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BUILDER MAGAZINE

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ISSUE EXTRA



The Guide to **GEL FLEXIBLE ADHESIVE**

Classic, Plus & Premium

Passive House Institute

How to reach the Passivehaus Homes Standards

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FROM EDITOR

Dear Readers

Welcome in March edition of IBB Builder. This issue features the expert guide by Atlas to gel adhesive technology. Geoflex- the innovative products by ATLAS enables fixing tiles on difficult substrates like OSB panels, terrazzo, "tile on tile" and others. The comprehensive advice on these effective products and technology is a must read for all contractors working with adhesives. We know that here in the UK tilers often work on old and difficult substrates. From article about the Gel Commando for Special Missions you will learn that Geoflex is your perfect solution. We have also prepared for you the quotation for 50sqm of tiling using Geoflex gel adhesive. In Builder Education section you will find the informative article on tiles selection- have you heard about Lappato tiles? Moreover, only this month special deals for selected Atlas products including Geoflex. Do not miss the offer!

Our cover story is related to the most eco-friendly and advanced standard in housebuilding - Passivhaus. Read about requirements to upgrade your house to Classic, Plus or Premium standards. The Passivhaus conference is due later this month in Germany. However, here in the UK during the highly popular Ecobuild 2018 expo, you will be able to learn more about sustainability and its application in the built environment. If you are looking to improve the standard of your house, there is a new financial product on the market called renovation mortgage. It allows for additional funds to be released if building energy efficiency is increased. Worth reading.

Despite Brexit, the major infrastructure project is going ahead. The High Speed Two (HS2) will create approximately 25,000 jobs. We have included for you the information on where to find the job opportunities, where to register to get on the supply chain. To learn more about HS2 check out our news section. Buildings



Regulation section this month features standard PAS 91. Essential information for those of you who are expanding the business by getting involved in procurement.

Important news also for all working with asbestos. It is the last month to apply for CSCS card for Asbestos Operatives. From April all occupations connected with asbestos removal, analysis, surveyors or supervisors will be transferred to different schemes. More about this and other important news inside.

IBB Builder supports campaigns connected with the promotion of healthy working conditions. We have recently become the supporter of Breath Freely. This month we published the article on the dust inhalation and mask selection. Check it out - Don't bite the dust, wear a mask.

Big news about IBB Polonia London VC who get to the final of National Cup! Join us in supporting volleyball, come to their matches, watch online. The club also offers excellent advertisement opportunities. IBB Polonia London FC is growing too. The club has fantastic young players who under eyes of experienced coaches learn the best football.

Check out what they have been up to recently on www.poloniafc.com

Magdalena Rosół
Editor

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Positive Construction Industry Forecast

The construction sector faced a lot of challenges in 2017 but CITB's Construction Skills Network report shows that output and employment will grow despite any political or economic uncertainties.

This year's report, the Construction Skills Network UK's Report for 2018-2022, is the UK's most comprehensive and up-to-date forecast about the industry prospects. According to the Construction Industry Training Board (CITB) over 150,000 construction jobs will be created over the next five years despite Brexit uncertainty and Carillion's collapse. Report predicts that 15,350 carpenters and 9,350 labourers will be

needed, while the strongest job growth will be in a range of professional and managerial roles as the industry seeks to boost its productivity, which will grow by 7.8% and 5.6% over the next five years.

The CSN forecasts average output growth of 1.3%, with 158,000 jobs created. The most significant increase is predicted for infrastructure, with an annual growth of 3.1%. However, both residential housing both public and private, is also expected to expand. Due to Brexit uncertainty, the commercial sector is not predicted to grow at all over the next five years. The employment in the industry is projected to grow for the fourth consecutive year at 0.5% a year on average to 2022.

CITB Policy Director Steve Radley said: "Despite all the gloom around Carillion and uncertain-

ty from Brexit, our report's message is that construction will continue to grow and create more jobs. Though growth is slightly down on 2017, it's looking more balanced with housing and infrastructure both expanding significantly. And the range of job opportunities is growing. While we need to bring in lots of people in the trades, the fastest growth will be for professionals at 7.8% and for managers and supervisors at 5.6%."

Radley added: "By 2022, employment will be in touching distance of the heady 2008 peak so we face a massive recruitment and training challenge, which is likely to get harder after Brexit. So while we can take some comfort from weathering the recent storms, it's vital that we make the investment in skills today that will shape our own destiny for tomorrow."

(Source: CITB)



EcoBuild

06-08 March 2018, ExCeL London

- the must go event for all interested in the better built environment

Ecobuild is the must-attend event for all working in the built environment. It runs every year for over 14 years. It connects all professionals, contractors, architects and everyone involved in the industry. It focuses on innovation and technology. During the event, exhibitors will present the latest advanced technologies, know-how and innovative materials.

The event is the opportunity for networking, building business relationships, learning about

new brands and products or gaining knowledge at conferences. Ecobuild's lectures are always about sustainability at heart. The programme includes conferences sponsored by Saint-Gobain, Kingspan, mpa The Concrete Centre, The UK District Energy Association, CIBSE, ACO, Institution of Civil Engineers, Explore Offsite, Structural Timber Association, University of Brighton.

This year Ecobuild will focus on how to implement the UN Sustainable Development Goals into the built environment. In 2015 a new set of goals as part of a new sustainable development agenda were adopted by UN. Each goal specifies targets for the next 15 years. The construction industry is involved in working on affordable and clean energy, industry innovation and infrastructure, sustainable cities, responsible consumption and production, climate

action, clean water and all other goals, because well planned and build cities can drive sustainable development. Visit Ecobuild to learn about new sustainable materials and technologies.

In 2018 edition the Ecobuild invites to the future build districts, which are the forum for the latest technology and innovative materials. These include zones like concrete, timber, green & infrastructure, offsite, district energy, building performance, infrastructure, energy & HVAC. For all exhibitors, Ecobuild is the best place for raising brand awareness, meeting buyers, launching a new product or solution or generating sales leads on an existing product. To learn more about Ecobuild and register as a visitor go to www.ecobuild.co.uk

(Source: Ecobuild)



Confidence in Builders

Not the nature of building industry but stereotypes about builders and often unrealistic visions of homeowners cause the reluctance towards building or renovation projects.

Clients are scared to renovate or build new houses due to anxiety over cowboy builders. According to Federation of Master Builders, the UK economy as a whole is missing out on £10 billion of activity per year because of lack of confidence in the building industry.

Londoners would invest £67,000 on home improvement work over the next five years if they had full confidence in their ability to identify a professional builder, according to new research by the Federation of Master Builders (FMB) London.

The FMB's research into consumer confidence in builders indicates that:

- A third (33%) of London's home owners are put off doing major home improvement works requiring a builder because they fear hiring a dodgy builder;
- If all of London's home owners had full confidence in the building industry, they would typically spend an average of £67,000 on major home improvement projects over the next five years – this is the highest figure of any region in the UK;

Barry Mortimer, Director of FMB London, said: "A third of the capital's home owners are so fearful about the possibility of working with a bad builder, they are putting off commissioning any building work whatsoever. What's more, your typical home owner in London would spend £67,000 on major home improvement projects over the next five years if they knew they could hire a quality builder. This pent up consumer spend is higher than in any other part of the UK. More broadly, the UK-wide economy is missing out on around £10 billion of activity every year because of fears surrounding cowboy builders. The FMB's latest research shows how severe the problem of cowboy builders is for consumer confidence, the building industry and the economy."

Mortimer added that: "In order to give home owners more assurance that their building project will go smoothly, the Government should consider introducing a mandatory licensing system for domestic builders. This would help give consumers the confidence they need to loosen their purse strings and invest in home improvements. In the meantime, for people who are looking for a reliable builder, the best course of action is to ask family or friends for a recommendation. If this isn't possible, home owners should approach a professional trade association like the Federation of Master Builders. All new Master Builders are independently inspected on joining and vetted. To provide further protection, consumers should always use a written contract and never pay for the full cost of the project up front."

Brian Berry, Chief Executive of the FMB, said: "A third of home owners are so anxious about the possibility of choosing a bad builder, they don't commission any building work whatsoever. This means that the UK economy could be missing out on £10 billion of activity every year. Indeed, the FMB's latest research shows that on average, your typical home owner would spend £40,000 on major home improvement projects over the next five years if they could be guaranteed a positive experience. If we were able to unlock this pent-up demand from fearful consumers, the benefit to jobs and growth would be enormous. Last year the UK experienced its slowest growth since 2012 with a rise in GDP of just 1.8 per cent. With Brexit just around the corner, it's therefore vital that the Government pulls as many levers as possible to turbo-charge the economy and protect it from any potential economic wobbles."

Berry concluded: "In the longer term, we need to end the cowboy builders' reign of terror so we can give all home owners the confidence they need to invest their cash in building work. The Government should consider introducing some form of mandatory licensing system for domestic builders so that consumers know that all building firms have a base level of skill, competence and professionalism. Unlike in Australia and Canada, in this country anyone can be a builder and that's why there is a significant minority of rogue traders out there giving the whole construction industry a bad name. We're exploring

mandatory licensing with industry and Government but in the meantime, our advice to home owners who are looking for a builder is to ask for a recommendation from family or friends. If they can't help, consumers should approach a professional trade association like the Federation of Master Builders who can put them in touch with a vetted and inspected building firm."

In the case of residential projects, if homeowner compares quotes and interviews builders, he is able to choose the professional. The problem lays in the image of the industry and builders. The often unrealistic demands of customers and non-understanding of what factors could impact the building project negatively and what risks are connected with building works. Such information should be provided to clients before entering the contract. Also, clients are

well protected by the professional contracts. The industry should stop promoting stereotypes like dodgy builders, cowboy builders etc. as often it is the client who does not want to pay at the end of the project, or has unrealistic plans within the quoted price, or demands changes to contract and does not understand why the time of project realisation has to be extended. Usually, client's knowledge about the construction projects is limited. The relationship between builder and client always tends to be very good at the beginning of the project, but as extensions and some refurbishments last for months, it often changes towards the completion. There are various reasons for that like client's budget getting closer to the limit, client's pressure to finish the project before specific dates, some time extensions already applied etc. The contract managers

or architects plays the vital role in project management but also in case of residential projects they are employed by the client, so they are not entirely impartial in mediation. Moreover, homeowners often assume that migrant builders will give them lower quote. Clients are not fully aware how badly underestimation of project's costs can affect its realization.

The licensing system for builders will help to remove the stereotype of cowboy builders, as licensed and annually assessed specialists definitely could not be dodgy. Builders should take care of building their relationship with customers, informing them on how the building process looks, what are the risks associated with every building project and that the successful build completion depends on the understanding of both builder's and customer's positions.



Jobs for Carillion workers

CITB is encouraging all construction employers to offer job opportunities to the hundreds of Carillion workers who lost their jobs following the company's collapse.

The new career page has been launched on CITB's website presenting all jobs opportunities in various regions. Currently there are over 100 employers across England, Scotland and Wales offering work in a wide range of roles. However, as over 1,000 Carillion workers lost their jobs, many more vacancies are needed to keep these skilled people in the industry.

The roles available can be found here : <https://www.citb.co.uk/support-carillion-workers/jobs-with-other-employers/>

CITB has played a major role in the wake of Carillion's closure. CEO Sarah Beale is part of the government's taskforce which aims to mitigate the effects of Carillion's liquidations on the construction industry and the people involved. Also, CITB has worked with employers and training providers to help the 1400 former Carillion apprentices. Approximately 200 apprentices have been found college places and a further 725 have been placed with new firms.

Mark Noonan, Industry Relations Director at CITB, said: "News that Carillion had ceased trading was a huge blow for all those involved and

we've been working hard to minimise the impact. Now, hundreds of workers are looking for a new employer and with our forecast showing a need of 158,000 extra workers over the next five years, it's vital we retain these highly skilled staff. The support shown by employers to date has been outstanding but there's more to be done and I encourage employers to hire these talented people to help meet your demand."

Mr Noonan added: "If you are a former Carillion worker who is no longer in employment, please go to the CITB website - there are hundreds of job opportunities being displayed each day and one might just be the perfect role for you."

(Source: CITB)



HS2



Contract Opportunities

High Speed Two (HS2) is the major infrastructure project that will link eight major cities and serve million of people. HS2 will create approximately 25,000 jobs and add over £103 billion to the UK economy.

High Speed Two will be built in two phases to ensure that the benefits of high speed rail are realised as early as possible. Phase One will consist of around 140 miles of track and connect a redeveloped Euston with stations at Old Oak Common in West London; at Birmingham Interchange near Birmingham Airport and the National Exhibition Centre; and at Birmingham Curzon Street. The High Speed Rail (London - West Midlands) Act 2017 received Royal Assent on 23 February 2017. The Act grants the powers to build, operate and maintain this part of HS2. Construction of Phase One is due to start in 2017, with first trains running in 2026. Phase 2a is the route from Birmingham to Crewe which is scheduled to open in 2027. The Phase 2b network will extend the lines to Manchester (west) and the East Midlands, She eld and Leeds (east). The Phase Two services to Manchester and Leeds are expected to start running in 2033.

HS2 is currently one of the most interesting transport projects in Europe with thousands of opportunities within the HS2 supply chain. To deliver the HS2 project the range of works, goods and services will be required. Amongst civil engineering HS2 will need enabling works and main works which include: archaeology, ecology, demolition, earthworks (tunnels, cuttings and embankments), drainage, bridges, viaducts, and other structures. In design and services category professional service and design service will be required. The

railway system category includes permanent way, overhead line electrification, telecommunications, traction power, signalling and electrical distribution.

Register on our e-procurement portal to respond to direct HS2 tender opportunities as they arise: <https://hs2.bravosolution.co.uk> Find out more about various careers at HS2. Identify and take advantage of HS2 business opportunities. HS2, like Olympics or Crossrail will buy small amount of direct contract that will further generate supply chain opportunities.

Tier 1 contractors are obliged to use CompeteFor (www.competefor.com) to advertise all appropriate opportunities. To learn about indirect HS2 supply chain opportunities, go to www.competefor.com and either register, or review your existing company profile and the categories to which you supply.

The procurement of goods, works and services is now underway. For Phase One the Enabling Works Contracts & Main Works Civils Contracts have been let with other major works packages to be procured by 2019. HS2 will work with direct (i.e. Tier 1) suppliers to better understand their supply chain needs. When direct contract will be in place the meet the contractor dates will be scheduled to fulfil the supply chain. To explore opportunities to work with your Local Enterprise Partnership or associated growth hub, go to www.lepnetwork.net.

To learn more about HS2 check: www.gov.uk/government/uploads/system/uploads/attachment_data/file/638518/hs2_supplier_guide.pdf

(Source: HS2)



The UK Concrete Show 2018

Wednesday 21 & Thursday 22 March 2018



This month 2018 edition of The UK Concrete Show will be held in NEC Birmingham on the 21st and 22nd March. It is Europe's well known specialist concrete event gathering all involved in the concrete industry. UKCS2018 is another edition of successful event that runs yearly and brings together manufacturers, engineers, contractors from all over the world. During the show there is time for materials and technology presentation, networking, Live BIM for Concrete Interactive Visitor Experience, a Technical Advice Clinic and Live Demos. With over 200 exhibitors presenting concrete related products, for instance cement, pumps, precast products, admixtures, reinforcement, repair services and products. During the show seminar sessions related to the concrete industry will be

The entry to the show is completely free. Register here <https://concreteshow.co.uk/visitors>

(Source: The UK Concrete Show)

Last month to apply for CSCS card for Asbestos Occupations

The Construction Skills Certification Scheme is notifying the industry that asbestos related occupations will be moved from 31st March 2018 to partnered schemes. CSCS will no longer issue cards for Asbestos Removal Operatives, Analysts/Surveyors, Asbestos Supervisors and Asbestos Contract Managers.

CSCS applications received before 31st March 2018 will be issued with a CSCS card that is valid for five years, however this card is non-renewable and the card holder will be required to transfer to one of the asbestos schemes when their card expires.

From the 31st March 2018, all new applications both for first time applications and renewals for asbestos related occupations must be directed to one of the following schemes:

ARCA: www.arca.org.uk/cscs-cards will issue cards to Asbestos Removal Operatives

ATAC: atac.org.uk/asbestos-testing-consultancy-association-cscs-cards will issue cards to Asbestos Analysts and Asbestos Surveyors

ACAD: acad.tica-acad.co.uk/acad-skill-card/ will issue cards to:

- Asbestos Removal Operative
- Asbestos Analysts
- Asbestos Surveyors
- Supervisors
- Contract Managers

CSCS Scheme Manager Angeleen Hill said "The asbestos sector is best placed to determine what qualifications are appropriate for the sector and I wholeheartedly support the asbestos sector stepping up and taking responsibility for the carding of these occupations. This is positive news for the asbestos sector and the people who work in it."

"It's really encouraging to see another example of sectors working together to meet the requirements of the Construction Leadership Council and edging the industry ever closer to a fully qualified workforce."

(Source: CSCS)



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Classic, Plus & Premium

How to reach the Passivehaus Homes Standards

Passive House Institute

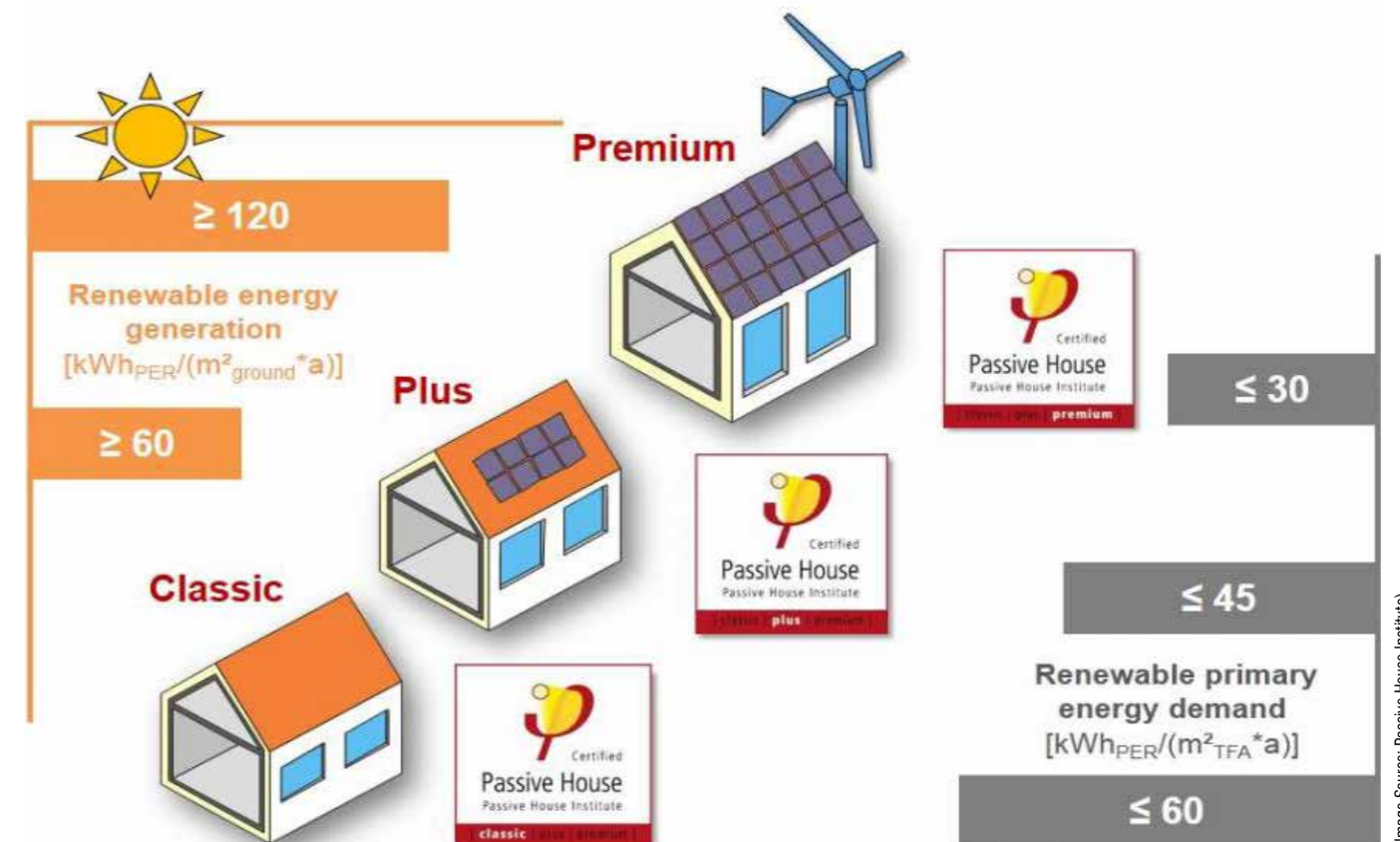
"Energy efficiency improves comfort and reduces the risk of structural damage. For new constructions and renovations alike, energy efficient construction ultimately reduces the overall cost burden for the residents of the building," explains the founder of the Passive House Institute, Professor Wolfgang Feist. The Passive House Institute will host the International Passive House Conference and the accompanying Passive House Exhibition later this month.

Passivehaus is the world's fastest growing standard in terms of popularity, while Passivehouses are amongst best performing, most comfortable and healthy buildings. The previously accepted standards have not taken into consideration new energy supply systems. The Passivehaus Institute developed a new system based on renewable primary energy (PER) and the energy generated by a building. The Passivehaus Institute has introduced three standards for the Passivehaus:



Passive House Institute

- **The Passive House Classic** - based on the traditional Passive House concept where the certified buildings reduce energy consumption
 - **The Passive House Plus** - considers buildings that not only reduce energy costs but also produce as much energy as residents consume. Any additional energy is generated by the building from renewable resources for instance photovoltaics.
 - **The Passive House Premium** - far more energy is produced than required to maintain the building. It is a challenging goal for building owners and designers. In the UK there is no Passive House Premium developments.
- The heating demand of a Passive House may not exceed 15 kWh/(m²a). In the case of the Passive House Classic category, the overall energy demand



(Image Source: Passive House Institute)



Passive House Institute

for renewable primary energy (PER) will be 60 kWh/(m²a) at the most. A building built to Passive House Plus is more efficient as it may not consume more than 45 kWh/(m²a) of renewable primary energy. It must also generate at least 60 kWh/(m²a) of energy in relation to the area covered by the building. In the case of Passive House Premium, the energy demand is limited to just 30 kWh/(m²a), with at least 120 kWh/(m²a) of energy being generated by the building. In the Passive house the electricity is obtained from the sun and wind, where some of it is consumed and any excess is stored. Thus, storage capacities are necessary for transferring surplus energy to time periods with lower energy gains.

The Passive House Standard already fulfils the requirements for the Nearly Zero Energy Building which will apply for all new buildings in the Euro-

pean Union from 2020, and by the end of 2018 for all new public buildings. The Founder and Director of the Passive House Institute in Darmstadt, Dr. Wolfgang Feist points out the great progress that has been made with regard to energy efficient building components. Great progress with Passive House

components. "For example, today triple glazing costs little more than the old double glazing. This trend is also becoming apparent with all other products which are decisive for Passive House buildings. The necessary additional investment in an energy efficient building is therefore worthwhile even with comparatively low energy prices. The Passive House Conference summarises the insights gained with thousands of examples," says Feist.

The 22nd Passive Conference accompanying specialists' exhibition will take place on 9 and 10 March 2018 in the MOC event location in Munich. Workshops and excursions will take place from 7 till 11 March 2018. Further information can be found on www.passivehouseconference.org

PASSIVE HOUSE EXHIBITION

at the **22ND INTERNATIONAL PASSIVE HOUSE CONFERENCE**

9 and 10 March 2018 Munich

Passive House Institute

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Renovation Mortgage



If you are looking for improving the standard of your building, there is a new range of mortgages available on the market- the renovation mortgages. These type of financial products are available for existing residential properties that are non habitable, at poor state requiring refurbishment, fire damaged, buildings requiring improvement of energy efficiency, historic or listed properties, thatched properties.

It is possible to borrow up to 90% of the property's value on a repayment basis, or up to 75% interest-only or part (repayment) and part (interest-only). Such mortgages are for maximum of 30 years. If a project requires planning permission or listed building consent, this will need to be in place before mortgage application.





Renovation mortgage allows for additional funds to be released when property has increased in value. Mortgages are available on a repayment, interest-only or part (repayment) and part (interest-only) basis, subject to eligibility Standard Variable Rate applies during the renovation works and discounts are applied after renovation works valuation and proof of the achieved higher energy rating- the so called C-Change retrofit discounts. The level of the C-Change sustainable homes or C-Change retrofit discount that applies is based on the Energy Standard rating achieved on the self-build, renovation or conversion when the work is completed. C-Change energy improvements discount is based on the qualifying energy measures being installed. The discount is applied from the date the evidence is obtained that the work has been completed and if applicable the Energy Standard rating required has been achieved.

C-Change retrofit discount- offers a discount of 0.25% from the Standard Variable Rate for each rating improvement in home's Energy Performance Certificate (EPC). This could be either its Energy

Efficiency or Environmental Impact rating.

C-Change sustainable home discount- applies to new and existing energy efficient homes and extensive retrofits using the Passivhaus EnerPHit methodology. Once the build is complete, you need to provide an Energy Standard certificate and Architect/Building Control certificate to apply for the Sustainable C-Change discount.

C-Change energy improvements discount- offers a discount of 1% on funds borrowed for qualifying energy measure installations and is applied once work is completed and evidenced by invoices.

Measures like these are considered:

- floor, wall and roof insulation
- Double or triple glazing
- Wet UFH
- High efficiency condensing boilers
- Solar water heating
- Photovoltaics
- Wind turbines
- Ground source heat pumps
- Biomass heating

- Heat recovery systems
- Low water-use appliances
- Rain water harvesting

To apply the discount, lender has to receive an EPC before any works begin and another EPC once works are completed. The discount is applied based on the grade improvement achieved. Until then the Standard Variable Rate applies.

To apply for a renovation mortgage it is essential to find a specific renovation property, provide the cost estimation of materials and labour, the current Energy Performance Certificate (EPC) of the property and the projected EPC rating after renovation. For renovation mortgage 10% minimum deposit is required to purchase the property and a further 15% - 20% of total build costs to start the renovation. In the maximum of 2 years the renovation has to be completed. The funds are released during the renovation progress

For more information on renovation mortgages visit Ecology Building Society www.ecology.co.uk

(Source: ecology.co.uk)

BREATHE FREELY
SUPPORTER

Controlling Exposures to prevent occupational lung disease in the construction industry

Work-related lung disease and deaths in the UK construction sector*

Exposures at work are a major cause of lung disease in the UK. The risks from working in construction are greater than for any other sector.

* 'Occupational lung disease in the UK- the facts', July 2014, a BOHS review of the existing evidence about prevalence and incidence of occupational lung disease in the UK

ALL INDUSTRIES
Every year
12,000 deaths
129,000 total cases
13,000 new cases
29 new cases per 100,000 workers

ALL INDUSTRIES
The occupational respiratory diseases
Occupational cancers of the respiratory system cause of more than
7,000 deaths a year
COPD (Chronic Obstructive Pulmonary Disease) causes an estimated minimum of
4,000 deaths per year
16% of adult-onset asthma cases may be work-related

The UK construction sector has the largest number of reported cases of occupational lung disease of any industrial sector

3,500
occupational cancer deaths are caused by exposures in construction

Construction is among the **top 5** industries for deaths from COPD

Some of the most common substances known to cause occupational asthma are used in or generated by everyday construction tasks

isocyanates, solder and colophony fume, stainless steel welding fumes, and wood dusts.



Face Masks

Builders face risk of long term health problems due to dust inhalation during works connected with bricks, tiles, ceramics, stoneworks, marl, gravel etc. Inhaling silica can lead to silicosis, which is a serious and irreversible lung disease that causes permanent disablement and early death, and it is made worse by smoking.

In addition to silica inhalation, numerous construction work activities may result in harmful substances contaminating the air in the form of dust, mist, vapour, gas or fume. For example, when:

- cutting a material such as stone or wood;
- using a product containing volatile solvents;
- handling a dusty powder;
- welding stainless steel.

Exposure to dust is covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH) but in addition each product has to comply with particular standard like EN149 for

disposable masks, EN140 for reusable half masks etc. Moreover, The Health and Safety at Work etc Act 19745 and the Management of Health and Safety at Work Regulations 19996 require employer to provide and maintain a safe working environment.

Respiratory protective equipment (RPE) filter the air to remove harmful substances and breathing apparatus provides clean air for workers.

JSP® Force 8 is the UK's leading respiratory dust protection solution with integral face-fit checking. JSP® Force 8 half mask is fitted with PressToCheck P3 Filters which enables workers to ensure they are protected against fine construction dust including silica. It is the winner of the 2014 BSIF Product Innovation of the Year Award.

- Durable
- Greater efficiency
- Better protection in wet environments
- Hardwearing
- Resistant to clogging
- Improved hygiene








JSP® Force 8 is the innovative mask which filters are more than 99.95% effective. With Press to Check filters user can instantly check if he has the correct seal before entering the dust zone. Manufactured in three sizes this modern masks can be perfectly fitted and adjusted during the

day. The design enables excellent visibility, allowing the filters to be worn effectively behind all types of faceshield and welding visor. Filters are reusable and cost-effective. This ensures the optimal protection at a lower cost than disposable dust mask.

JSP® Force 8 mask is made with a durable thermoplastic rubber offering a superior fit to most face shapes. The mask accepts the full range of low profile Force8 filters giving the Force8 the flexibility to be used for many applications, providing filtering protection against particulates, many gases and vapours.

Disposable masks should be disposed after one shift. Reusable masks must be cleaned and stored properly. Special attention should be paid to the valves and filters. Always check filters expire date and follow manufacturer's manual for equipment cleaning and usage. When selecting the mask always check the filter type. Particle filters do not trap gases or vapours, or give any protection against oxygen-deficient atmospheres. While gas/vapour filters do not protect against particles, or give any protection against oxygen-deficient atmospheres. You can also buy a combine filter on the market. For more information visit www.jsp.co.uk

(Source: JSP, HSE)

Adequacy/suitability	Respirators						
RPE type							
	Disposable half mask – particle filter*	Reusable half mask – particle filter	Reusable half mask – gas/vapour filter	Full face mask – particle filter	Full face mask – gas/vapour filter	Powered mask	Powered hoods/helmets
Effective for particles	✓	✓	✗	✓	✗	✓**	✓**
Effective for gas/vapour	✗	✗	✓	✗	✓	✓**	✓**
Continuous wear time	Less than 1 hr	Less than 1 hr	Less than 1 hr	Less than 1 hr	Less than 1 hr	More than 1 hr	More than 1 hr
APF4 types	✓	✓	✗	✓	✗	✗	✗
APF10 types	✓	✓	✓	✓	✗	✓	✓
APF20 types	✓	✓	✗	✗	✓	✓	✓
APF40 types	✗	✗	✗	✓	✗	✓	✓
APF200 types	✗	✗	✗	✗	✗	✗	✗
APF2000 types	✗	✗	✗	✗	✗	✗	✗
Page reference	29	30	31	32	33	34	35

* Sometimes referred to as a filtering facepiece or orinasal respirator.

** Only protects against particle or gas/vapour when the appropriate filter is fitted.

Table Source : HSE HSG53 (Fourth edition, published 2013).



DON'T BITE THE DUST 

DON'T BITE THE DUST

ASSIGNED PROTECTION FACTORS

To determine the required APF it is simply a matter of dividing the measured level of concentration by the Workplace Exposure Limit (WEL) that the local legislation allows. This calculation will give a required protection factor, selection is then just to ensure that the APF for the RPE selected is above the requirement. If when selecting RPE there are any questions, then a quick call to JSP's Technical Helpline on +44(0)1993 826051 will help you solve any queries.

Whether or not a mask / filter / respirator is adequate can be determined by using the following calculation to find the Required Protection Factor (RPF):

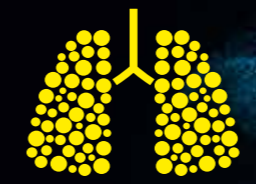
$RPF = \text{Measured level of contamination} \div \text{Exposure limit for contaminate}$

For example: $RPF = 250\text{mg/m}^3 \div 50\text{mg/m}^3$ Therefore: $RPF = 5$ Therefore a respiratory device with an APF of 10 would be required.

*Assigned Protection Factor (APF)	Powered filtering: helmets and hoods EN12941	Half or quarter mask plus filter EN140	Filtering half mask EN149
APF 4	-	P1	FFP1 
APF 10	TH1 All face-pieces 	P2, Gas**, Gas** + P3 	FFP2 
APF 20	TH2 All face-pieces 	P3 	FFP3 

* UK Assigned Protection Factor ** Gas capacity can be 1 or 2

- Around **13,000 deaths** every year from occupational lung disease and cancer.
- Construction dust can cause **irreparable damage** to lungs and airways.
- Over **500 deaths** every year from exposure to **silica dust**.
- Around **4,000 deaths** every year from **COPD** due to past workplace exposures.



DON'T BITE THE DUST.



WEAR A MASK!



Lappato tiles

Where mat meets polish

Choosing the flooring finish is one of the most important decisions when designing the dream interiors. On the one hand, it serves as a background for other elements of décor, and on the other hand, it must be strong enough for every required usage. But how to combine what's prominently esthetic with what's prominently functional? The answer is simple: choose designer and durable gres tile in the lappato finish.

For the last few seasons, interior design has turned towards minimalism, simple forms and respect for the space to be arranged. In this demure trend, the eye goes to the detail, an element that draws our attention, a distinguishing feature and the strongest point of the entire composition. All of these aspects can be attributed to gres tiles in the lappato finish, ones that investors and designers have been so eagerly using to create

backgrounds for trendy and slightly ascetic compositions.

What is a lappato finish? Lappato in Italian means semi polished. It's a finish to a gres tiles surface that combines the advantages of mat and polished effect. By applying an additional, carefully selected finishing coat, a part of the surface remains mat, while the rest acquires a silky polish which, with the right lighting, will create a unique visual effect in any space. With lappato tiles floor design will never be boring – at different light angles, floor will unveil an entirely new, unknown face.

Usually lappato tiles are quite easy to identify as they have two depths. One level is normally shiny and reflects light, the other level is matt or even course by feel. This gives the so called honed look. Nowadays lappato tiles are manufactured in a wide range of colours – timeless white, warm beige, an entire range of modern grays, a bold brown and classic black. With a diversity of formats, modularity, as well as the possibility of combining mat and lappato tiles, the interior designs will be limited by your imagination only.

Properties of lappato tiles:

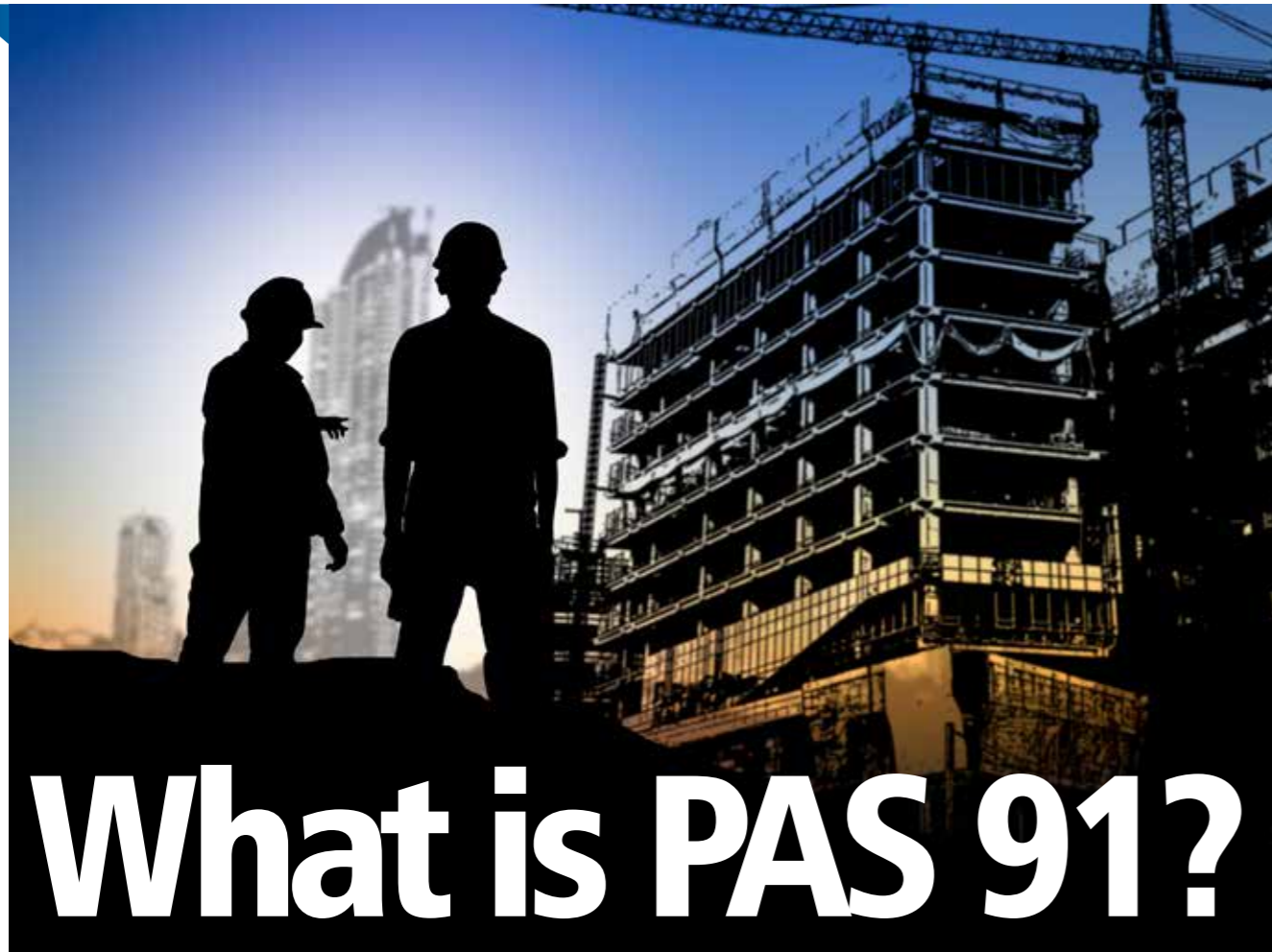
- heavily textured indoor tiles
- disperses the light to give softer sheen effect

- highly durable
- reduce slippery
- less likely to have visible cracks and scratches
- damage resistant
- modern and elegant effect

Cerrad is tiles manufacturer. Cerrad's Gres tiles belong to the group of glazed tiles. They are dry-pressed under high pressure, and then fired at approx. 1200°C. Gres tiles products are characterized by low water absorbency properties ($E_b \leq 0.5\%$), high breaking strength ($\geq 35 \text{ N/mm}^2$) and high hardness. They are frost-proof, have high resistance to abrasion, thanks to which they can be used both indoors and outdoors, both on walls and on floors. Additionally, they are resistant to chemicals and staining agents, and will form a perfect duet with floor heating. Tiles with the lappato finish from Cerrad's Apenino, Tasse-ro, Cambia collection are rectified, which means that they are characterized by high dimensional repeatability. By choosing rectified tiles, there is a guaranty to receive a product of 0.3 mm in dimensional tolerance per each block.

(Source: Cerrad)





What is PAS 91?

The Publicly Available Specification (PAS) has been published by the Department for Business, Innovation and Skills (BSI) in 2010 but it is not regarded as a British Standard. It is a construction pre qualification questionnaire (PPQ). It is the specification of content and questions applicable to pre qualification for construction tendering. PAS is a consultative document and it provides a set of questions to be asked by buyers of potential suppliers to enable prequalification for construction projects. PAS 91 helps to streamline the tendering process.

PAS 91 helps builders:

- understand what information is required from them at pre-qualification stage
- allow to developed the standard answers to main modules
- recognise exemptions for those businesses that hold industry recognised accreditations
- save time on tender preparations

The aim of PAS 91, which was commissioned by Government and developed by the British Standards Institute, is to address one of the most consistent complaints from small and medium sized businesses: the need to complete a variety of different PQQs for different clients.

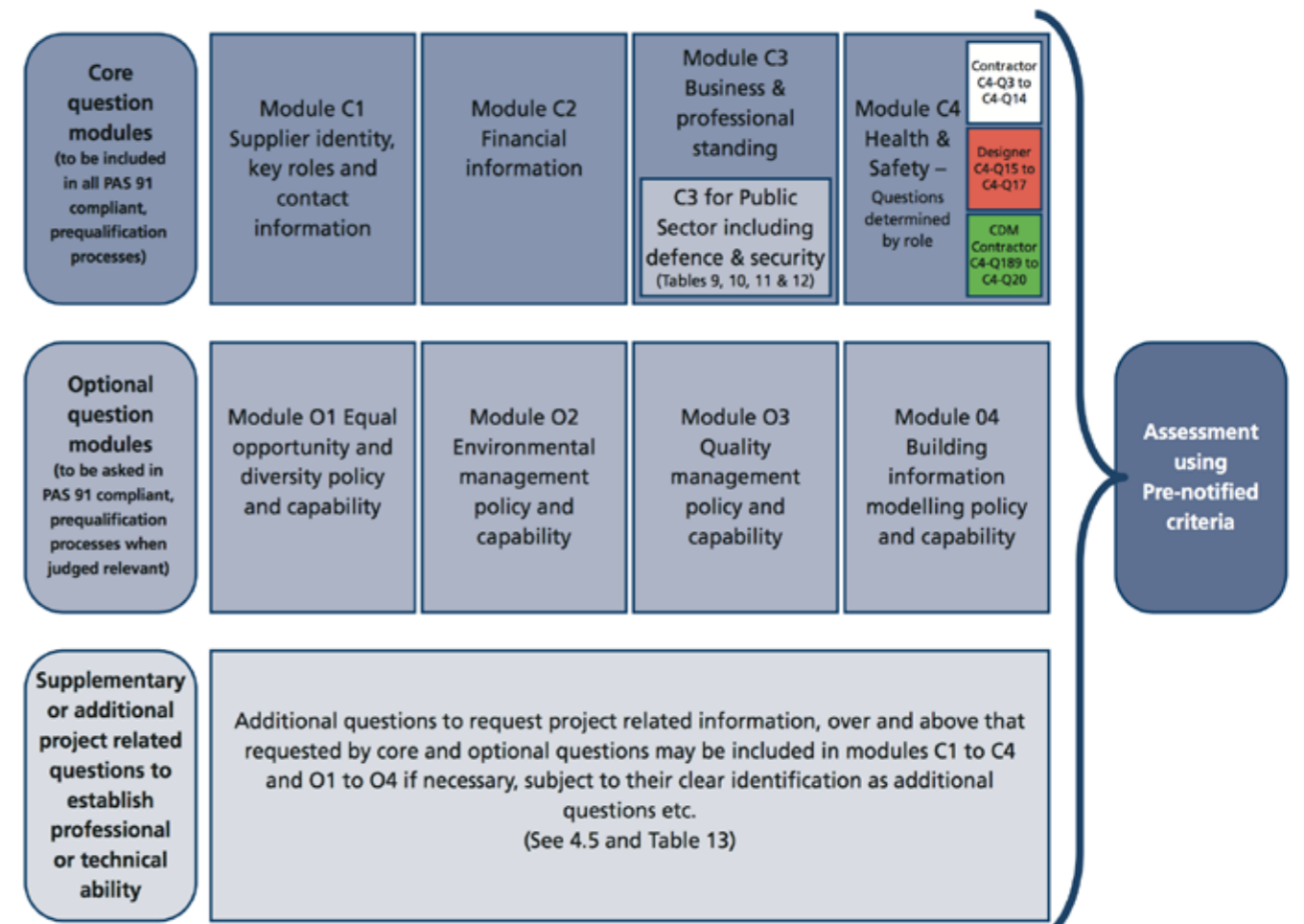
PAS 91 consist of the common questions used by buyers to assess the suitability of suppliers for projects like new builds, refurbishments, renovations, maintenance or demolition and conversions. The tender process is less time consuming for contractors and PAS 91 allows to create the standard answers. PAS 91 also benefits buyers as they can proof they follow the minimum standards in procure-

ment required by the Government.

PAS 91 is also used by procurement and supply chain management services such as Construction-line, which collects, assesses and monitors stand-



Figure 1 – PAS 91 compliant prequalification



Source: Passive House Institute

ard company information through a question set that is aligned to the standard. The responses can then be shared with other buyers, avoiding the need to repeatedly duplicate standard company information for every construction tender.

PAS 91 is structured in three modules with the mandatory questions to answer with regards to company structure, contact details, financial data, health & safety. All questions are designated specifically for contractor, designer or service provider. There is also module addressing issues such as company's policies on equal opportunities and diversity, and environmental and quality management. The last module is designed to assess the technical and professional ability of the contractor. PAS 91 provides the template for questions but it does not specify any criteria and assessments of the quality replay.

Updates to PAS 91 have been introduced in 2013 through consultation with professional bodies and trade associations such as the National Federation of Builders (NFB), Electrical Contractors' As-

sociation (ECA), Specialist Engineering Contractors' Group (SEC) and Safety Schemes in Procurement (SSIP). The most recent amendment to PAS 91 was at the end of 2017. These included changes to some questions and the addition of new ones covering mandatory reasons for exclusion and legislation

relating to the Immigration Act and the Minimum Wage Act.

PAS 91 can be download for free from BSI website: shop.bsigroup.com/en/Navigate-by/PAS/PAS-91-2013/





GEL

**ADHESIVE
TECHNOLOGY**

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HIGHLY FLEXIBLE GEL ADHESIVE

**NOW AVAILABLE IN *ibb* BUILDERS
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**Innovative Gel
Adhesive Technology**

Gel adhesive technology

ATLAS GEOFLEX is a highly flexible gel adhesive. Its recipe is an effect of cooperation between ATLAS R&D Department and contractors participating in numerous validations and testing. Owing to its unique operational and technical parameters as well as new plastic packaging, this new product in ATLAS portfolio is quickly becoming a hit on the market.

Manufacturers of adhesives are constantly seeking new solutions. Since the market expectations regarding these products are very high, it should not be any surprise. Contractors want products offering not only durability but also comfortable and quick use. It is the pressure of time and money which makes that contractors work at higher and higher temperatures and on more difficult substrates. In result they search for innovative technologies which provide safe and efficient work

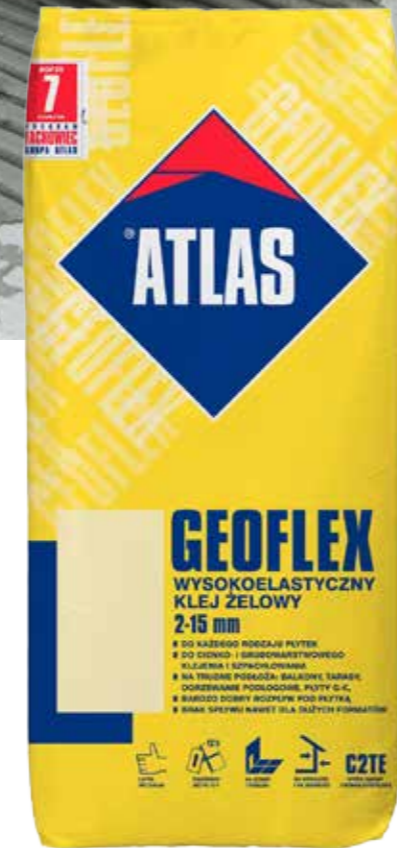
progress. Here comes our response – GEOFLEX – new, highly flexible gel adhesive.

Thin-layer and thick-layer bonding and filling

The adhesive can be used within the range between 2 and 15 mm of layer thickness. It enables to fix the tiles either on thin or thick layer of adhesive. In addition, one can level uneven substrates. The combination of these factors significantly reduces the duration of tiling works. The contractor may use a single product both for fixing the tiles and filling uneven substrates either on walls or floors.

Perfect consistency

The second mixing is essential for the contractor, because it makes the adhesive elastic and smooth. GEOFLEX nicely sticks to a trowel and does not flow. Working with gel adhesive is a completely different experience in comparison to the conventional cement-based adhesives. It is not without reason that up to 80% of contractors, who had the opportunity to compare the operational parameters of our gel adhesive and cement adhesives during wide-scale validation tests, did admit that would



probably never return to traditional cement-based adhesives.

Gel consistency and plasticity

An innovative technology of siliceous gel and special mixture of cements was used to create GEOFLEX. Owing to a special admixture based on minerals (e.g. montmorillonite), the adhesive obtains an elastic and gel consistency when mixed with water. This greatly

simplifies the application as the adhesive sticks well to a trowel and can be distributed easily. What one cannot see with the naked eye is the inner water binding process. Aforementioned mineral additives bind water within their molecular structure. Water "stored" in such way is then used to carry out the reaction of adhesive binding – hydration. What is interesting, if we add water to pure mineral mixture, such prepared compound could bind five times more water than it weighs. This absorption would result in the increase of compound volume by 1500%. The additives in ATLAS GEOFLEX are selected so that they do not cause a significant increase of volume. The adhesive does not lose its volume during drying. In addition, neither there is shrinkage, nor pulling effect. There is no problem to fix the tiles on the following day.

Strength and flexibility

GEOFLEX adhesive belongs to class C2TE – it represents the adhesives of: improved bonding, extended open time and reduced slip according to the EN 12004:2007+A1:2012 standard. High bonding and durability make it possible to use this adhesive within a very wide range of application: in residential housing, but also in commercial, public access and healthcare buildings. Application area includes kitchens, bathrooms, laundry rooms, garages, terraces, balconies, loggias, as well as showers, car washes, rooms frequently washed with plenty of water, communication routes or compartments with low and medium operational loads. Detailed application area is listed in the adhesive technical data sheet on www.atlas.com.pl/en.

Perfect bonding to difficult substrates (including absorptive and insulated ones)

The improved water absorption of the mortar allows to fix tiles of any type – both absorbent and non-absorbent. The adhesive has also a greater tolerance in view of the substrates absorption. Owing to this, GEOFLEX provides full bonding also in case of substrates which were not prepared with proper diligence or on, so-called difficult substrates, such as concrete, terrazzo, old tiles (tile on tile technology) or OSB boards.

A very important adhesive feature, which results from the gel technology formula, is the possibility of application on substrates of increased temperature (e.g. screeds with underfloor heating or surfaces exposed to direct sunlight, such as balconies, terraces or loggias) - ambient temperature can reach up to 35°C. In these cases, the mortar achieves the declared pa-

rameters also under the conditions which are beyond the temperature range recommended for traditional adhesives (up to 25°C).

The adhesive does not pull the tiles in. On the contrary, it just increases the bond strength to the substrate. Owing to this, the tiling works can be easily continued on the following day. What is more, GEOFLEX has much higher adhesion in low temperature in comparison to traditional cement adhesives.

Extended open time

The test was to see how the adhesives perform under the conditions of progressive open time. It is more convenient for the contractor to prepare a larger area of wall or floor at once and then fix the tiles without any doubts concerning the bonding of the adhesive. There was an identical fragment of wall prepared for each of the adhesives. Then the adhesives of the same thickness were applied to the corresponding wall fragments. The test consisted in bonding the tiles and detaching them after 5 minutes. The result was given by the measured adhesion force of the adhesive. Subsequent tiles were bonded and detached from the substrate after a given time: 10, 15, 20, 25 and 30 minutes. Each time we measured the adhesion force.

The advantages of highly flexible gel adhesive ATLAS GEOFLEX

2 in 1 – good spread and no slip even in case of large size tiles - owing to very wide range of mix water volume (from 6.5 l up to 8.25 l per 25 kg of dry mix). It has been expanded in comparison to the range required by traditional adhesives. One may adjust the adhesive operational parameters to their own preferences and particular application area.

Owing to this:

- by adding the lowest recommended amount of water one obtains an adhesive with reduced slip and in result can fix the tiles "from top to bottom" without any support. This also applies to larger and thicker tiles.
- increasing the amount of water enables to change the operational parameters; in result we obtain a pourable adhesive.
- by adding the highest recommended amount of water one gets an adhesive which perfectly fills the space beneath large size tiles. It is particularly important in case of outdoor use. In parallel, gel adhesive properties do not cause the tiles pulling phenomenon (even large size tiles).



Tiles attached to the fresh adhesive (open time: 0) presented high adhesion. The adhesive of S1 class performed the best here. Tiles bonded to the wall on which the adhesive dried for 5 minutes gave worse result than the first test by 0.1 MPa on average. More importantly, GEOFLEX result was almost identical with the one obtained by the adhesive of S1 class (0.325 MPa), while the result of the competitive adhesive X was only 0.2 MPa! Nevertheless, the biggest difference can be observed between 10. and 20. minute since the application of the adhesive onto the wall. In the 10. minute, one can see that GEOFLEX adhesion is 0.07 MPa higher than the one shown by popular adhesive of S1 class. The adhesives which were compared to ATLAS GEOFLEX showed large drop in adhesion, while GEOFLEX was characterised by small decline of this parameter. In practice, this means that GEOFLEX gives us more time to fix the tiles and that we can prepare a larger area of substrate at once.

Tight and durable packaging

The adhesive is packed in tight and weather-resistant plastic bags. It is an innovation on the British market for this type of products. Plastic bags effectively protect the mortar from getting wet when the goods are stored and limit the rate of weathering of cement which they contain. In addition, they eliminate dust which can be annoying in case of traditional paper bags.

Grouting just after 12 hours

The process of binding the water in the adhesive structure leads to full hydration, even if the temperature of substrate and environment is high. When the process is finished, the rest of water is drained and evaporated. Paradoxically, proper amount of water trapped in the adhesive accelerates the adhesive drying process. The adhesive has the optimum conditions and the drying process progresses steadily and continuously. The binding is faster and stronger. This makes it possible to enter the floor after 12 hours (at room temperature) and start grouting. The excess of water does not cause the efflorescence on the grout. The entire surface adheres well and is ready for the top finish. This enables a faster completion of a particular project.

GEL

Commando for special missions

Adhesives which are equipped with an innovative siliceous gel technology are characterised by exceptional properties and almost unlimited application options. Gel revolution which started last year is still in action. The line of Geoflex adhesives, which consists of Atlas Geoflex and Atlas Geoflex White, has been strengthened with a new adhesive. This time it is of S1 deformability class!

ATLAS has developed the unique formulations in order to provide the contractors with safe and comfortable work regardless the level of difficulty. Owing

to ATLAS state-of-the art technology, our advanced products are easy in use, very durable after application and, last but not the least, they speed up the work pace. The similar situation refers to Atlas adhesives from GEOFLEX line. Due to the innovative siliceous gel technology and its outstanding capability of water binding, they allow full course of hydration process regardless the surrounding conditions or type of tiles.

Water management takes place all time long until the binding process is completed. This guarantees great bonding strength and excellent adhesion to the substrates (including absorbent ones and those of high temperature).

ULTRA gel technology

Analogously to other Geoflex adhesives, the siliceous gel technology became a part of Geoflex Ultra formulation. Siliceous gel is a perfect solution to problems which may arise during preparation and application of the mortar and later, when

the lining is in use. The ability of water retention of the fresh mortar makes it possible to use Ultra Geoflex on sun-heated surfaces and to leave behind any doubts regarding adhesive durability and binding strength.

The hydration process is strictly related to the expected strength parameters. If there is too less water for full hydration process, it will result in the reduction of final binding strength, which in turn negatively affects the durability of ceramic or stone lining. Incomplete hydration may have, among other things, the following consequences:

- reduction of the bonding between mortar and substrate or tiles; reduction of the remaining mortar strength parameters due to incomplete chemical bonds, which results in reduction of resistance to mechanical and thermal load,
- increase of mortar absorbency – due to formation of long open capillaries on the surface of the product.

Two mixing ratios

Siliceous gel used in the adhesives from Geoflex line makes it possible to regulate the mortar consistency with the amount of mixing water to be added (within the ratio listed in the Technical Data Sheet). It does not only greatly reduce

Exceptionally easy application

Ability to customize consistency to the contractor's preferences and needs without loss of the declared parameters

Wide range of application

Can be applied within the 2-15 mm thickness range

Extended adjustability time

Fast and complete binding in the extreme application conditions

Grouting after 12 hours





risk of water excess in the mortar, but also allows the contractors to adjust the mortar properties to particular needs related to the application site and preferences.

Any adhesive which belongs to the Geoflex line can be easily prepared as a zero-flow mortar. This feature guarantees problem-free tiling "from the top" without any support. On the other hand, it can provide a full spread beneath a tile and 100% support even for the largest tiles, with no risk of tile embedding due to significant weight.

Owing to the double mixing ratio feature (6.75 l/25 kg and 9 l/25 kg), one can obtain two different adhesive consistencies adjusted to their preferences.

Wide range of application

Siliceous gel technology makes the Geoflex adhesives very versatile and useful for broad range of application. They can be used on, so-called difficult and critical substrates, such as terrazzo, OSB or existing tiles. These adhesives are designed to meet the requirements of difficult applications such as: in industrial halls loaded with vehicle traffic or substrates endangered with chemical risk. The scope of Geoflex possible applications covers also full spectrum of tiles types and formats (even above 1 square metre large), including the natural stone tiles or those vulnerable to discoloration.

Ultra Geoflex can be applied both with thin (only tiling) and thick layer (if some leveling is required prior to tiling).

Perfect spread beneath the tiles

The exceptional characteristics of the adhesive technology provide a perfect spread beneath a tile, great bonding and no flow even when very large size tiles (up to 3 m) are in use. Same as other adhesives from Geoflex line, Geoflex Ultra is also a 3-in-1 adhesive – it allows tiling, leveling or leveling and tiling.

Resistance to high temperature

It can be used in a very wide temperature range: from +5°C up to +35°C. Owing to this feature, it is possible to tile on surfaces exposed to direct sunlight: terraces and balconies, façades and plinths.

Long open time

Geoflex Ultra offers long open time (approx. 4 hours). It is a parameter desired by contractors, as long open time makes the adhesive very comfortable in use.

Fast grouting

When using Geoflex ULTRA, one can continue the installation (foot traffic and grouting) just after 12 hours since the tiles fixing.

ULTRA possibilities

Ultra Geoflex C2TES1 is a highly flexible and deformable adhesive, which can be successfully used:

- **with all types of linings:** glazed tiles, terracotta, porcelain-gres and liminated-gres tiles, natural stone, clinker, ceramic and glass mosaic, glass, colored and printed tiles, concrete tiles, composite panels, insulation and acoustic panels.
- **on all types of substrates:** old paint coatings, waterproofing, concrete, terrazzo, asphalt screeds, plasterboards, gypsum and cement boards, wooden floors, OSB and wooden boards, cement and anhydrite screeds, cement and gypsum plasters, metal, steel and plastic surface
- **with all types of tiles:** small, medium, large and very large tiles (> 1 m²) including slim large tiles
- **as a zero-flow mortar:** tiling "from the top" is absolutely possible without any support; the adhesive spreads very well and guarantees perfect filling even beneath the largest tiles; there is no risk of tiles embedding because of their significant weight
- **on horizontal and vertical surfaces:** both indoors and outdoors; for surfaces of diversified traffic intensity
- **in all types of objects:** residential, industrial, communication, public access, SPA facilities and rooms exposed to high humidity – kitchens, bathrooms, laundries and façades (also on thermal insulation systems)
- **on construction sites exposed to extreme operating load:** unique product characteristics are protected by special packaging – a foil bag which is resistant to atmospheric conditions and, unlike the traditional paper packaging, it prevents the dry mortar from dampness



Why is it worth to use ADHESIVES based on white cement?

Adhesives for tiles based on white Portland cement still represent a small share of all tile adhesives used in Europe. According to our estimates, the share of white cement based adhesives for ceramic and stone tiles on the Polish market is just about 1.5% and even less in case of adhesives for thermal insulation. To make the matter even more interesting, white adhesives have excellent technical parameters and their application range is wider than traditional grey cement based adhesives.

Adhesives based on white cement have yet one, unique but extremely important feature which should be appreciated by every contractor – they give a certain margin for mistakes. We will look into this matter further in the text.

Properties of white cement

Both white and grey Portland cement are manufactured in result of very similar technological processes. However, they differ in three essential aspects – type of raw materials used, stoving temperature and grinding level. The white cement is made from carefully selected raw materials which contain negligible amount of impurities and coloring oxides (iron, manganese, titanium or chromium oxides) – they usually do not exceed 0.3% of Portland clinker mass. The material called kaolin is often combined with chalk or high quality limestone. During the manufacturing process the ingredients are very precisely grinded in mills with special acces-

sories (nickel balls). In result, one obtains binder of very bright, almost pure white colour. In comparison to grey cement, the manufacturing process of white cement requires much higher temperature in the furnace (approx. 20%), which results in higher production costs (white cement is approx. 50% more expensive than grey one). The final result, namely

ATTENTION

In case of thin marble tiles, the discoloration can be an issue despite the use of the white cement based adhesive. However, this discoloration is only temporary.

It is caused by very high absorptivity of marble and use of very thin tiles. The fixed tiles will restore their original colour after about a week since the application. It corresponds with the time the adhesive needs to dry completely.

the white Portland cement is all in all the binder which is worth its price, because:

- it has constant and stable strength parameters,
- it contains very little amount of impurities,
- it allows the manufacturers to produce building mortars which are colored in the mass, e.g. mineral renders and mortars for tiles grouting,
- it easily binds with pigments and makes it possible to dye the mortar into different colors, depending on purpose (table below).

White and grey Portland cement

Cement adhesives for tiles are building mortars manufactured as ready-to-use (after mixing with water) compounds containing binder, aggregate of different grain size and carefully selected modifying additives. The ratio of binder, i.e. Portland cement is usually from 20 up to 40% of the mortar mass. It is the most important component, which in practice determines the strength and bonding between the adhesive and the substrate. Contrarily to one popular opinion, the adhesives based on white Portland cement and grey Portland cement do not differ only in colour of the binder. Various properties of these two types of cement impose the use of diverse volumes of binders. The types of modifying additives, which affect the working parameters and the properties of prepared adhesive, are not necessarily the same as well.



What is more, due to the expected light colour of the adhesive mortar, slightly different type of quartz aggregate is also necessary – the aggregate of brighter colour and different type of dust are required in the white adhesives compositions.

When should we use white adhesives?

Building practice shows that the use of adhesives based on the white cement is particularly justified when one is not entirely sure about the properties of a tile to be fixed. This applies in particular to:

- natural stone tiles, especially those sold in DIY markets, e.g. imported from China,
- tiles made of artificial stone (conglomerate),
- several types of polished porcelain-gres tiles,
- glass and stone mosaic,
- glass tiles, especially of bright colour or bright print.

In case of these types of tiles, due to their specific properties, the use of adhesives based on grey cement can cause their permanent discoloration.

Stone and porcelain-gres tiles

Natural or artificial stone and porcelain-gres tiles are vulnerable to discoloration. Due to high absorptiveness of the tile surface and its internal structure characteristics the colour can change. The structure of the tiles composes of capillary tubes (they are sometimes called micropores) of different shape, cross-section and diameter. Structural micropores can be divided into: open, merging, those of continuous form and closed ones which are surrounded from all sides to form voids in the material. Their size, number and diameter determine not only the porosity and absorption, but also the stone vulnerability to moisture contained in the mortar. When the tile is pressed against the layer of spread

Type of rock	Name of rock	Frost resistance	Absorptivity [%]	Risk of discoloration
NATURAL ROCKS (igneous rocks, sedimentary rocks, metamorphic rocks)	basalt	***	0.05 – 2.0	does not occur
	granite	***	0.1 – 1.0	occurs
	syenite	***	0.2 – 0.6	£0.12
	diorite	***	0.1 – 1.0	occurs
	sandstone	**	0.5 – 15.0	occurs
	limestone	*	0.1 – 1.2	occurs rarely
	travertine	**	0.5 – 4.0	occurs rarely
	gneiss	***	0.2 – 1.5	occurs
	schist	*	0.2 – 0.4	does not occur
	marble	**	0.1 – 3.0	occurs
quartzite	***	0.1 – 0.4	does not occur	
ARTIFICIAL ROCKS	conglomerate	***	4.0 – 10.0	occurs

and formed adhesive mortar, the bottom side of the tile is moistened with the water previously added to the mortar. Contamination contained in the aggregate, chemical compounds from water as well as the components of grey cement are transported through water and micropores deep into the tile structure. After water evaporation they remain inside the micropores and form unaesthetic and permanent discoloration of the tile surface visible to the naked eye.

Glass tiles

In case of glass tiles, especially those colored in bright, pastel colors, stains are formed as the result of damage of the tile backside by highly alkaline cement adhesive, or simply by uniform, dark colour of the background (because of natural, grey or dark grey colour of the adhesive mortar). Moreover, in case of glass tiles, it is also possible that stains or discoloration will appear on the tiles surface as the result of incomplete filling the space between the bottom of the tile and the substrate with the adhesive – it can happen, for example, at points where the traces of the trowel notches are left unfilled (there is too little

adhesive applied). In such cases, one can spot characteristic bright spots in the areas where there is no bonding between the tile and the adhesive.

Why not to do a trial?

Is it possible to check whether a given tile is vulnerable to temporary or permanent discoloration? Or is it possible to determine whether particular mosaic or glass tile will change in colour? Of course one can rely on distributor's or manufacturer's declarations or information. On the other hand, one can do a trial – this is the approach we recommend. The trial consists of so-called test application which must be carried out 2 or 3 days before proper tiling. One must lay at least one tile of the same type as the tiles which are going to be used on the entire surface. The bonding surface beneath the tile should be filled in 60%, whereas the remaining 40% of the tile bottom surface should be free of the adhesive. After aforementioned 2 or 3 days, one may

assess the appearance of the tile bonded in such way. The test result is positive if one does not see the difference in appearance between both sides of the tile (bonded with adhesive and free of adhesive). Only then one can start to fix the tiles, keeping in mind the adhesive and tiles manufacturer's recommendations and good tiling practice.

Attention

If there are any doubts whether a given adhesive may permanently discolor the tiles or influence their appearance, one should not take a risk. Stone tiles are usually quite expensive and potential discoloration of the surface is permanent and cannot be removed or even minimized. The tiles discolored by the grey adhesive mortar would not regain their original colour and it is rather hard to expect that the investor would accept changed colour – this is why we earlier mentioned about the margin for an error. Given all of the above, the new ATLAS adhesive based on white Portland cement will perform superbly in tiling works no matter the type, characteristics and absorptivity of the tiles.

GOOD TO KNOW

Adhesive for tiles based on white cement gives a contractor some margin for error during the assessment of the tiles characteristics.

White cement based adhesive makes it possible to avoid problems and unexpected costs related with unaesthetic discoloration or stains on just applied cladding made of highly absorbable tiles or glass tiles.



Flexible Gel Adhesives

	Atlas Ultra Geoflex	Atlas Geoflex	Atlas Geoflex White
			
Description	Highly flexible deformable gel adhesive 2-15 mm (C2TE S1 type)	Highly flexible gel adhesive 2-15 mm (C2TE type)	Highly flexible white gel adhesive 2-15mm (C2TE type)
Packaging	25 kg	25 kg	25 kg
Colour	grey	grey	white
Consumption	Average consumption: approx. 1.5 kg of dry mix / 1m ² / 1mm adhesive layer	Average consumption: approx. 1.5 kg of dry mix / 1m ² / 1mm adhesive layer	Average consumption: approx. 1.5 kg of dry mix / 1m ² / 1mm adhesive layer
Mixing ratio water/dry mix [1/kg]	0.27-0.36 l	0.26-0.33 l	0.26-0.33 l
Application thickness	2mm / 15 mm	2mm / 15 mm	2mm / 15 mm
Preparation temperature	From +5 C to +35 C	From +5 C to +35 C	From +5 C to +35 C
Type and Size of Tiles	Ceramic, Stone, Glass, etc. Small <0.1 m ² , medium, large and very large sizes >0.25 m ²	Ceramic, Stone, Glass, etc. Small <0.1m ² , medium and large sizes <0.25m ²	Ceramic, Gresporcelain, Glass, etc. Recommended for Marble and Natural Stone
Substrates	Any substrate including old tiles, terrazzo, plasterboards, OSB, damp proofing	For difficult substrates incl. concrete, terrazzo, old tiles, OSB	For difficult substrates including old tiles, terrazzo, plasterboards, damp proofing
Use	Indoor and Outdoor. On any floor including UFH, terraces, swimming pools,	Indoor and Outdoor. For floating thick-coat and thin-coat applications	Indoor and outdoor. On terraces, balconies, floor heating

	Atlas Ultra Geoflex	Atlas Geoflex	Atlas Geoflex White
Properties	<p>Wide range of adhesive thickness (2-15 mm) enables:</p> <ul style="list-style-type: none"> • thin-coat cladding fixing on even substrates, • thin-coat cladding fixing on uneven substrates, preceded by substrate floating, • thick-coat cladding fixing on uneven substrates, with no need of substrate floating. <p>No slip of cladding made of tiles of any type, including large size and stone ones – enables fixing the cladding “from the top” with no need of support at the fixing stage.</p>	<p>Wide range of adhesive thickness (2-15 mm) enables:</p> <ul style="list-style-type: none"> • thin-coat cladding fixing on even substrates, • thin-coat cladding fixing on uneven substrates, preceded by substrate floating, • thick-coat cladding fixing on uneven substrates, with no need of substrate floating. <p>No slip of cladding made of tiles of any type, including large size and stone ones – enables fixing the cladding “from the top” with no need of support at the fixing stage.</p>	<p>Wide range of adhesive thickness (2-15 mm) enables:</p> <ul style="list-style-type: none"> • thin-coat cladding fixing on even substrates, • thin-coat cladding fixing on uneven substrates, preceded by substrate floating, • thick-coat cladding fixing on uneven substrates, with no need of substrate floating. <p>No slip of cladding made of tiles of any type, including large size and stone ones – enables fixing the cladding “from the top” with no need of support at the fixing stage.</p>
Additional Properties	<p>Highly flexible - deformability S1 - compensates substrate deformation and internal stress. Perfect stabilization of large size tiles (even > 1 m²) fixed on horizontal surfaces – tiles do not sink in the mortar layer</p>	<p>Flexible volume of batched water allows for flexible consistencies - can be an adhesive of reduced slip or liquified adhesive depending on actual needs</p>	<p>The use of white cement limits the occurrence of discolouration of natural stone and marble cladding. Perfect for glass mosaic and glass bricks bonding- owing to high adhesion and white cement.</p>
Maturing time	5 minutes	5 minutes	5 minutes
Floor access	Foot traffic and grouting after 12 hours. Floor heating after 14 days.	Foot traffic and grouting after 12 hours. Floor heating after 14 days.	Foot traffic and grouting after 12 hours. Floor heating after 14 days.

Quotation for 50 sqm tiles installation

MATERIALS

Materials usage for 50sqm of tiles installation

Name	Feature	Dimension	Weight [kg]	Price [unit]	Qty	[unit]	Costs	TOTAL
ceramic floor tile (terracotta)	TROVAN BEIGE satin	32.5*32.5cm	5.000	£30.00	55.00	m ²	£1,650.00	£1,815.00
adhesive for ceramic tiles	GEOFLEX GREY high flexible	bag=25kg	1.000	£18.25	10.40	kg	£189.80	£211.12
grout	AVAL Extra 035, grey	bag=5kg	5.000	£10.00	3.50	bag	£35.00	£38.50

* all products available at IBB; prices before discounts

NET	£2064.62
VAT	£412.92
GROSS	£2477.54



All Pictures shown are for illustration purpose only

LABOUR

Labour – 50sqm tiles installation

Name	Price [unit]	Performance	Qty	[unit]	Costs	TOTAL
Tiler	£10.00	1.600	80.00	lh	£800.00	£1,456.00

Disclaimer!

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. We cannot accept any responsibility for anyone using this information – you must make your own checks.

NET	£1,456.00
VAT	£291.20
GROSS	£1747.20



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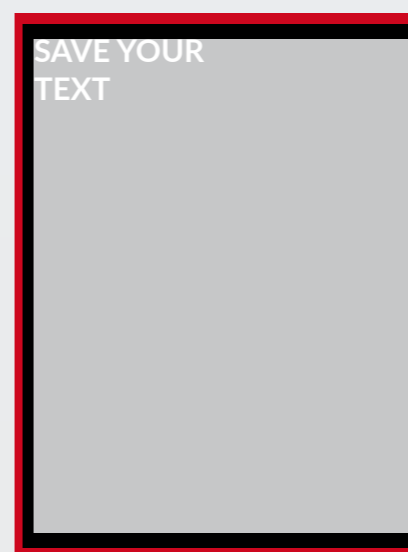
MEDIA PACK 2018

CLOSING DATES

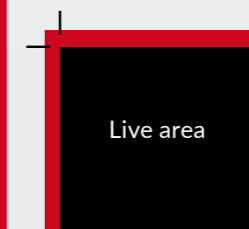
No	Issue	Closing	Availability
1	January 2018	30.12.2017	01.01.2018
2	February 2018	30.01.2018	01.02.2018
3	March 2018	28.02.2018	01.03.2018
4	April 2018	30.03.2018	01.04.2018
5	May 2018	30.04.2018	01.04.2018
6	June 2018	30.05.2018	01.06.2018
7	July 2018	30.06.2018	01.07.2018
8	August 2018	30.07.2018	01.08.2018
9	September 2018	30.08.2018	01.09.2018
10	October 2018	30.09.2018	01.10.2018
11	November 2018	30.10.2018	01.11.2018
12	December 2018	30.11.2018	01.12.2018

Terms & Conditions may apply.

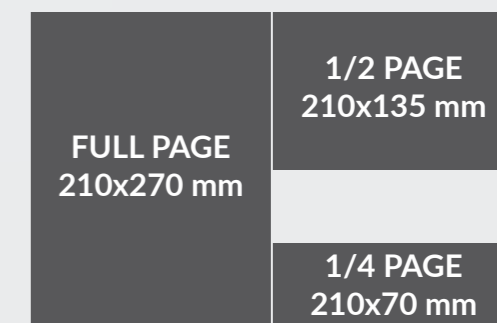
ADVERT SPECS



- Bleed 3mm around
- Save area 5 mm around
- Live area



- Requirements:**
- 300 dpi
 - CMYK



1/4 PAGE
210x70 mm

On Saturday, 24th February 2018, on their home court, IBB Polonia defeated Wessex in straight sets to reach the final of the National Cup. The team from West London never gave their rivals a chance of winning and thanks to such an emphatic victory 3-0 (25-19; 25-16; 25-11) made it through to the final.

"Wessex is always a very difficult opponent to play against as it is quite a young and very agile team. We were, however, very well prepared both physically and tactically for this match. The stuff we focused on in training paid off during the match. Our serving was

a crucial element of success as we pushed the other team away from the. Our passing was excellent and although they tried to find weak points in our reception we were solid throughout and that in turn allowed our setters to play dynamic and fast volleyball with combinations through the middle of the net and both wings. In addition a few successful digs in defence, and two or three rallies that ended in our favour also gave us psychological edge and that allowed us to dominate the game especially in the second and third sets. The performance of the team was excellent and we should be striving to play consistently at this level." - said Marcel Sivak, IBB Polonia London libero.

The match was an emotional one, not only for the players and members of the Club, but also for

the numerous fans. Brentford Fountain Leisure Centre became a magnet for volleyball spectators and for those who love IBB Polonia London VC. The support was, traditionally, vociferous and this helped the home team secure another win.

"I think the entire match was enjoyable for the players but also for the fans who were ultimately one of the deciding factors in yesterday's win. The support and the atmosphere were incredible and urged us on. We are very grateful for the energy they expend in pushing us through tough points." added Marcel Sivak.

"Every match played is an emotional affair. On Saturday, the energy was amazing from the stands because the prize was a place in the final. We are delighted that our support helped realise the goal. We look forward to even more success in the near future. I would like to encourage all those who love volleyball to join us in supporting the team at the next matches and also to become a member of the Fan Club. We want more people to enjoy what we do and to help our team to defend both titles this year." commented the President of the Official Fan Club, Jan Ploszaj.

IBB Polonia London now plays a number of league matches. Next Saturday Piotr Graban will lead

his players to take on local rivals Richmond Docklands. The match starts at 2.30PM and tickets are available online. The final of the National Cup takes place in less than two months. The game will be on Saturday, 14th April at the National Volleyball Centre in Kettering. The opponents will be the current Super 8 league leader: Team Northumbria. The northerners beat Sheffield Hallam 3-0.

"Northumbria is a strong opponent and they have been performing very convincingly. We are however a much more experienced team, including experience

from playing in finals which adds to our advantage. I am therefore very confident that we have all the tools to be successful and defend the cup championship." - ended Sivak.

More information will be found online and also on IBB Polonia Facebook page.

IBB Polonia London has three victories of the National Cup (1990-91; 2015-16; 2016-17). Two years ago the victory was against Team Northumbria.

In the final of the National Cup again!



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The winning streak for IBB Polonia London continues

On Saturday, 17th February volleyball and emotions returned to West London. The match took place against Essex Blaze at the Brentford Fountain Leisure Centre resulting in a relatively simple 3-0 victory (25:19; 25:13; 28:26) for IBB Polonia London. Thanks to this another three points have been added to the league table returning the team to second position. This coincided with a loss for the second placed team which played into the hands of Piotr Graban and his players.

The match started very evenly with both teams trading points until the first technical time out; but by the time of the second break, IBB Polonia London were three points ahead. The set ended swiftly 25-19 in favour of the home team. The second set saw a total dominance and IBB Polonia London were once again the victors 25-13. The lead at the first technical time out was six points and a powerful attack by Dorian Poinc won the second set. In the third set, the Londoners were in control until about half way through the set, when Essex Blaze stepped up the serving pressure and risked everything to do what they could to take a set of their own. The set was tight throughout, but at the last moment an error or two from the visitors gave the match 3-0 to IBB Polonia London.

"I'm really pleased about the three points. We played quite well, perhaps with the exception of the third set, and were well in control. We visibly relaxed towards the end and this gave Essex a sniff of a chance. It was great to be able to use the entire bench during the game and it let me see what the

reinforcements were capable of." – said IBB Polonia Head Coach, Piotr Graban.

There was a great atmosphere in the stands, with vociferous support from fans who had travelled from far and wide to cheer Londoners to victory. The DJ played motivating music and led the support in the hall. The game was transmitted by Polsat on Polsat sport Extra and also via the internet. All of our fans who were unable to be at the game in person, were able to watch through a variety of media. The match is available to view on IBB TV.

The team now has a week of heavy training, because on Saturday IBB Polonia London have the chance to make it through to the final of the National Cup. The opposition will be Wessex VC; the match will start at 3PM and ticket are available here.

"We have some areas of focus before the Semi Final of the Cup and we will aim to focus on this areas so we can get to the final. After that we have the end of the Super 8 League to work on and then the playoffs." – added Graban.



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Another three points

The volleyball team from the capital of England played an away match against Essex Blaze on Saturday, 10th February and won in three sets. The newcomers to the division played their hearts out pushing the Champions to the very end of each set. Sadly for them, they were unable to make the last phase of each set count and were the eventual losers. The result was 0:3 (22:25; 24:26; 21:25 for Graban's charges giving another three points to the league table.

"Despite the fact that Essex train seven times each week, compared to our three, we did sufficient to take the victory. The match was littered with

errors from both teams, but the victory is all that counts. Now we can start to focus for the end phase of the season which will determine the champions of 2018." said Piotr Graban.

"We started confidently and gathered our own rhythm. Despite this mistakes crept in and this allowed Essex to gain some confidence and they became a thorn in our side. I'm pleased we could maintain our advantage throughout and come home victorious. It's not easy playing there, and do three sets is a great result. We need to analyse some specific sections of our game and work hard on these elements. We play the same team once again next week and don't want any nasty surprises." said middle blocker, Vitor de Oliveira.

The next match is on Saturday, 17th February against Essex Blaze and starts at 4pm. Once again the match will be broadcast live on TV and streamed. Tickets are available online or via our sponsors IBB Builders Merchants who have organised a special promotion for the week. The match will be televised live from Brentford Fountain Lei-

sure Centre and will be shown on Polsat Sport Extra and also on ibb.uk/tv.

"The next game will be a good test for us as we approach the Semi Finals of the National Cup of England. February's goal is to win twice against Essex and also to win the Semi Final. We will do everything we can to get to the final and then to defend our title. The macro and micro cycles are now starting to fit together to allow us to peak towards the end of the season once again." added Graban.

The return fixture next week, will not be the last of the matches for the month. The Semi Final will be scheduled for 24th February and will be played against Wessex in the home venue in Brentford. The prize will be a place in the final.

"With every match, we gain more experience and become stronger as athletes to help us with the remaining matches of the season. We hope to prepare fully for the final weeks of the season so we can retain our double championships." added de Oliveira. Details of the ticket offers are available here.



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2017/2018

Sponsorship & Advertising Offer

The marketing and ticketing goals of the IBB Polonia VC club primarily consist of rising funds for: improving the professionalism of the team, improvement of match fixtures & coverage of television broadcast costs.

TICKET-DONATION FOR THE MATCH

Normal	£10.00
Discounted	£5.00
Children under 16 / seniors over 60	FREE
VIP (Sponsors and invited guests)	FREE

MATCH ADVERTISING OFFER WITH TV BROADCASTING

Electronic banner during live matches - 1 spot * 2 minutes	£500.00
Sticker next to the pitch	£1 000.00
Roll-up 2*1m	£800.00
Own banner on the stand (one piece) held by the advertiser	£1 000.00
Individual photo with the team after the match	£500.00
Ball with player signatures	£200.00
T-shirt with player signatures	£300.00
Club mascot during the match with the advertiser's logo	£1 500.00

OFFER FOR SPONSORS

Main Sponsor Gold - Large logo on the shirt, front and back (price per year)	£30 000.00
Sponsor Silver - Medium logo on the shirt, front and back (price per year)	£20 000.00
Sponsor Bronze - Small logo on the shirt or shorts	£10 000.00
Sponsor of an event/match - live and broadcast on Facebook, Polsat, Unilad and later available on YouTube and IBBTV	£6 000.00
Electronic banner for live matches - respectively: 4 spots x 2 minutes (Sponsor Gold and Match Sponsor), 3 spots x 2 minutes (Silver), 2 spots x 2 minutes (Bronze)	included in package*
In addition to the Sponsors' offer: article, photos, company profile in IBB Builder and at www.IBBPolonia.vc	included in package*
The right to distribute Sponsor's merchandise during the match	included in package*
Club shirt with player signatures	included in package*
Volleyball balls with player signatures	included in package*
Crystal trophy with thanks for support after the season	included in package*
Gold, Silver and Bronze Sponsor Logo on season tickets and on printed, distributed team materials	included in package*

NOTE TO THE SHAREHOLDERS. "PLANNED SALE PRICE" The holder of shares in IBB Polonia acquires:

- 0.5% discount on marketing services listed below for 1 share and up to 50% maximum; planned sales price per share for 2017 - 100 GBP; 2018 - 150 GBP; 2019 - 200 GBP
- The right to a ticket - donation at a reduced price reduced of 5 GBP or VIP
- 50% discount on team merchandise

* gold, silver, bronze and match sponsor (during the sponsored match) only

For more details visit www.polonia.vc

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ATLAS
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3-10 mm

AVAL GEOFLEX WHITE
HIGHLY FLEXIBLE GEL
ADHESIVE
£13.95 net*
RP £23.25 net ALL PRICES FOR REGISTERED CUSTOMERS ONLY.

25KG



AVAL
KT 16

AVAL KT16 CERPLAST
PRIMER FOR RENDER
25KG
£37.50 net*
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25KG



ATLAS
GEOFLEX
WYPOKRESLAJACY
KLEJ BIAŁY
3-10 mm

AVAL GEOFLEX
HIGHLY FLEXIBLE GEL
ADHESIVE
£10.95 net*
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5KG



AVAL
KT 16

AVAL KT16 CERPLAST
PRIMER FOR RENDER
5KG
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25KG



ATLAS
KT 17
WYPOKRESLAJACY
KLEJ BIAŁY
10 kg

AVAL KT17
PRIMING EMULSION
10KG
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5KG



AVAL
KT 17

AVAL KT17
PRIMING EMULSION
5KG
£8.75 net*
RP £14.75 net ALL PRICES FOR REGISTERED CUSTOMERS ONLY.

25KG



ATLAS
GEOFLEX
ULTRA
WYPOKRESLAJACY
KLEJ BIAŁY
3-10 mm

AVAL GEOFLEX ULTRA
HIGHLY FLEXIBLE GEL
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6'600*1200mm



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MONTHLY DEAL

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75*1200*2400mm



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