gives the render its final appearance. It depends on the conditions in which the render is applied, the render type, and above all the size of the surface which it is applied on. We form the texture with a plastic float by rubbing the render surface. This way we move the render aggregate and thus we obtain the final visual effect.

The technique of texture forming depends on the type of the render. 'Spotted' render can be

formed with circular or 'figure eight' moves. It is important to texture the render in the same way over the entire surface of the elevation. Rustic render, commonly called 'the bark beetle', as its name suggests, imitates the marks left by beetles. To get this effect, you should rub the render with a plastic float with vertical (gives vertical marking) or horizontal (gives horizontal marking) moves.

The application and texture forming of ready-to-use renders seems trivial process. However, as usually, the simplest things make the biggest problems. Therefore, to conduct the render texture forming correctly, we should engage a qualified brigade, preferably with vast experience.

At the construction site execution problems, which the brigade will have to deal with, may occur - crooked and uneven walls, window reveals treatment, often decorative trims, rustication and other surprises.

When applying manually you should also remember that all kinds of items placed perpendicularly to the façade, such as window reveals or rustication, are generally not covered in the same technological process as the rest of the building (often done the next day).

Manual application of dry mineral renders

Application of this type of renders slightly differs from the application of ready-to-use renders (dispersion ones). The product is supplied to the site as a dry mix in a bag. A key element in this case is the proper mixing. Each manufacturer pro-



Spotted texture



Rustic texture



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Applying renders using a steel trowel

Spray application of renders

vides adequate guidance as to the amount of water in order to obtain proper consistency that will provide both application and render parameters.

Guidelines are given in the so-called range due to climatic conditions. For example, in the case of dry and hot air the consistency of the applied render may be thinner.

You pour the dry mixture into the appropriate amount of water and mix to reach a proper consistency. Then - as in the case of adhesives - after the time indicated by the manufacturer (usually 5 minutes), re-mix the mass. Manual application process itself is the same as in the case of ready-to-use renders. So where is the difference? Mineral renders are "dry", and therefore have large colour limitations (due to differences in the composition of raw materials used for the mineral renders and dispersion ones).

They are produced only in several pastel colors. A common solution is to use a mineral render and coat it with a paint.

Spray application of the renders

This technology is very different from the one described above. First, for the mechanical application only the renders designed to this can be used. Although both technologies - by hand or with a machine - are completely different, sometimes the producer informs that the render can be applied either manually or by spraying.

However, due to different types of application, both the parameters of the mixture, its composition, type of raw materials used for manufacturing and the render parameters after drying differ significantly. Concerning the primer, the difference lies in the fact that beside the application with the use of a roller or a brush (as in the manual technology) you can apply it by spraying, which gives less consumption of the product and uniform covering of the façade. Renders for spray applica-

tion are prepared in the same way as the manually applied ones: whether wet or dry, they should be mixed. This step is crucial here. Why? In the manual technology, we are able to locate even a small lump and remove it or rub with the float. When this lump occurs while spraying, it blocks the nozzle, creates a blockage, and thus forces a break for the machine cleaning. Only the thoroughly mixed render can be put in the aggregate tank and sprayed. That's right: sprayed.

In this method, it's just so much or that much as spraying is not that easy. You have to - as builders would say - "form your hand" or to gain experience and intuition in order to reach the correct render proportions and to get the expected effect. Apply it in one place long enough and keep the right distance from the gun nozzle to the façade. It's almost all. Sprayed render is left to dry after application without any other additional work.

Spraying method has also other advantages over the manual one, namely: - Application, regardless the surface of the façade, requires only three persons, one of them is responsible for a continuous supply of the product to the aggregate tank, the second one, due to the length and size of the hose, helps to maneuver, and the third one is spraying the render on the façade;

- Can be sprayed on all surfaces - horizontal and vertical, window reveals and not available in the manual technology oval spaces and the rustication - in the same technological process;
- You can stop the spraying of a white render whenever you want and the connection will not be visible;
- The time of the application is up to 3 times faster than of the manual one;
- Gives fully repeatable and more clear render structure on the entire façade.

There are also two disadvantages of this technology, which must be mentioned here. First, the spraying unit cost ranges from 3.5 up to 6.5 thousand EUR. The second is the need to protect all elements of the building, such as windows, gutters, window sills, against contamination.

In addition to the issues listed and described in this lesson and related to the render application, there are still many other elements or technological problems. We will deal with them in the next lessons. We hope that we have been able to explain to all thermal insulation installers from where certain actions and steps of render application arise and enrich the knowledge of those who just start their adventure with thermal insulation.



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Render choice

depending on the environment conditions

Let's be honest – there is no perfect render. A feature which forms an advantage of one render, in different situation may be a disadvantage or even serious drawback.

In order to select a render type appropriate for a particular project one should consider numerous, sometimes seemingly insignificant data. As long as there are no remarks on the use of a definite render type (e.g. due to vapour permeability of

the partition), the client can use any product one can afford. Definitely, the most advanced thin-coat renders currently available on the market are the silicone and silicate ones. These products and their hybrids, are most often general-use and will do good in almost any conditions. Of course, there are some limits which cannot be crossed even with the most advanced materials.

The best example is the external insulation with mineral wool panels where the rendering coat must be characterized by high vapour permeability similar to the whole partition and where the mineral or silicone-silicate renders can be used only.

For insulation systems based on EPS there are no restrictions of this type. But, as long as the investor treats the appropriate cost level as the main selection factor, the supplier should select the materials providing the best solution for the best price. Please note, that it is not allowed to choose technologically improper products only because they meet the financial expectations of the buyer.

In the city centre

The house location influence the render choice significantly. If a house is placed close to a busy street or other source of dirt, then we recommend



the use of ACRYLIC, ACRYLIC-SILICONE and SILICONE renders.

These materials are the easiest in keeping clean. Although, paradoxically, they get dirty faster than mineral and silicone-silicate ones (negative potentials attracting dirt and dust form on their surface), dirt does not penetrate their structure and is easily washed off. In case of acrylic-silicone and silicone renders minor contamination cleans itself with rain. This phenomenon results from their low absorptiveness commonly known as the "self-cleaning ability". But, even if the dirt does not wash off itself, it's much easier to clean the acrylic or silicone renders, as their surface is scrub resistant. In comparison, mineral and silicone-silicate renders are absorptive and here not only surface, but also structural contamination occurs. This dirt type cannot be cleaned with standard procedures as they may lead to the surface damage and need of the façade re-painting.

If a house is located close to a busy street of significant heavy load traffic, the use of acrylic, acrylic-silicone and silicone renders is additionally justified - these render types contain polymers, which make them elastic and indirectly support the transfer of shakes resulting from the road traffic (the render will not crack).

Close to lakes and forests

If a house neighbors a forest or any other green zone, it's subject to organic contamination and fa-

çade greening. For such cases we recommend the MINERAL and SILICONE-SILICATE renders, which are strongly alkaline (pH~12) and effectively block the microorganisms development. Acrylic and silicone renders, although characterized by natural low absorptiveness, contain also organic ingredients which might support the development of fungi and moss. Of course, all Atlas and Aval renders contain appropriately selected biocides limiting the microorganisms growth, but still they might not be fully effective in case of large amount of fungi spores and high air humidity typical for green areas. Please note, that even the use of mineral or silicone-silicate renders does not eliminate the risk of organic contamination completely - constant contact with damp resulting, e.g. from improper flashing installation, will always lead to the façade greening. So, only proper façade maintenance and regular check-out can identify the potential problem and allow to eliminate its effects in the early stage.

Low wall diffusion resistance

When choosing the render for a particular façade one should consider the wall diffusion resistance. If there is any doubt on the partition vapour permeability one should obligatorily avoid the acrylic renders.

Particularly doubtful are cases where the moisture calculations show the evaporation ratio lower than 10 times the volume of condensed water

vapour under the render or those with the risk of capillary rising resulting from faulty damp proofing or flashing installation (which can be checked on site). Unfortunately, the results of rash use of acrylic renders are visible after years when the blocked moisture loosens the rendering coat. And, although it's not the manufacturer or the contractor to be blamed, it gives bad reputation to them mainly.

If the renders are applied on walls made of materials characterized by high vapour permeability, e.g. cellular concrete, the render should have similar parameters as well. For such jobs we recommend the mineral renders: AVAL KT 137/ ATLAS CERMIT SN, AVAL KT 35/ ATLAS CERMIT DR, ATLAS CERMIT SN-MAL, ATLAS CERMIT PS or dispersion ATLAS SILICONE-SILICATE ones. If in doubt on the airbrick or blocks vapour permeability one can always contact their manufacturer and ask for advice.

High emission of water vapour

There are cases, when the acrylic renders must be rejected from the start and attention put on permeable MINERAL and SILICONE-SILICATE ones. This refers to buildings with rooms of high water vapour emission - gyms, swimming pools, laundries, drying rooms, large kitchens, lockers. Particularly the swimming pools are characterized by specific microclimate with relative humidity from 75% up to 90%. If the render is vapour-tight,





then the external walls are constantly saturated with vapour and subject to freeze and thaw cycles in wintertime, which will result in the render loosening when temperature drops below 0°C. In case of typical residential buildings this phenomenon is rarely met, so we have much wider freedom of choice.

Newly constructed and old, damp houses

Theoretically, it's much better to use vapour permeable renders for newly constructed buildings, so the masonry materials are given longer drying time. Additionally,

if there are any internal wet technologies applied (e.g. plastering or flooring) then the use of façade acrylic render might hinder the moisture evaporation from the indoors and lead to wall damp in consequence. But, if the first façade rendering starts a few months after the building construction, when all wet technologies are finished, then one should choose renders of limited

permeability and higher elasticity – ACRYLIC, ACRYLIC-SILICONE and SILICONE – which limit the wall stress resulting from the natural building settlement.

For rendering decades-old houses we recommend to choose highly permeable renders, particularly SILICONE-SILICATE ones. Aged, weathered walls are characterized by high vapour permeability, so the application of an acrylic render will definitely seal the moisture in and make it evaporate indoors.

Façades in strong sunlight

If we want to use dark shades it's important to check the light reflection coefficient. On façades exposed to strong sunlight one should avoid colours of coefficient below 20%, as such surfaces heat very fast which may lead to the render destruction in time. The coverage of such colours should not exceed 10% of the façade surface. Guidelines on the colour choice are available in the Atlas technical data sheets and colours patterns.

Similar guidelines concerning the colour selection refer to mosaic renders Aval KT 77/Atlas DEKO M. Although the light reflection coefficient is not given here, the main rule is the same – use dark colours on limited surfaces only. In strong sunlight and high temperature the mosaic render might get sticky and attract dirt. When the temperature drops, e.g. in the evening, it comes back to the standard viscosity, but dirt attracted by the render resin may last on the surface.

The appropriate choice of render might seem hard as very often it's not possible to match all expectations, likes and dislikes. Sometimes multiple rendering solutions are available, sometimes there is only one and with restrictions.

That's why the most important thing is to select the render knowingly basing on the product advantages and disadvantages, possible benefits and threats with concern to the building location and designation.

Michał Gostawski, ATLAS Group

AVAL Insulated External Render System

Estimate was based on polish labour and materials norms KNR nr 0-23 0931-01 and our experience. As a sample we estimated the cheapest version of elevation done with mineral render, dotted finish 1.5mm thick. We can also suggest using smooth external render based on white cement. It will give a very nice white finish. It's also possible to renovate old render with this method.

Estimation conditions:

- materials are delivered on site
- internal transport horizontal and vertical is included in the average building situation
- labour includes fitting light scaffolding up to 4m high
- calculation of materials includes an allowance for waste
- water, electricity, sand paper and other small materials are added with 1,5% rate calculated from basic materials

Sequene of operation:

- clean and prime the surface
- fix base edge strip according to thickness of polystyrene panels
- mix the adhesive
- cut and fix polystyrene panels to the wall
- drill holes and fix plastic plugs
- prepare polystyrene joints with special tool to make an even surface
- glue one layer of glass fibre mesh
- fix aluminium strip with glass fibre mesh to external corners
- apply adhesive base coat
- prepare render from dry powder or ready mixed ones: acrylic, silicone etc.
- apply render with steel trowel
- work wet render with plastic trowel to receive decorative finish
- cover with dust sheet to protect against rain and sun

Coverage of materials for making 1m2 top coat acrylic render with insulation; system insulated with graphite polystyrene panels 5cm thick

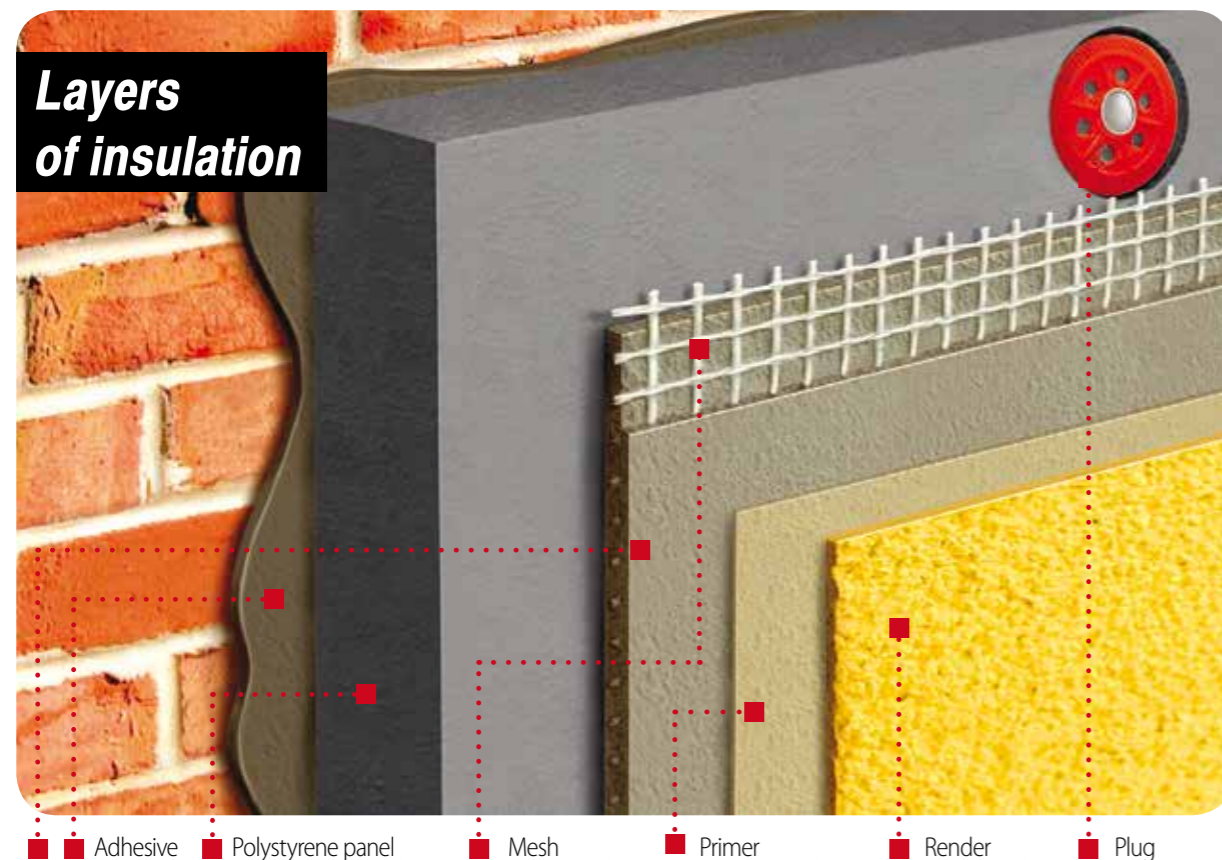
No	Material	Unit	Price* excl VAT [pcs]	Norm for 1m ² wall	Unit price excl. VAT [GBP]	Price excl. VAT for 1m ² wall	Price incl. VAT for 1m ² wall
1	Primer AVAL KT 17	can 5l	11.25	0.07l/m ²	2.25 £/l	£ 0.16	£ 0.19
2	Metal track 53/2500mm	pcs	£ 4.58	TBC	1.28 £/m	-	-
3	Foamed polystyrene EPS 70-032 FACADE 50mm thick	1m ²	£ 4.13	1.05m ²	4.13 £/m ²	£ 4.34	£ 5.21
4	Fix polystyrene panels using £l-10x90mm plugs	pcs	£ 0.17	6 szt/m ²	0.17 £/szt	£ 1.02	£ 1.22
5	PVC corner with mesh 2.50m	pcs	£ 2.33	TBC	0.27 £/m	-	-
6	AVAL KT 55 adhesive for glueing polystyrene panels and fibreglass mesh	bag 25 kg	£ 12.25	8.0kg/m ²	0.49 £/kg	£ 3.92	£ 4.70
7	Fibreglass mesh 155g/m ²	roll 50 m ²	£ 47.50	1.135m ² /m ²	0.95 £/m ²	£ 1.08	£ 1.30
8	AVAL KT 16 contact primer	bucket 25kg	£ 57.50	0.25kg/m ²	2.30 £/kg	£ 0.58	£ 0.70
9	AVAL KT 60 acrylic top coat render dotted 1.5mm	bucket 25kg	£ 37.50	ca 3.0kg/m ²	1.50 £/kg	£ 4.50	£ 5.40
10	Additional materials 1,5%					£ 0.23	£ 0.28
Total						£ 15.83	£ 19.00*

* materials available at above Retail Prices at IBB Polish Building Wholesale Ltd, London – before discounts

Expenditure of labour for making 1sqm elevation like above

No	Description	Labour hours	Rate excl.VAT [GBP]	Rate [GBP] per 1sqm excl.VAT	Rate [GBP] per 1sqm incl.VAT
1	Priming substrate and base coat surface before applying top coat render	0.066 labour/m ² *	£ 14,-	£ 0.92	£ 1.10
2	Fixing metal track	0.237 l/m	£ 14,-	-	-
3	Glueing polystyrene panels	1.329 l/m ² *	£ 14,-	£ 18.61	£ 22.33
4	Fixing corners with mesh	0.220 l/m	£ 14,-	-	-
5	Coating mesh with adhesive	0.611 l/m ² *	£ 14,-	£ 8.55	£ 10.26
6	Applying top coat render	0.493 l/m ² *	£ 14,-	£ 6.90	£ 8.28
Total		2.606 l/m²*		£ 34.98	£ 41.97

Attention: in our quotation we have only described positions marked *, the rest you have to calculate individually eg. fixing corners with mesh according to how many reveals there are on the elevation, it is also important that for reveals you have to increase the quotation, the same for scaffolding or colour render.

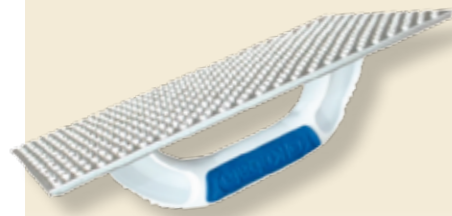


Important information regarding building elevation:

- while choosing metal edge strip, please mind that both thickness of polystyrene panels and thickness of adhesive are important
- apply adhesive around the edge of polystyrene panel and in the middle
- fix plugs only in the area where the adhesive is applied
- attention: it is not necessary to fix polystyrene panels with plugs when the elevation is a small area. Adhesive only will do the job
- in the UK you should cover the fixing screws with polystyrene plugs to protect against the cold bridge
- when preparing insulation surface, an adhesive layer, etc. should be done carefully and evenly; the adhesive surface should not be sanded – otherwise it is difficult to apply the render and get a good finish
- the thickness of one coat is only the thickness of the grain used in the render – you can not level the surface by just applying another layer of render
- the surface area of one level elevation should be done continuously from one side to the another without a break, by two people – one for applying the render and second one for making the decorative finish. If you allow part of a surface to dry before continuing it will leave ripples on the surface
- do not apply render during rain or bright sunshine
- if some render drops from the elevation during application – do not re-use it
- you can check the skills and experience of your builders by looking under the scaffolding for fallen render
- you can use a pre-coloured render but remember - if you use an acrylic external paint always wait 28 days
- you can paint after 24 hours but you must use a silicat external paint
- if you use a coloured render make sure it is an acrylic one
- for insulating polystyrene panels you can use 2-3 cm thickness but there is no matching edge metal strip to be found
- you can apply thin layer render on to old cement based render – but cleaning, priming and applying fiberglass mesh with adhesive is a must
- in some situations it is necessary to fit insulated rendering system with special buttons
- new render finishes should be protected against weather, especially rain, by using plastic sheeting – repairing damaged render can only be done by applying a new a layer of adhesive with mesh and new decorative render

CUT HERE AND SAVE

CUT HERE AND SAVE

Useful tools

**Trowel
with sandplate**

£4.58*



**Plastic trowel
for decorative render**

£3.40*



**Scraper
for old renders**

£13.75*

* Prices incl. VAT before discount

**Attention!**

Our norms and rates should be taken as a guide only and there are no obligations for anybody to adhere to them.; you have to take sole responsibility and apply your own rates to your quotations. Cost of materials can vary from prices shown on the manufacturers specification We cannot accept any responsibility for anyone using this information – you must make your own checks.

SPONSORED BY



MATERIAL COMPARISON

Browse our selection of **ATLAS / AVAL** products & system range for render finishes for new build and refurbishment projects. We have chosen the versatile and flexible range of products which are high performance, low maintenance, durable and weather resistant solutions for external decorative purposes. This material comparison will allow you to choose the best primer, render and facade paint.

PRIMING MASSES**AVAL KT 16**

primer for acrylic and mineral renders

**Description**

Primes substrates for AVAL and ATLAS thin-coat renders – mineral, acrylic and mosaic AVAL KT 77 (ATLAS DEKO M). Increases adhesion – strongly adheres to the substrate and the applied renders. Limits the absorbability of the substrate – prevents excessive transfer of water from the freshly applied renders into the substrate.

The main characteristics

- ensures ideal adhesion of the render
- reduces absorbability and strengthens the substrate
- facilitates render application and texture forming
- unifies the substrate colour
- available in several colours

The main parameters

- consumption: ca. 0,3 kg / m²
- adhesion: > 1.0 MPa
- drying time: 4 ÷ 6 h

**COMPARISON TABLE**

PRODUCT	 ATLAS CERPLAST/ AVAL KT 16*		 ATLAS SILKON ANX/ AVAL KT 76	
	Reference document			
	Primers are covered with technical approvals for the thermal insulation systems			
	TYPE OF RENDER			
Mineral	✓			
Acrylic	✓			
Mozaic (e.g. DEKO M/ KT 77)	✓			
Silicate				
Silicone			✓	
Acrylic-silicone	✓			
Silicone-silicate				✓
	TECHNICAL DATA			
Density [g/cm ³]	1.5		1.5	
Application of render after [h]	4-6		4-6	
Temperature during application and substrate temperature [°C]	5-30		5-30	
Consumption [kg/m ²]	0.3		0.3	

* Apply on substrates of high absorptiveness

** Actual consumption depends on the substrate absorptiveness and the texture of painted surface.

We recommend establishing the exact consumption on a test basis.

AVAL KT 76

primer for silicone render

**Description**

Primes substrates for AVAL thin-coat silicone renders. Limits the absorbability of the substrate – prevents excessive transfer of water from the freshly applied renders into the substrate.

The main characteristics

- ensures ideal adhesion of the render
- reduces absorbability and strengthens the substrate
- facilitates render application and texture forming
- unifies the substrate colour
- vapour permeable

The main parameters

- consumption: ca. 0.3 kg / 1 m²
- adhesion: > 1.0 MPa



CUT HERE AND SAVE



THIN COAT RENDERS

AVAL ACRYLIC RENDER/KT 60 spotted finish



Description

Decorative and protective finishing of façades and internal walls. Recommended for façades exposed to damage and soiling – owing to the high mechanical resistance, it is an ideal render for walls at schools, workshops, stores, backup buildings, situated close to roads, factories, or mines.

The main characteristics

- highly elastic
- resistant to scratching and micro-cracking
- highly durable
- easy for texture forming
- spotted texture

The main parameters

- consumption: from ca 2.5 – 2.8 kg for 1 m²
- adhesion: ≥ 0.35 MPa
- compressive strength: 1.5 ÷ 5.0 N/mm²
- 400 colours
- aggregate: 1.5; 2.0 mm



AVAL SILICONE HYBRID RENDER spotted finish



Description

Thin-coat render for the execution of the finishing coats with a decorative spotted texture. Ideal for façades exposed to dirt and difficult operation conditions – in the vicinity of roads, industrial zones and urban centres surrounded by green areas or with high pollution.

The main characteristics

- vapour permeable
- very low water absorptiveness
- highly resistant to dirt
- high adhesion to the substrate

The main parameters

- consumption: ca 2.5 kg for 1 m²
- spotted texture
- 400 colours
- aggregate: 1.5 mm



AVAL SILICONE RENDER/KT 74 spotted finish



Description

Decorative and protective finishing of façades and internal walls. Ideal for buildings exposed to dirt, dust and biological attack – in the vicinity of roads, industrial zones and urban centres surrounded by green areas; has the self – cleaning ability - the current maintenance consists only of washing the render - dirt is not permanently connected to the façade, so that rain water washes it, as well as spores of microorganisms.

The main characteristics

- self-cleaning effect
- resistant to dirt
- perfectly hydrophobic
- vapour permeable
- one texture – spotted

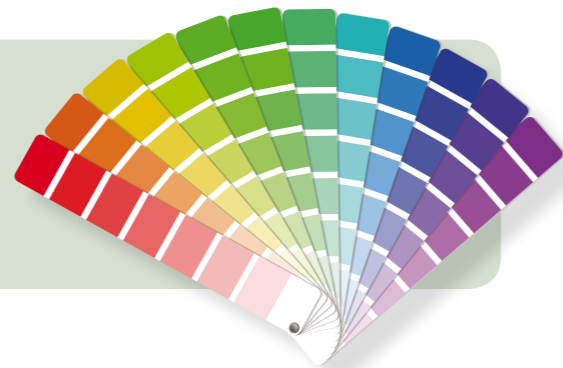
The main parameters

- consumption: from 2.5 kg/ m²
- adhesion: ≥ 0.35 MPa
- 400 colours
- aggregate: 1.5 mm



Colour options

AVAL renders are available in various colours available from a customisable pallet, upon request at **IBB POLISH BUILDING WHOLESALE** depots. We recommend that all colours and textures are verified against a sample before ordering.



AVAL KT 35 mineral render (rustic finish)

The main characteristics

- reinforced with polymers
- durable and resistant to micro-cracking
- vapour permeable
- hydrophobic
- rustic texture



Description

Decorative and protective finishing of façades and internal walls. Recommended for buildings exposed to algae and fungi – situated close to clusters of greenery and water reservoirs; high pH (~12) hinders the development of biological corrosion appearing in the form of brownish-green deposit resulting in damage to the surface.

The main parameters

- consumption: from 2.5 kg/m²
- compressive strength: 1.5 ÷ 5.0 N/mm²
- high pH (~12)



AVAL KT 137 mineral render (spotted)

The main characteristics

- reinforced with polymers
- durable and resistant to micro-cracking
- vapour permeable
- hydrophobic
- spotted texture



Description

Decorative and protective finishing of façades and internal walls. Recommended for buildings exposed to algae and fungi – situated close to clusters of greenery and water reservoirs; high pH (~12) hinders the development of biological corrosion appearing in the form of brownish-green deposit resulting in damage to the surface.

The main parameters

- consumption: from 2.5 kg/m²
- compressive strength: 1.5 ÷ 5.0 N/mm²
- high pH (~12)



ATLAS CERMIT PS mineral render with sandstone texture

The main characteristics

- fine aggregate (grain size up to 1 mm)
- durable and resistant to micro-cracking
- vapour permeable
- sandstone texture



Description

Sandstone texture – provides decorative and protective finishing of façades and internal walls. Recommended for façades requiring high water vapour permeability – the porous structure of the set render ensures free flow of water vapour; it is an ideal finish for partitions like external single-layer walls of swimming pools, kitchens, drying rooms, laundries, cold stores, gymnastic halls, baths, old buildings, etc.

The main parameters

- consumption: ca. 2.0 - 2.5 kg / m²
- compressive strength: 1.5 ÷ 5.0 N/mm²
- high pH (~12)



AVAL KT 77 decorative mosaic render



Description

Creates unique colour compositions from coloured quartz aggregate – rich colour palette provides remarkable freedom at designing and execution of exhibition rooms, car salons, offices, apartments, staircases, waiting rooms, halls, hallways and façades, etc.

The main characteristics

- compositions of coloured quartz aggregates
- highly resistant to mechanical damage
- highly resistant to washing and abrasion
- for the walls of corridors, exhibition halls, offices
- for façades, plinths, fencing and columns

The main parameters

- consumption: from 3 ÷ 4 kg for 1 m²
- adhesion: ≥ 0.3 MPa
- 60 colour composition





PRODUCT					
Reference document	PN-EN 998-1:2012				
Render type	Mineral dry mixtures				
Binder	Cement				Styrene-acrylic resin
Priming mass	Cerplast/AVAL KT 16				Cerplast/AVAL KT 16
Texture	spotted/rustic	spotted	spotted	sandstone	spotted/rustic
Colours	41	1 (white)	1 (white)	1 (sandy)	655
Max. diameter of aggregate [mm]	1.5/spotted 2.0/spotted/rustic 3.0/spotted/rustic	1.5/SN-MAL 15 2.5/SN-MAL 25	2.0	1.0	1.5/spotted 2.0/spotted/rustic 3.0 rustic
Consumption [kg/m ²]	2.5 for 1.5 mm 3.0 for 2.0 mm 4.0 for 3.0 mm	2.5 for 1.5 mm 3.5 for 2.5 mm	2.8	2.0-2.5	2.5-2.8 for 1.5 mm 3.0 for 2.0 mm
Mixing proportions [l/25kg]	5.75-6.50/spotted 5.0-6.0/rustic	5.0-6.25/SN-MAL15 4.5-5.5/SN-MAL 25	6.25	5.0-5.5	
Pot life [h]	1.5	1.5	1.5	1.5	
USE					
Manual	✓	✓	✓	✓	✓
Machine	✓**	✓**		✓	



Reference document	PN-EN 15824:2010				
Render type	Dispersion ready-to-use mix				
Binder	Styrene-acrylic and silicone resin	Styrene-acrylic resin	Styrene-acrylic and silicone resin	Styrene-acrylic and silicone resin	Acrylic resin
Priming mass	Silkon ANX/AVAL KT 76	Cerplast/AVAL KT 16	Cerplast/AVAL KT 16	Silkon ANX/AVAL KT 76	Cerplast/AVAL KT 16
Texture	spotted	spotted	spotted	spotted	spotted
Colours	655	400	400	400	60
Max. diameter of aggregate [mm]	1.5	1.5/N-15 2.0/N-20	1.5	1.5	1.0-2.0
Consumption [kg/m ²]	2.5-2.8	2.5 for 1.5 mm 3.0 for 2.0 mm	2.5	2.5	3.0-5.5*
Mixing proportions [l/25kg]					
Pot life [h]					
USE					
Manual	✓	✓	✓	✓	✓
Machine					

* Apply on substrates of high absorptiveness

** Actual consumption depends on the substrate absorptiveness and the texture of painted surface. We recommend establishing the exact consumption on a test basis.

COMPARISON TABLE



FAÇADE PAINTS

AVAL KT 44 acrylic paint



Description

Recommended for surfaces exposed to pollution and high functional load – due to high abrasion resistance and low absorptiveness, it is perfect for places exposed to these factors: on facades of schools, shops, sport facilities, buildings situated along communication routes, for staircases, corridors, etc. Recommended for surfaces exposed to high thermal load – due to elasticity and high resistance to cracks and scratches, it compensates strain resulting from different heat expansion of layers beneath, e.g. present in sunlit façades.

The main characteristics

- perfectly covering and efficient
- elastic – extremely resistant to changing atmospheric conditions
- easy to clean
- for protection and decoration of façades

The main parameters

- 695 colours
- consumption: 1l of paint for ca. 7m² (on smooth surfaces)



ATLAS FASTEL NOVA hybrid paint with nanotechnology



Description

Creates surface resistant to adhesion of pollution – the paint surface is extremely consistent, microscopically smooth, due to which particles of dirt, algae and fungi spores easily lose contact with the wall and are naturally removed by rain and wind. 2 in 1 – the first paint layer primes the substrate – nanoparticle structure of the paint enables better substrate penetration – reduces its absorptiveness, strengthens it and increases the adhesion of the paint without a primer (concerns fresh plasters); it protects the final layer against contamination from the substrate.

The main characteristics

- silicone - modified
- 2 in 1 – no primer needed
- self-cleaning
- hydrophobic with PEARL EFFECT
- for protection and decoration of façades

The main parameters

- 695 colours
- consumption: ca. 1 l of paint for ca. 7-8 m² (on smooth surfaces)



AVAL KT 46 ATLAS SALTA hybrid silicone paint



Description

ATLAS SALTA paint is highly resistant to fading, UV rays action and soiling. The use of pigments of the newest generation and advanced manufacturing technology as well as pigment dosing control provide the paint with very good utilisation properties and, above all, façade colour durability.

The main characteristics

- outstanding colour durability
- well coating
- highly resistant to dirt
- does not require a primer
- low absorptiveness

The main parameters

- 400 colours
- consumption: ca. 1 l of paint for ca. 7-8 m² (on smooth surfaces)



ATLAS SALTA E acrylic paint



Description

Recommended for surfaces exposed to pollution and high functional load – due to high abrasion resistance and low absorptiveness, it is perfect for places exposed to these factors: on facades of schools, shops, sport facilities, buildings situated along communication routes, for staircases, corridors, etc.

The main characteristics

- outstanding colour durability
- perfectly coating and efficient
- highly resistant to contamination with algae
- self – cleaning ability

The main parameters

- 400 colours
- consumption: 1 l of paint for ca. 7 m² (on smooth surfaces)



COMPARISON TABLE

PRODUCT	ATLAS ARKOL E/ AVAL KT 44	ATLAS FASTEL-NOVA	ATLAS SALTA/ AVAL KT 46	ATLAS SALTA E
Reference document	Paints are covered with technical approvals for the thermal insulation systems			
Type of paint	Acrylic	Silicone modified	Silicone modified	Acrylic
Number of colours	695	695	400	400
TECHNICAL DATA				
Primer	UNI-GRUNT*	Not required	Not required	Not required
Density [kg/dm ³]	1.45	1.4	1.4	1.5
Temperature during application and substrate temperature [°C]	5-25	5-30	5-30	5-30
Drying time [h]	2-6	2-6	2-6	2-4
Next coat application after [h]	6	6	6	6
Application on fresh mineral render after min. [days]	28	5	5	28
Output from 1 litre (single application) [m ²] **	4-8	4-8	4-8	4-8
SUBSTRATE TYPE				
Mineral substrates: concrete, traditional plasters	✓	✓	✓	✓
Thin-coat mineral renders	✓	✓	✓	✓
Thin-coat acrylic render	✓	✓	✓	✓
Thin-coat acrylic-silicone render	✓	✓	✓	✓
Thin-coat silicone render		✓	✓	
Thin-coat silicone-silicate render		✓	✓	
Thin-coat silicate render		✓	✓	
FINISHING COAT FOR THERMAL INSULATION				
Insulation system with EPS/XPS	✓	✓	✓	✓
Insulation system with mineral wool		✓	✓	

* Apply on substrates of high absorptiveness

** Actual consumption depends on the substrate absorptiveness and the texture of painted surface. We recommend establishing the exact consumption on a test basis.

The Guide to Insurance for contractors

The challenges of the construction industry require contractors to look for the most adaptable insurance packages. This article is a brief guide to various options of insurance available for construction projects, from design to construction.

The risk is associated with every construction project and may vary from medium to significant. Insurance provides protection against risk for both the insured and the third party. It is required to consider all factors associated with the business or project to choose the most appropriate insurance policy. The proper choice will ensure that the cover will be sufficient in the case of the claim. Insurance is a very broad subject, and this article can be treated as an introduction.

The most common types of insurance available:

All risk insurance

It covers all risks typically associated with the construction project. It protects against physical damage to the works and site materials, unforeseen loss or damage to tools, owned or hired plant. It can be taken by the contractor or the client. Usually, it is in joint names. The project

contract specifies the requirements and who is responsible. The cover is usually provided for the construction period, but it can also include the defects liability period. The policy can be extended to include a range of additional covers such as public liability, business interruption, and equipment erection. It is sometimes referred to as 'Contract Works Insurance'.

Professional indemnity (PI) insurance

It insures against the liability arising from negligence such as breach of contractual responsibilities to execute the contract. It is required for all responsible for design and construction- architects, engineers, consultants and building contractors. The consequences of negligence on building projects can be very expensive to remedy, and insurance should provide certainty that the contractor will not be made bankrupt and should recompense to the client for the cost of making defects good. A professional indemnity policy is quite expensive with costs of premiums determined by the type of service.

Product liability insurance

It protects against liability for injury to people or damage to property, arising out of products supplied. Suppliers of equipment such as lifts, scaffolding or hired plant, may be required to maintain such insurance.

Public liability insurance

It covers liability arising from death or personal injury to third parties other than employees or for damage to third parties' property. Public liability insurance and employers' liability insurance are usually offered as one policy. It is important to note that the required level of insurance in a contract does not cap liability at that level.

Employer's liability insurance (it is the UK legal requirement)

Every business that employs the workforce is required by law to hold the Employer's liability insurance. It will help to pay compensation

if the employer is injured or ill because of the work. The Employer's Liability (Compulsory Insurance) Act 1969 states that all employers who employ workforce working in the UK have to have at least £5,000,000 employer's liability cover. It is available up to a limit of £50M.

Legal indemnity insurance

It protects the contractor against the additional costs arising while dealing with the legal matters, for instance, costs of complying with planning permissions, resolving the dispute, etc.

The following types of Bonds are available:

- Performance - Retention
- Advance Payment
- Duty Deferment/Customs
- Outsourcing
- Pension
- Restoration
- Road & Sewer
- Rural Payments Agency Guarantees
- Deferred Consideration

Latent defects insurance

It is a policy cover for new buildings. It protects the owner against the cost of remedying the structure of a building, due to a defect. It is the fact that faults and defects occur in construction projects and often are not detected until few years after completion.

Such cover usually has to be arranged in advance and last for ten years from the project completion date. Some policies also provide for the loss of rent, loss of profit or the cost of working from/ living in alternative premises. Collateral warranties are often used instead of latent defects insurance, or another way round.

Collateral warranties

A collateral warranty is a legal agreement that imposes an extended duty of care and larger liability on parties involved. It also provides for the duty of care to be extended to a third party that is not involved in the original contract. For instance, the existence of a collateral warranty enables the developer to create a contractual obligation between architect and occupier. Collateral warranties might be required by the nature of the contract to be obtained by the main contractor from sub-contractors. Moreover, collateral warranties allow a third party, for instance, a bank to ensure that the project is completed if the client becomes insolvent. JCT provides standard forms of collateral warranties.

Integrated project insurance (IPI)

It collectively insures all parties engaged in the project- architect, contractor, client, etc. It is an innovative insurance solution that replaces the professional indemnity insurance and collateral warranties. The cost of IPI is fixed at 2.5% of the project cost. The IPI policy comprises All Risks, Third Party Liability, Delay in Completion, Financial Loss cover, Defects cover.

What is JCT (Clause) 21.2.1 Insurance?

This is a cover against client's personal liability for damage to the property of the third party as a result of client's or contractors' negligence.

JCT 21.2.1. Insurance cover protects a client and contractor against expense, liability, loss, claim or legal costs which client may face due to injury or damage to any person or property. It may be caused by collapse, subsidence, vibration, weakening or removal of support or lowering of groundwater due to building works that were undertaken on the client's behalf. It is most common with risky works like those involving excavation, piling, demolition, underpinning, etc.

All contractors, architects, consulting engineers engaged in a building project should hold Public Liability Insurance to cover the risk of a claim being made against them for injury to a third party or damage to third party property arising from the negligence of the contractor or other party engaged during the project life. However, in the case when the negligence cannot be proven and the contractor cannot be made responsible, the Public Liability cover will not be efficient and as a consequence, the client could face substantial financial costs. JCT 21.2.1 Insurance ensures that client is secured in such scenario.

This clause is optional and in most cases will be requested to be put in place by the consulting surveyor or architect. The JCT contract may oblige the contractor to arrange a joint names JCT 21.2.1 insurance policy with the intention to protect the client, what means that the contractor will be responsible for paying the premium. *It can also be referred to as JCT 6.5.1.

To summarize, there is a legal requirement in the UK for every employer to hold the employer liability insurance. Moreover, every builder - a limited company, self-employed or employed, have to hold the adequate insurance policy to protect while providing services. It's important to check carefully the project contract documents to choose the sufficient insurance cover. The insurance broker can help to assess the risks and select the policy to cover main exposures and meet all contractual obligations.



The Guide to Bricklaying



Bricklaying is one of the oldest profession in the world. It requires some time and skills to master. The bricklayer works internally and externally, in all weather conditions. This trade requires the ability to understand the specification and interpret drawings, measure and set out, construct and finish to a high standard.

Preparations

Bricks/blocks can be laid their long side so called stretcher face or their short side called header face. The way they are laid in the wall structure is called a bond. Most bricks or blocks bonds are to ensure the strength of the wall, so joints are always staggered between each course. There are various bonds but most common are stretcher, English or Flemish bond. Laying bricks or blocks in line with the stretcher bond creates the single-skin wall. Other patterns create the thick double-skin wall. Bond is important for the wall corners. If bricks or blocks are not laid in the correct pattern, the wall will be weak. For instance, pillars or piers are often

used not only as a decoration but also to strengthen single-skin walls over 400mm in height.

Bricks - the main components of the masonry are bricks, blocks and stone. A wall may be built from only one material or few of them. Many types of bricks are available in terms of colour, composition and usage.

- Common bricks - clay based used for fence walls
- Facing bricks - both sides of brick have good finish
- Engineering bricks - very dense, made of clay, used for extra strength and resistance

- Calcium silicate - made from lime and sand in variety of colours
- Fire - used in fireplaces, resistant to high temperatures
- Concrete - made of concrete in various textures and colours
- Air - used for ventilation purposes

Bricks are made in various sizes with the most common of 215 x 102.5 x 65mm. They are available in various design too- solid, cored, faced, speciality.

Blocks - used commonly on an exterior wall for render and plaster, or on an internal wall for a dry lining. Sizes vary. On the market available are rectangular concrete blocks, thermal insula-

tion blocks, concrete with a cavity or faced building blocks.

Estimating the quantities - to calculate a number of bricks or blocks required the easiest way is to measure the surface required and divide by the nominal size of the chosen brick or block (nominal size allows for mortar joints). Bricks measure 65mm x 215 mm plus allow for a 10mm mortar joint.

Mixing concrete - it is very important not to make it to wet or to dry. The best is to use a concrete mixer. To estimate the amount of the concrete multiply the depth by the area. Generally to lay 100 bricks with general-purpose mortar there

will be required approximately 25kg of cement, 100kg of building sand and 10kg of lime. Do not use mortar two hours after mixing as its adhesive features will diminish. Always stick to one proportion ratio for the whole project, to avoid concrete drying at different shades.

Proportions

Cement - it is an adhesive in a mortar mix which binds all components and dries to a hard finish.

Lime - cement contains lime but adding more makes mortar easier to work with and less likely to crack. Use lime in putty for traditional building mortar or in powder for cement-based mortar.

MIX	USES	CEMENT	PLASTICIZER OR LIME	BUILDING SAND	COARSE AGGREGATE	BALLAST	CONSISTENCY
General purpose mortar	Laying bricks or blocks	1	1	4			Should stick to a trowel

Plasticizer - makes mortar easier to work with and improves its adhesion, it is used as an equivalent to lime. Comes as a liquid. Nowadays more commonly used than lime.

Building sand - fine textured sand.

The tools required to bricklaying include a trowel, a spirit level, a jointing bar, hammer, a tape measure, line and pins and a soft brush. Trowels are most important for bricklayers and there is a brick trowel, gauging trowel or pointing trowel to choose. The reshaping of bricks can be done with a rubber mallet. Brick hammer is used to chip away sections of masonry.

Building a wall

We can distinguish between:

Solid wall (brick or block) - it is a wall constructed of one skin of masonry which can consist of brick or blockwork and does not include a cavity between the interior and exterior.

Cavity wall (brick or block) - it is a wall constructed of brick or blockwork and does not include a cavity.

Technique

This step by step guide is generally focused on the bricklaying, but the same technique can be used for laying blocks.

Firstly it is necessary to dry line the first row of bricks allowing for mortar joints of 10 mm. The gauging rod allows keeping the size of mortar joint consistent. Bricks are laid flat on the ground one on the other, stretcher -face up. A gap of 10mm is left between each brick to allow for the mortar joint. The position of each mortar joint can be eas-

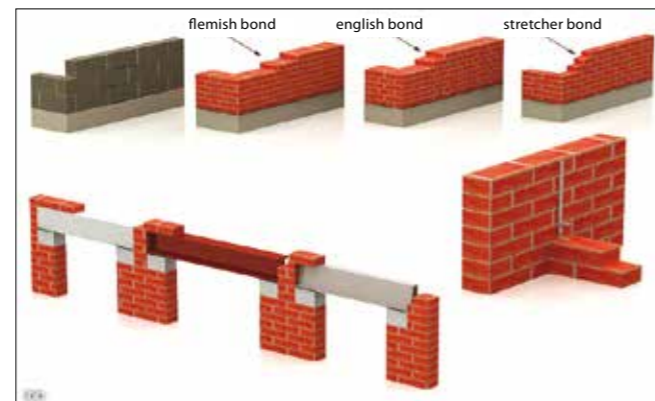


ily marked by using the gauging rod. To set up a levelled brick wall it is best to wrap string around a brick at each end of the course. First course on the foundation is laid with the engineering bricks to ensure the strength of the wall. Bricks during laying can be moist but not wet.

Lay a first bricks at the start of the first course on the 10mm bed of mortar applied on the foundation. With a trowel create a v shaped trench and make sure the mortar is evenly spread. Use a spirit level to ensure brick alignment with the string lines. Apply mortar to the end of the next brick and position it on the mortar. The half bond is when each brick covers the brick below halfway along its length. Press with pressure if required to level bricks and cut away the excess of mortar. Continue along

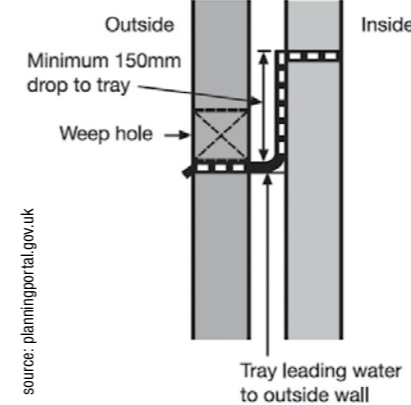
the course by positioning three bricks at the time and cleaning the joints. Remove the nails with lines when the first course is completed. In the next step start building up at the end of the wall what will allow to infill the remaining bricks later. To build the corner it is necessary to set up the square guide line for corner and ensure it is at the 90 degrees with the bond correctly done. In Strecher bond turn corner using the whole brick, whilst for English and Flemish bonds so called queen closer is required- bricks cut in half length.

Apply mortar on the trowel and slide it onto the bricks. Ensure the mortar is laid on the central line of the brick course. It should be applied to the end of the brick too it is so called buttering. Position the brick, press it down and side against the bricks



Cavity wall

Solid wall (brick or block)



below and on the same level. Use the handle of the trowel or rubber hammer to properly fit the brick into correct position. Remove excess of mortar from the brick with the edge of the trowel. Continue this while checking if each brick is aligned with the string line and brick course. At the end fill any areas of missing mortar in the wall and make the joints good when the mortar is firm. Brick jointer can be used to create pattern in joints, for instance v shaped.

The waterproof course DPC is laid approximately 30cm above the ground level between the brick course. It is used to stop rising damp up the walls. When applied mortar can be both under and above the DPC, however most of bricklayers lay the sheet of DPC directly onto the bricks and cover it with mortar to avoid the thick joint. While building the cavity wall it is also possible to install damp proof membrane DPM on DPC. There is no need to put mortar in between DPC and DPM, apply approx 7mm on top and continue with the bricklaying.



To sum up, cavity trays prevent moisture that is going downwards from being carried to the inner leaf, whilst damp-proof courses is used to prevent rising damp. Weep holes are installed in cavity walls for ventilation and drainage purposes as bricks and blocks tend to absorb and store water. Weep holes are installed in the outer skin of cavity walls. Wall ties are metal bars that are position in the cavity and which join the internal and external walls of bricks or blockwork. Ties main feature is to prevent water transfer from the outer to the inner leaf of the wall.

The cavity width and the width of each wall determine the appropriate spacing of the wall ties which varies from a 900mm x 450mm staggered pattern to 450mm x 450mm for instance around windows. As a minimum for a standard brick cavity wall, a 50mm penetration of the ties into each leaf is suggested.



IMPORTANT TO REMEMBER

- ✓ **Typical mortar joint is 10mm**
- ✓ **Brick** is 65mm height and 75mm with a mortar joint
- ✓ **Brickwork gauge** – allows for the consistent joints. Two courses of bricks will be 150mm, 4 courses will be 300mm.
- ✓ **Avoid laying bricks** in rain as it will stain your bricks with mortar
- ✓ **Avoid laying bricks in low temperatures.** Frost can make the mortar cracking. It has to be at least 2 Celsius degrees to start bricklaying
- ✓ **Only mix mortar** sufficient for one hour of bricklaying.
- ✓ **Never add water to dry/stiff mortar,** mix again and always stick to same mixing proportion for one project
- ✓ **While spreading** create trench and use a little bit of mortar at a time to avoid it to become stiff
- ✓ **To cut bricks** use the angle grinder or stone saw- remember to use safety gloves and goggles.
- ✓ **Colouring agents can be added** to mortar to achieve the particular finish



Team Northumbria - IBB Polonia 2-3
(18:25, 25:22, 25:20, 20:25, 12:15)

IBB Polonia won The National Cup!

Volleyball IBB Polonia defeated Team Northumbria and won the National Cup. The game was played at the National Volleyball Centre in Kettering.

This season, volleyball players from London and Newcastle competed twice. In the first match, in Brentford, the hosts, IBB Polonia, won this encounter 3-0. The game was a great volleyball event and the struggles of athletes were watched live by over 400 people which is a record in attendance for a league match in England. The next match was

held in Newcastle. This meeting was absolutely fierce and it was unknown until the very end who would win. This time the IBB Polonia had to swallow the bitterness of defeat, losing 2-3.

Full of emotions and sudden twists in action was also the final meeting for the Cup of England. To resolve the clash of two best volleyball teams in

the UK there was a need for a tie break, in which the metanees of Vangelis Koutouleas proved their extreme balance and determination and it was them who celebrated the victory.

Volleyball players from London, traditionally, were supported by a group of several dozens of fans from the Official Fan Club.



After the match, they said:

Vangelis Koutouleas, IBB Polonia coach:

We won and we are therefore very pleased. All our work this season was committed to final scores that means the aim was championship of England. One part of the plan has been completed, now we are beginning to work on the second part. Ahead of us are matches in the semi-final play-off. We invite all our volleyball fans to cheer!

Bartek Kisielewicz captain IBB Polonia:

Winning the Cup is a wonderful feeling. This is my first national cup in volleyball career. The game was very competitive, full of emotions, and to the end it was kept in suspense. Thank you fans for cheering. Our faithful fans were just as another player on the court. They are amazing people! I also thank my team-mates, who put a lot of effort to win, not only during the game, but also in training.

Bartek Łuszcz, the chairman of the IBB Polonia:

Winning the Cup is the next step we have made this season, as we won some crucial games. We are pleased with this success, it is the fruit of the hard work of all the people and companies connected with the Polish community, coaches, players, and our amazing fans. Thank you all! Now, we are facing a very important past - to advance to the final meeting for the championship of England.

There are IBB Polonia matches in the semi-final play-off entertainment volleyball League. Matches will be held on 23 and 24 April in Brentford. Details and booking tickets on www.polonia.eventbrite.co.uk.

8

The Parent's thoughts

How many Backhands are there?

Backhand following forehand is the second most frequently applied tennis shot. Its definition is trivial – that is a shot from the left part of the body in case of a right-handed player and on the other way round.

It is generally weaker than forehand so it is really a defensive tool although down-the-line shot must be winning otherwise we can be exposed to an opponent's forehand counterattack. Generally the opponent keeps hitting to your backhand not to give you the chance for the forehand attack (it does not refer to a left-handed opponent!).

However, the strategy mentioned above requires a few key elements to use:

- Backhand must be deep enough to make the opponent impossible to move forward and attack with down-the-line shot.
- It should be also much angular, throwing for the same reason as mentioned above; a restriction has to be added concerning game with a left-handed player – it is forehand for such a player

and if he/ she manages to strike the ball, he/she uses a more angular counterattack towards our backhand, which ends unsuccessfully

- It has to be fast and flat to make the opponent impossible to exchange for reverse forehand

In order to perform a good backhand hit, you need to stick to a few rules, i.e.

- You need to keep watching the possibly quick position preparation to hit, e.g. with swing
- In case of a low ball, you need to lower the position quickly, stepped towards the ball and swing upward with hitting
- In case of a higher ball or decision to attack with backhand, you need to move forward and use the body, rotate the

trunk and shoulder to place the ball in the opponent's court part.

- You need to maintain spin of the ball through watching a low position of the body, arms, hand palms before hitting and finishing the shooting with two hands from behind the head.

Backhand can be two-handed or one-handed. If one of them is used, the other one is not. Have you ever thought of the reason? Now I know. It looks as if you ate soup with one hand, and then with the other one. It does not make sense. You had better train other techniques.

Our typology of backhand hits is included only a two-handed version. Since the tennis game performed by Pancho Segura, Bjorn Borg, Jimmy Connors and Chris Evert it has become a dominant version in the professional tour.

1. backhand topspin – hit with progressing spin, performed best when the ball is dropping with hitting from downwards; the spin can be made larger or smaller and by means of a number of ways; this is the spin trained which is a key to correctness and regularity of his hit; this is the spin which allows for hit acceleration keeping the speed, provides the court still with the ball in the court; in order to play well the spinning has to be trained but the key is to realize that putting spin on the slow, medium, quick and very quick balls belong to totally different hits; the key is to understand that while hitting heavily the contact of the racket tension with the ball is very short and putting the spin becomes more difficult; i.a. as a frequent result of hit acceleration is throwing the ball outside the court – there wasn't the spin!

A ball in the net is another frequent effect of the improper spin through quick hitting; that is also a spin mistake, a hand palm was closed too quickly, the hit was broken and instead of the spin there was the ball in the net.

Backhand spin hit can be performed in the natural closed position or in the more forced defensive position, so-called open; one of the positions taken depends on the time which gives us the ball going towards us; modern tennis does not give us much time, it does shorten it thus you need to focus on hits performed with the open position; it is much easier that such hits are shown off by a current leader Novak Djokovic.

2. two-handed flat backhand with closing the ball with the shoulder – “walking step” – this is a hit with higher ball placing within the serve line; it requires to move forward so it does not affect the ball thrown heavily, a tennis player's run must be at least diagonal, not only along the baseline; frankly, this hit is not usually flat; if the ball is hit upward successfully, the position of the racket head must close its track downwards and the shoulder must support the arms well enough to obtain such an effect; if you do not catch the ball in the high position

and it starts to drop you need to perform the hit from downwards and provide the safety with spin hitting; in case of so-called “passing via the ball” existing here, the technique itself is more significant than how quickly hand palms hit; moving towards causes the opponent to have less time to react and energy of the ball is large enough to give an effect and requires controlling rather than excessive dynamics of arms.

3. backhand “hopping step” – is the equivalent of the “walking step” mentioned above but with a low ball; it requires to decide on moving forward and “passing via the ball”, in order to increase the spin you need to jump the moment you hit; the jump is started with a front foot and finished with the same foot; it requires a quick-making-decision training;

If statistically, a large number of balls are spin hit, it is difficult to select the ball for such an at-



tack during the game; it requires creativity, bravery and experience; there is also one more reason why I encourage to use this technique, I guess, usually taken into consideration rarely by tennis players coaches – this hit looks nice for spectators; It is said "The match result remains for statistics and historians but people bear game style in their minds".

4. backhand slice – a very popular shot, mainly used for:

- rhythm changes in the exchange
- preparations to play close to the net
- as a defensive hit

Backhand slice puts the backspin on the ball. In order to perform it properly, the racket should be held high and its head shouldn't be open in the point of hitting, i.e. it should be more vertically. A horizontal position is more suitable for drop shot.

It is better not to let the opponent know about our bad backhand slice as he/she will exhaust us using this technique. This shot is an excellent tool on the fast surface, like the one covered by grass; the low and flat hit makes the ball difficult to be received.

5. karaoke – that is a "passing via the ball" hit with the run forward with crossed steps, this is why it is called karaoke; that is almost the dance; hit against a slow, low ball requires a longer time; if you wish to play this way you need to enjoy playing tennis, be easy-going and have imagination; it is like "freestyle" in skiing.

6. backhand drop shot – a surprising hit with slashing the ball and backspin; the racket head is more open; the larger the spin the better effect, otherwise the ball goes out or escape from the court on the opponent's side; both the moment of hitting and its potential long disguise are very important; you can not perform it in the hard surface as the ball bounces too high, however there are no rules; It is recommend playing tennis with this technique against baseliners and players with heavy body-weight to bring them into the zone of anaerobic work.

7. backhand volley – the hit used more frequently than forehand volley; backhand protects your body if you are close to the net; similarly to forehand volley it should be aggressive with the blockage of the shoulder, elbow and hand palm and possibly short; you always need to move forward as an attacker; certainly, if the ball drops below the net this hit becomes rather defensive where the hand palm feel is a priority.

8. backhand stop volley – shortage of the ball flight when opponent is performing passing shot and his position is further from the net.

9. backhand drive volley – hit from the air; it is better to perform this hit instead of letting the ball bounce too high, lose its energy and give time to the opponent to position better; it must be moderately aggressive with a lot of spin.

10. backhand down the line – this is more tactics rather than technique as this hit can be performed with a few techniques mentioned above but I pick them out in relation to regular training; this hit means the direction change connected with the rhythm changes; if it is trained wrongly, it will definitely not help the player performing; it shouldn't take place along running of the baseline, it rather requires the run with the vector towards the net; it can be certainly performed with the parallel run towards the net but in this case the hit can be like a lottery; controlling the hit with the shoulders and maintaining the back hit direction towards the run direction is a potential risk and this is why the least trained;

11. backhand passing shot – this tactics definitely takes place when the opponent moves towards the net; the hit can be performed with different ways, however, you need to train watching empty corridors and ignoring the opponent; you cannot get into panic but you need to eliminate influence of the opponent's aggression on the hit quality; a general rule says you need to hit the ball low just over the net and not hit it in the direction from which the opponent runs, unless we plan to attack the opponent's body, which is permissible but not elegant.

12. backhand lob topspin – typical defensive shot; backhand lob takes place in two situations; the first one when the opponent has moved towards the net far enough, e.g. after our first passing shot defended, and the other situation concerns reception of the deeply lobbed ball and playing back the same; backhand lob is more difficult to play than forehand lob; in both cases spin makes it possible for us to control; you can certainly hit the ball flatly, if it couldn't be spinned or a player couldn't change the racket handle; in such a case the hit feel becomes more important; topspin lob requires calmness and controlling, which is difficult during the drama of the game.

13. backhand topspin from a shortened low ball it can take place after the opponent is hit with slice shot or slight ball pass for rhythm change; here the key to success is to run quickly towards it as well as possibly well balanced position and spin control; the ball must be "twisted" above the net; alternatively, you can perform hopping step but you need to have two techniques trained; it is actually a topspin hit, but considering the nature of the ball placing within the service line and clear share of fast run towards it, they have to be trained separately.

14. backhand half-volley – a defensive hit of the ball received close to the feet on the backhand side; only good direction can protect from final placing the ball by the opponent or it can be the "grinder"

15. "grinder" is my expression for fast overtaking hit against a point of the ball's bouncing selected intuitively; it requires training and courage; without training of brain-nervous-muscular reaction this hit is infeasible unless uncontrollable, unconditional move.

16. return slice backhand – if you are a player returning aggressively the opponent's serve, moving far towards the court field, you can expect attacks towards backhand and also the body; backhand slice is then one of the hits to per-

form; smashing the ball with the backspin close to the service line with the usage of the ball energy is a master's play; no wonder, only Roger Federer plays like this.

17. of bounce shot - aggressive, attacking hit in the point of the ball's bouncing specified intuitively; in reality it is always a hit on the rising ball; contrary to all other hits, a player does not wait for the ball bounce to hit but he/she perform the hit intuitively; you need to train it long and regularly in order to do it effectively; for now there are no volunteers.

That is in short all about techniques as well

as backhand tactics. Similarly as in the case of forehand this typology results from necessity of training them separately.

There are two frequent drawbacks in the usage of backhand technique among young tennis practitioners and poorly trained players.

The first one concerns performing drop shot improperly.

This is a very important and difficult hit as it changes the game rhythm, which is generally recommended. Unfortunately, it is often used in improper time. It is clearly seen that this is the ball not the player decides on performing the hit. Actually, sometimes the ball itself touches the racket so well that you wish to perform drop shot. Unfor-

The match result remains for statistics and historians but people bear game style in their minds



tunately, the key is here the play in the proper time in relation to the opponent's position.

The opponent should be forced to move outside the court and expect the attack to gain the surprising effect.

To perform a tactically proper drop shot the ball should be prepared like attacking not as for drop shot to maintain disguise and gain the surprising effect. Masking an attacking hit should take as long as possible.

After all, prolonging masking of the attack improves drop shot quality as it forces later a very fast smash, which gives much required back spin.

Sometimes a player is seen touching his/her head with hands wishing to say "What did I do?".

Actually, then „the ball decided” about this hit not the tennis player.

The second backhand drawback is so-called "lazy slice backhand". Slice backhand is an excellent, difficult and irreplaceable hit. Similarly to drop shot it has the aim in the form of rhythm change, lowering the ball hit on the opponent's side or it is simply defensive.

When it is performed instead of spin backhand with the low approach towards the feet, it becomes the delayed substitutable hit and instead of the pressure affecting the opponent, he/she is given a chance to attack or at best "resume rally".

This lazy slice backhand can be easily identified by improper time of its performance, inlined position and sticking out his/her hand wishing to reach the ball. Due to the threat of usage of "lazy backhand" instead of spin backhand it is better to train slice and spin separately, not in the same drill sessions.

I have already mentioned that tennis is the art of

choices. I am going further this subject by means of backhand usage.

We classified a number of backhands and almost thirty forehands, however, there could be more classifications of them with regard to hit technique, biomechanics, body position when hitting or runs, spins, etc. I think, I may exaggerate, you can win using only one good technique Or only a few, e.g. serve and good forehand topspin.

I agree with it. That is the matter of possibilities of techniques trained. That is good to have them all but if we cannot manage to train them all and then play under pressure they will bring more losses than benefits. This is another example illustrates the art of choice. What is the conclusion then? It is better for you to look at yourself or the player trained, consider, analyze pre-dispositions and fit training of selected techniques.

Training all the techniques, in relation to necessity of repeatability is impossible. Another comment on training. Preparatory exercises are of vital important,

not only training how to play. Here are some exercises for backhands:

1. increasing the share of the hand which is not dominant, i.e. in case of a right-handed player it is a left hand; left hand playing forehand for some time will strength its share in two-handed backhand
2. increasing the share of the trunk rotation and strong stepping forward will be improved by throwing a medicine ball
3. proper hitting from the lower position will be exercised with slight bouncing the ball passed, with concentration on lifting legs and at the same time on throwing with hands along with moving from the net towards the baseline.

Irreplaceable statistics will help us to assess the extent of training, which will be discussed in the next chapter.



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 sales@ibb.pl

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 0121 356 8655
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London Eagles FC – Team U12B

The participation of our team in the Harrow League 2015/16 season was under big question mark. During the last season, team U11A successfully competed in Div.2 Harrow League. Unfortunately, few of the core players left the squad and team staff announced recruitment. Also, we decided to move them to Div. 5 which allowed us to slowly introduce new players to the squad.

Team left: David Sykała -Hanwell Town Fc, Mateusz Surmacz -Hanwell Town Fc, Jakub Klebeniuk - Hanwell FC, Karol Janik -Hanwell FC, Patryk Pielech, Nikita Rybalko, Daniel Staszak.

Team joined: Darek Uchman, Konrad Kotlowski, Kacper Turski, Krystian Kowalczyk, Adrian Salwa, Sebastian Tos Hałas, Kacper Czarny for whom this is the first contact with football competitions and Damian Carr who played for Pinner Utd. and TFA Tottridge Fc before. Also during the season, Jakub Klebeniuk returned from Hanwel FC .

We began season 2015/16 on 13th September in the first round of the Middlesex County FA Youth Cups. Unfortunately, we were assigned a very demanding rival from the Primera Division - Hanwell Town A. Despite a very ambitious game we lost 8-4. We did not have experience in confrontation with such a strong opponents. As it turned out it was our first and last defeat in the autumn round. The first

league match that we played on 20th September at St. Josephs B meant to bring answers on how we look in comparison to rivals form Division 5. The level of the meeting did not impress. The 5-4 victory gave us the first points of the season but we had a lot of work ahead in introducing new players to the team and practically building new squad.

Regular classes associated with boys hard work during trainings as well as parents' involvement in the preparation of the league matches helped create the team that successfully compete in Harrow League competitions. We still have a lot of work to do but the first step has been taken.

In total, U12 B team played so far 14 league matches without suffering defeat, goal difference is 91 scored goals and 25 lost. Also „Twelve B” advanced to the top 16 - League Challenge Cup by scoring 29 goals and losing 10. Unfortunately, in quarter-final once again we played with top team

Team	P	W	D	L	F	A	PTS
1 F05 London Eagle B	14	14	0	0	91	25	42
2 F10 St Josephs B	16	9	3	4	46	29	30
3 F03 Harrow St Mary	18	10	0	8	49	38	30
4 F06 Old Actonian B	16	7	5	4	35	39	26
5 F08 Pitshanger C	17	7	4	6	61	50	25
6 F11 TFA Tottrdge C	18	7	2	9	38	62	23
7 F09 Pitshanger D	14	6	4	4	36	31	22
8 F07 Pinner Utd B	15	6	1	8	35	34	19
9 F01 Brentford Utd	15	4	1	10	37	48	13
10 F02 Football S Acd	19	3	3	13	25	54	12
11 F04 Ickenham Yth B	14	3	1	10	22	65	10

Ruislip Rangers and the match ended 3-7 with our defeat. Goal difference in season 2015/16: 120 scored goals, 35 lost with still 6 games to the end of league.

*Andrzej Blasik
Chairman London Eagles F.C.*

The best scorers of the team:

- Jakub Welna - 41 goals
- Oliwier Szafer - 36 goals
- Dawid Krzewinski - 26 goals

This season team squad:

- Captain** - Dawid Krzewinski
- Goalkeeper** - Beniamin Vogel
- Defenders** - Dawid Siemieniuk, Jakub Klebeniuk, Gabriel Toczek, Adrian Salwa, Kacper Czarny
- Midfielders** - Michal Szuba, Konrad Kotlowski, Kacper Turski, Sebastian Tos Halas, Krystian Kowalczyk, Darek Uchman, Damian Carr
- Forwards** - Oliwier Szafer, Jakub Welna, Dawid Krzewinski

Team staff:

- Trainers: Artur Majchrowski, Bartek Welna
- Team Leader: Danuta Vogel

NEWS 1

Barcelona lost third game in the row

Just over a month ago, Barcelona had a nine point lead at the top of the table. Right now after losing three games in a row for the first time since 2003, Atletico Madrid is on the same level and Real Madrid just one point away.

On 9th of April Barcelona lost to Real Sociedad 10. They are now out of the Champions League after losing 20 to Atletico Madrid. On 17th of April they lost again, 12 to Valencia despite Messi scoring his 500th goal. They missed many chances to score even during the second half when they had plenty of possession.



NEWS 2

Liverpool remarkable comeback

Liverpool - Borussia Dortmund 4 : 3, Divock Origi 48, Henrikh Mkhitarayan 5, Phillippe Coutinho 66, Pierre Emerick Aubameyang 9, Mamadou Sakho 78, Marci Reus 57, Dejan Lovren 90 +0:50.

After only 10 minutes of game, Liverpool was losing 0-2. Dortmund missed many chances to score and the hosts struggled with their attacking threat. The beginning of second half gave the Liverpool hope after Divock Origi scored contact goal. In 57 Marco Reus slipped Dortmund 3-1 lead. It seemed like it was the end of the game as Liverpool needed three goals to progress in just 25 minutes left. Phillippe Coutinho's shot from 16 meters and then Mamadou Sakho goal brought them back to game. Dejan Lovren scored the winning goal in 91st minute.



NEWS 3

Polish Cup finals

On 2nd of May, Lech Poznan will be the host for the Polish Cup finals with Legia Warszawa. The game will take place at National Stadium in Warsaw at 4pm local time. Tickets are available to buy from 13th of April. The package include ticket for the match and unique T-shirt to make the atmosphere at the stadium even more interesting. Mr Adam Nawalka said that the game is very important also from the training point of view and he hopes to see few representatives from Poland national team on the field.



CALKURO

240x		2-		4-	
		12x	13+	1-	
60x					
12x		14+			4
	3÷	11+		5	30x
		3			

6x		4÷	1-
2			
13+	1	6+	

SQUARE SHUFFLE

Take one letter from each colour to make up 4 four-letter words that are all tools.

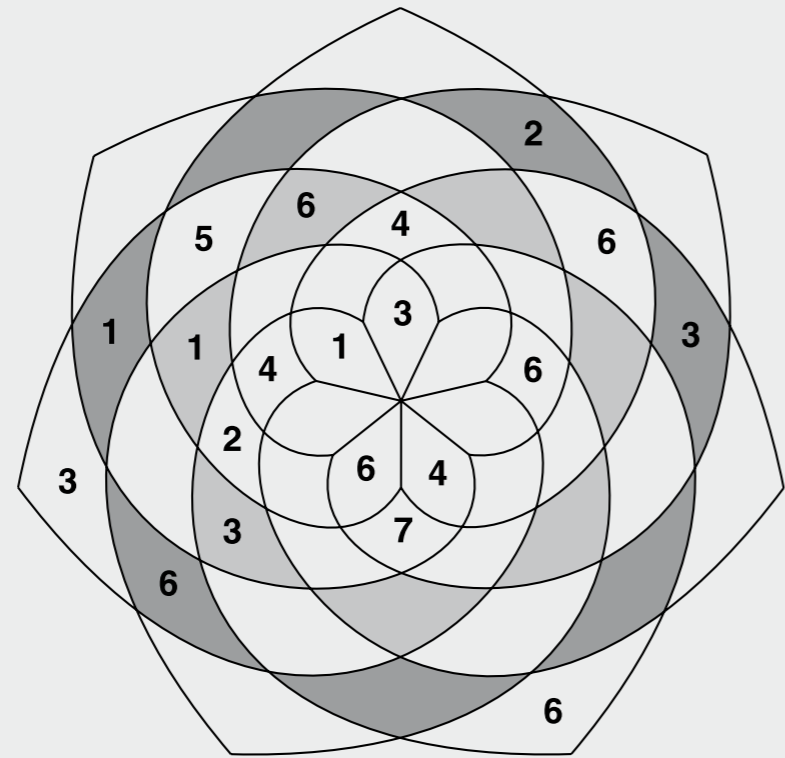
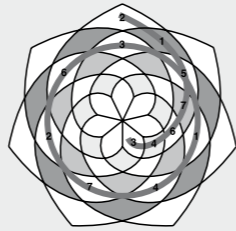
We have given you the first letter to get you started. Every letter must be used once only.

1.	F				2.
3.	A	J	F	F	A
	F	D	L	A	I
	Z	R	C	O	
	E	E	K	K	
4.	J				

LOTUS

To solve the Lotus Logic puzzle:

- Each arc must contain the numbers 1 - 7.
- Each ring of shaded petals must contain the numbers 1 - 7.
- Each ring of white petals must contain the numbers 1 - 7.
- No number can be repeated in any arc or ring.



TOP WORDS

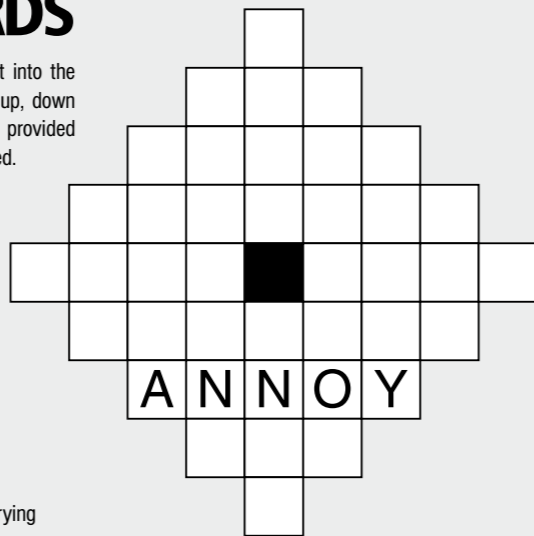
Fit all the words from the list into the grid. Words may run across, up, down or even backwards. We have provided the first word to get you started.

3 LETTERS:
Cog, Fig, Mob, Van

4 LETTERS:
Babe, Bond, Coat, Pity

5 LETTERS:
Annoy, Antic, Cabin, Yearn

7 LETTERS:
Bending, Contain, Firearm, Varying



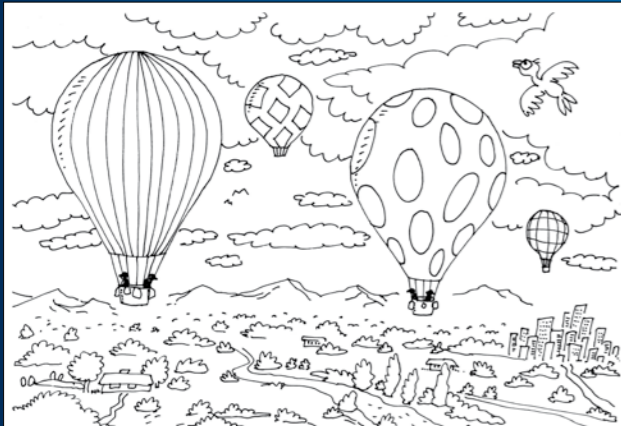
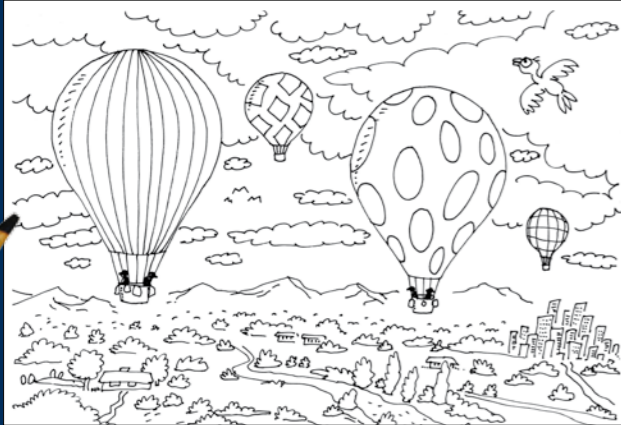
Crossword with IBB



Laugh with IBB

by Szczepan Sadurski

Find 10 differences ...



- Why women have shorter feet than men?
- To stand closer to the sink.

- What is the name of a thing which irrevocably destroys around 14,3% of your life?
- Monday.

A man comes to the doctor with a thick file full of examination results. The doctor takes a long time to go through them and finally says:
- I have some bad news and some good news for you.
- Well, I would like to hear the bad news first.
- You have prostate cancer.
- Oh my!... and the good news?
- It will tickle your bones!

Two friends talking:
- My wife took up driving lessons. She must be crazy to think I'll let her drive my car.
- You think she's crazy! Mine's going to a sanatorium and I saw her packing 10 condoms. She thinks I'll be going all the way to bang her?!

Special forces' plane, right before mission. The captain gives last briefing over the drop zone:
- Before you jump, remember. As soon as you're out of the plane, pull the right handle, it opens your main chute. If it doesn't, pull the left handle - this should deploy the secondary. There are bikes waiting for you at the landing zone, take them and get to D-7.
The first commando jumps out. Pulls the right handle - nothing. Left handle - nothing. He keeps falling and thinks:
- Bloody great! The bikes aren't probably there either.

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.

A pharmaceutical company has just developed a pill for relieving the feeling of hunger for a whole day. It contains a mixture of African herbs, meat-and-bone meal and some other ingredients. It weighs 3 pounds.

Illustrations by Szczepan Sadurski

Polish Happy Skyscraper Conquers The World

Polish satirist by some is called jokingly a developer. Because for the last several years he has been building the remarkable skyscrapers all over the world. They have the size of the toothpaste box, and soon there will be 500 of them.



Agra (India)



Barcelona (Spain)



Cracow (Poland)

The first Happy Skyscraper was built in New York in October 2012. Since no one here is wondering about ever higher skyscrapers, **Szczepan Sadurski** decided to build... the smallest skyscraper in Manhattan. A few photos at the famous Chrysler Building took a few minutes and supposed to be a one-time happening. However, after he returned to Poland, he decided to continue the fun. A specially designed model the "skyscraper" ready to be cut out with scissors and glued, was advertised on the Internet and soon people joined the fun, who were taking pictures of a little traveler in public places - in front of well-known buildings, castles, bridges and stadiums, city streets, next to the volcanoes...

Many people do not understand why a group of people from different countries is having fun with shooting pictures of "smiling" box called Happy Skyscraper. Why, instead of like many others who are taking a selfie, every trip they take paper "skyscraper" and capture it in the pictures in the following places in the world. Why not to take pictures of a teddy bear or some doll? Research shows that the

abstract humor (because taking pictures of a small paper skyscraper belongs to the abstract artistic activities), is understood by 5 to 8 percent of the human population. That is why Polish satirist realizes that invented by him play will be attended only by the elite. People with a particular sense of humor who do not ask, "What is the Happy Skyscraper for", but just want to participate in a unique artistic project.

But no matter what kind of sense of humor someone has, Happy Skyscraper, however, has a deeper message that not everyone at first understands. It is to give the world the joy and smile. Skyscraper out of paper, is a symbol of an international organization called the Good Humor Party (in Polish: Partia Dobrego Humoru, hence the logo of skyscraper is represented by the letters PDH). It is invented and managed by already mentioned Szczepan Sadurski (b. 1965), Polish satirist, who with his actions always tries to cheer up others. In his youth he cheered classmates and then published humorous drawings in the press, and later

founded the publishing house promoting humorous magazines (over 21 years in Poland appeared more than 750 publications). In recent years, Sadurski cheered up to 40 thousand people, whom he drew a funny portraits or caricatures. He drew them in Europe, Australia, and the New York newspaper called him "one of the fastest cartoonists of the world." And because he travels a lot, he invented the Happy Skyscraper.

Smiling globetrotter out of paper gives us not only a smile, but also knowledge. Those who are tracking its travels, learn about the history of places, which were photographed, get to know new cities, countries, distant islands. Those involved in the fun with joy return to their childhood and are gluing own paper Happy Skyscraper and deepen their photographic skills. Other cartoonists from different countries had joined the fun, creating funny drawings of Happy Skyscraper in the lead role.

Small globetrotter every now and then visits another places around the globe. Maybe, one day it will begin to conquer the cosmos?...



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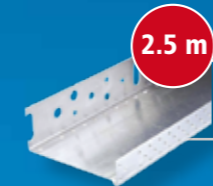
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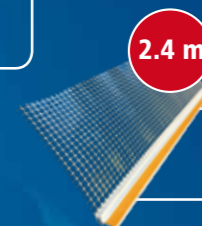
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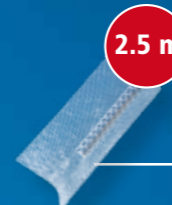
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