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qube magazine

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Burns and Scalds Injuries in the workplace

CE Safety

- 23,000 workers reported a burn injury in the past four years
- Additional 1,745 burn injuries were reported by an employer
- Between 2013 and 2015 five employees have suffered a fatal burn injury

The latest data has shown over half a million (595,000) people reporting being injured at work between 2015 and 2018.

The most prevalent types of injury which are self-reported and the numbers of incidents in their thousands include strain and sprain, superficial, lacerations and open wounds, fractures and broken bones, burns and scalds, and dislocation of joints.

CE Safety the health and safety training company, conducted an analysis of Labour Force Survey from the past four years (2015 to 2018) and found that 23,000 workers reported suffering from non-fatel burns or scalds.

This means that an average of 75 workers out of every 100,000 suffered from a burn or scald at work.

According to Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), between 2013 and 2018, five people were reported by employers to have suffered a fatal burn injury. The number of non-fatal burn or scald injuries reported by employers during the same period was 1,745.

Gary Ellis, Health and Safety trainer at CE Safety, says: “The British Burns Association, confirmed that while the most common place of injury is the home for children and the elderly, for adults, it is the workplace. The data we analysed show that the number of self-reported burn injuries is worryingly high.”

According to the World Health Organization, the most common types of burn injuries in the workplace occur as a result of accidental misuse or mishandling of thermal, chemical or electrical sources or because of fire.

The Health & Safety Executive states that many serious accidents at work resulting in burns can be avoided using due diligence. Employers can be fined heavily if these injuries result from unsafe work practices, including employees not having the correct protective clothing or equipment.

6 Steps to follow if you or someone else has been burnt:

1. Quickly stop the burning by removing the person from the area, dousing flames with water or smothering flames with a blanket.
2. Remove any clothing or jewellery near the burnt area but nothing which is stuck to burnt skin and could cause further damage.
3. Cool the burn with cool water for 20 minutes as soon as possible. Never use ice, iced water or greasy substances, like butter.
4. Keep the person warm using blankets or clothing but never place them on the injured area. Warmth will prevent hypothermia, where a person’s body temperature drops below 35C (95F). Hypothermia is a risk when cooling a large burnt area.
5. Place a layer of cling film over the burn, rather than wrapping around a limb. A clean plastic bag can be used for hand burns.
6. Sit upright if the face is burnt. Avoid lying down as this could increase swelling.

Ellis adds: “If you or someone else has been burnt make sure that you immediately visit A&E if the burns are bigger than the victim’s hand, if the burns cause white or charred skin, you or the victim are burnt on the face, hands, arms, feet, legs or genitals that cause blisters, or the burns are chemical or electrical.

All burns and any other injuries in the workplace need to be taken seriously. Ensure you are aware of where your first aid kit is or who is the person, in your team, who has undergone first aid training to ask them any questions you might have.”

London Build

Congrid

London Build is a professional event in the construction sector, held November 27-28 at Olympia London Hall.

London’s leading construction event brings together 25,000 construction experts, 500 speakers and 350 exhibitors to network and hear about new industry trends. The event will address current issues in the industry, such as the culture of the construction industry, sustainable development and future construction. In addition, there will be views on how digitalization and technology are shaping the industry now and in the future.

Congrid will participate in the event in the role of speaker and exhibitor. Congrid’s British regional manager Daniel Hunt goes on stage together with YIT’s quality manager Pauli Neuvonen to share views on the Nordic strategy for quality management in construction projects.

YIT, the largest construction company in Finland, uses the Congrid software for quality and safety management at its construction sites. The decision to switch to the Congrid software was based on the construction company’s need to digitize its construction documentation and improve the flow of information between all systems and stakeholders. YIT has also integrated its back-end system with Congrid, which enables automatic data transfer and analysis.

The Tripla project, which has been selected as Finland’s best construction site in 2018, has used the Congrid software for several years to digitize occupational safety and quality documentation. By engaging subcontractors, Tripla shows that each party in the construction project has the opportunity to influence the result. The project is characterized by seamless collaboration and a spirit of partnership, which is the result of YIT’s desire to adopt new ways of working to achieve the highest quality and safety.

For Congrid, 2019 is a year of international growth. The company has exported safety and quality management knowledge to international markets and become familiar with industry practices and solutions.

London Build is a great opportunity for Congrid to learn more about current issues and developments in the British construction industry and to build new relationships within the industry.

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66% of SMEs say recruitment process favours the young

88% of firms agree that there are real benefits to employing older workers

58% confirm that one third or more of their workforce is over the age of 50

Despite SMEs overwhelmingly understanding the benefits of employing older workers - with their experience being particularly valued along with their ability to mentor more junior members of the workforce - most feel that the recruitment process discriminates against older workers.

This is causing half of those polled to admit to already struggling to recruit the talent they need or to foresee problems in the future. The larger the business, the bigger the concern becomes.

The figures were obtained from the latest independent research of 933 UK SMEs commissioned by Close Brothers Asset Finance and conducted by Lightspeed, a specialist research firm, in September 2019.

“Our research has found that in recruitment there is the sense that it’s not currently a level playing field between the generations, with 66% of SME business owners of the view that the process favours younger workers,” said Neil Davies, CEO, Close Brothers Asset Finance. “This sentiment is particularly strong in the engineering sector, which trends well above the national average at 76%, and suffers from a significant skills shortage.

“It’s widely acknowledged that older workers bring with them valuable experience accumulated over the course of many decades, which comes with many attendant benefits for organisations. Positively, the findings also reveal that many businesses recognise that employing people with more experience is an opportunity to mentor and train those new to employment while also providing a level of stability and level headedness to the workplace.”

Future concerns

While 52% of firms are comfortable with being able to recruit the talent they need in the coming five years, 35% are predicting problems in the future and a further 13% say they’re already struggling.

For a more detailed breakdown or discussion about the results, contact Anton Nebbe, Head of PR and Communications, 07736 286 144, anton.nebbe@closebrothers.com.

Celebrating Christmas improves productivity

- 73% of workers in the construction industry say that Christmas traditions in the workplace boost morale

- Just 39% of construction bosses offer a Christmas party for their staff

Implementing Christmas traditions in the workplace can boost productivity levels, new research has found.

A study carried out by Christmas Tree World has found that 74% of employees are motivated to work harder if their employer embraces the festive period despite only 36% of businesses offering a Christmas party for their staff and almost a quarter of businesses (24%) avoiding Christmas completely.

December is known as the time of the year that staff productivity levels can dip to the lowest point, however an overwhelming majority (78%) of those polled claim to work as hard or harder in December, with 22% of these citing the reason as so they can enjoy time off over the festive break.

The research of 1,000 UK workers also revealed that more than half (60%) of employees are likely to be more productive if Christmas incentives such as bonuses are available, despite only 15% of UK businesses offering this.

However, it’s not just financial rewards which are proven to drive productivity with 74% of workers claiming office festivities, such as decorations, Christmas trees and Secret Santa traditions, boost morale and productivity, despite only 36% of workplaces investing in this.

39% of workers polled believe Christmas parties enhance productivity levels due to improving teamwork and communication.

Stephen Evans, managing director at Christmas Tree World commented: “It’s shocking to see the high number of businesses which are simply missing a trick in embracing the festive season as this research demonstrates it really does pay dividends in boosting staff morale, happiness and productivity.

“It’s understandable that some companies are unable to offer financial rewards such as Christmas bonuses, and even a Christmas party as costs can escalate, though it’s surprising to see how few companies even put up a Christmas tree and decorations in the workplace.

“It’s clear to see from our research that bringing a bit of festivity into the office can go a long way to improving workplace productivity at this time of year.”

Christmas Tree World is one of the UK’s premium artificial Christmas tree retailers, providing unique and realistic decorations to provide a truly magical Christmas for all the family.

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New Oil and Gas Industry Council launched to support competency drive among the supply chain workforce

Members of the new Industry Council sign the charter in support of Connected Competence in Aberdeen.

Pic: (L to R): Keith Scott, Petrofac; Shaun Dewar, Petrofac; Shaun Poll, Worley; Sandy Bonner, Bilfinger Salamis. FRONT (L to R): Steve Hunt, Stork; Craig Shanaghey, Wood and Phil Davie, Aker Solutions.

Leaders of major engineering companies within the oil and gas sector have joined forces to improve competency assurance across the supply chain community.

Managing Directors from companies including Aker Solutions, Bilfinger Salamis, Petrofac, Stork, Wood and Worley signed an industry charter in which they agreed to mandate the Connected Competence programme as a pre-requisite for employment with them as of the 1st April 2020.

Connected Competence aims to standardise and assure competence requirements for the contractor workforce. It was created by Government-sponsored skills body, the Engineering Construction Industry Training Board (ECITB), and major contractors within the upstream oil and gas sector, to address the inefficiencies and workforce inflexibility caused by operators differing demands for base level technical competence.

The companies, who provide a significant majority of the manpower required to maintain critical assets in the North Sea and beyond, are part of a new Industry Council to improve competency assurance across the supply chain community. In addition to founding companies, the Council meeting in Aberdeen was also attended by senior representatives from within the Scottish Government, Skills Development Scotland, Oil & Gas UK, Oil & Gas Authority and North Sea Operators.

The Council pledged to work collaboratively to ensure the industry certifies the technical competence of its workforce in a consistent manner, reducing barriers to the timely deployment of workers. At the meeting Craig Shanaghey, Industry Council Chair and President of Operations at Wood, committed to exploring how Connected Competence can be used to mobilise the core and transient workforce ahead of a challenging shutdown period in 2020. Oil and Gas UK has suggested this will require an additional 4,500 workers and the increased demand could result in resources becoming significantly stretched during the shutdown season window and the increased risk of unskilled labour entering the market.

Chris Claydon, Chief Executive of ECITB, said: “This competence assurance initiative has the potential to deliver a step change in productivity and safety for the oil and gas sector as well as the wider engineering construction industry.

“The benefits are numerous, not least in helping to mobilise skilled workers to the projects that need them. This includes supporting the transfer of workers to other energy sectors where they are required, thereby helping to retain skills within the wider engineering and construction industries.”

Chris Claydon, ECITB Chief Executive

Craig Shanaghey said: “For too long, the oil and gas industry has suffered from the lack of a common approach to competence assurance, resulting in unnecessary costs and severely inhibiting the mobility of our workforce.

“Faced with the need to mobilise thousands of additional workers next year and ensuring a strong safety culture is maintained, the Connected Competence programme is critical to the success of the supply chain and will ensure the wider industry benefits from a competent and skilled workforce required to achieve Roadmap2035.”

Under the Connected Competence programme, workers undertake a cycle of practical tests designed to prove ongoing technical competence. By passing the tests, workers are able to demonstrate they have the necessary craft or technical skills recognised through a standard model eliminating costly retesting and retraining. The competency passport will also enable workers to more easily transfer to other energy sectors which experience peak demands similar to Oil & Gas, thereby helping to build a more resilient, mobile and sustainable contractor workforce.

Elis launches new washroom service

Elis, which supplies and launders workwear, linen and mats for businesses of all sizes throughout the UK, has launched a new washroom service, supplying a range of products including hand cleansing, hand drying, air freshening and feminine hygiene solutions.

The new washroom products, like all Elis services, are provided on a cost effective rental basis, with items serviced and delivered to an agreed time and location to suit customers. The washroom solution, along with Elis’ mats service, that helps keep floors fresh and clean, and its workwear and linen supply and laundry, mean that businesses can use one supplier to manage, service and launder essential items for their business.

Elis developed its new washroom service after providing washroom products via a third party for over 20 years. Comments Anna Freeman of Elis: “We listened to customer requirements and used our experience, and also the fact that Elis in other countries has been supplying its own washroom services for many years, to develop a service direct to customers. Cutting out the middle-man has meant we can ensure service reliability, competitive prices and customer satisfaction. Our nationwide washroom service has a fresh new and durable product range and strong environmental credentials.”

Elis provides a nationwide service from its 43 industrial laundry service centres across England, Scotland and Wales. Each use the latest technology and systems and have their own collection/delivery fleets for maximum reliability. Elis is committed to reducing its environmental footprint and in the UK has been recognised by the Carbon Trust for reductions in CO2 emissions and water usage.

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You probably walk past the fire extinguishers in your premises every day without a thought. But those little devices are primed and ready for action when needed. But are you? Do you know how to use one? Do you know which types you should be using? How often should they be serviced? And what to do with out of date ones? Ashley answers the most commonly asked questions. You may never look at a fire extinguisher in quite the same way!

Even if your premises are kitted out with the latest fire detection and suppressant systems, fire extinguishers are an essential asset when it comes to proofing your building against a fire emergency.

They can help control small outbreaks of fire quickly, preventing flames from spreading and causing more damage. In more severe emergencies, fire extinguishers can save lives, helping keep an evacuation route clear and providing crucial access to escape points.

“The Chief Fire Officers’ Association (CFOA) estimated that 60% of private businesses never recover from a fire.”

In the UK and Wales, The Regulatory Reform (Fire Safety) Order 2005 includes the present fire extinguisher rules that you’ll need to abide by. A good fire company can explain what you need to comply with the Order, but if you are responsible for fire safety in your organisation you must have a basic understanding of fire extinguishers. That has to start with an understanding of fire itself.

Classes of Fire

There’s no smoke without fire, or so the saying goes. If only it were that simple. True, the two go hand in hand, but you may be surprised to realise there are different types of fire, with different characteristics. Some fires smoulder with large amounts of smoke and others are the opposite - fast flaming fires with almost invisible smoke. Here are the six classes of fire pertinent to most standard commercial premises:

- **Class A** - fires involving solid materials such as wood, paper or textiles.
- **Class B** - fires involving flammable liquids such as petrol, diesel or oils.
- **Class C** - fires involving gases.
- **Class D** - fires involving metals.
- **Electrical Fires** - fires involving live electrical apparatus (it doesn’t get an ‘official’ category)
- **Class F** - fires involving cooking oils such as in deep-fat fryers.

Class A is the most common fire type, but walking around your premises you should be able to identify areas where other fire types might arise.

Matching the Fire with the Fire Extinguisher

Over the years, different types of fire extinguisher have been developed to deal with the different fire types. Here are the types of fire extinguisher, their colour code (put on the extinguisher for quick identification) and what types of fire they are suitable for:

- **Water** (red label): Class A only
- **Water Mist** (white label): All classes
- **Foam** (cream label): Class A & B
- **Dry Powder** (blue label): Class A, B, C & some electrical
- **Carbon Dioxide (CO2)** (black label): Class B & electrical
- **Wet Chemical** (yellow label): Class A & F
Fire & Security

At present, UK rules require you to have a minimum of two water extinguishers on each level of the building, typically located by exits and fire alarm call points. However, a combination of one water and one CO2 or foam fire extinguisher is a common approach as the latter can be used to safely extinguish electrical fires without any damage to electrical equipment, which is present in most buildings.

Whilst dry powder extinguishers on the surface look suitable to cover a range of fires, it should be noted that these are not ideal for enclosed spaces as the powder is easily inhaled and the residue is not easy to clean up.

If you are, however, looking for a fire extinguisher that covers all the standard fire types then Water Mist extinguishers are for you. One of the newer technologies on the market, Water Mist extinguishers release microscopic particles of water that suffocate a fire rather than douse it. As they can be used for all fire types, they are ideal for using in areas that have multiple fire risks, rather than requiring multiple fire extinguisher types.

The Life of a Fire Extinguisher

Let’s face it, most fire extinguishers will never do a day’s work in their lives…and that’s the way you want it! However, should you have need of them you want them ready to work at a moment’s notice.

To ensure they work, they need to be serviced every twelve months or after each use. They must be replaced at the end of their lives which is ten years for CO2 extinguishers and 15 years for all others. Even if your extinguisher hasn’t been used or is new, check it regularly and get it replaced if you notice any of the following characteristics.

- The hose or nozzle is cracked, ripped, or blocked with debris.
- The locking pin on the handle is missing or unsealed.
- The handle is wobbly or broken.
- The inspection sticker or hang tag, with a record of check-ups and maintenance, is missing.

If you do have to dispose of your extinguisher, then do not put it out with your rubbish. If you have very small premises with just a couple of fire extinguishers then you could take them to a local recycling centre where staff will know what to do with them, but do check with your council first. By far the easiest option is to arrange for disposal by a recognised and licensed disposal company, who will make it safe before removing it and make sure you get a Waste Transfer Note as proof.

Using Your Fire Extinguisher

Of course, it’s not just your fire extinguisher that needs to be ready in the event of a fire – you do too. The good news is that fire extinguishers are easy to use, mostly with the P.A.S.S. method:

- P. Pull the pin on the fire extinguisher to interrupt the tamper seal.
- A. Aim the fire extinguisher low, with the nozzle pointed at the base of the fire.
- S. Squeeze the handle of the fire extinguisher to unleash the termination agent.
- S. Sweep the nozzle from side to side at the bottom of the fire until it’s extinguished.

If the fireplace re-ignites, repeat the last three steps.

Ultimately, for maximum safety, convenience and to ensure you fully execute your duty of responsibility, employing the services of a professional fire company to deal with your fire extinguisher needs is the sensible approach and one that most organisations take. Look for a company that is accredited with Fire BAFE SP203-1, NSI Gold and ISO 9001 which prove they have been trained and regulated in all areas of fire system design, installation, commissioning and maintenance. Stanley Security is fully accredited and also provides 24/7 monitoring for fire systems through our NSI Gold Approved Monitoring Centre located in the UK.
As a service and maintenance engineer for leading uninterruptable power supply (UPS) manufacturer CENTIEL, life is never dull! I work with datacentres and organisations with UPS installations all over the UK. This requires liaising with facilities management teams on a daily basis for maintenance visits, site surveys, installations and emergency callouts.

On a typical day, I will normally have a maintenance call in the diary at some point. This can be for what we call a ‘minor’ maintenance visit or a ‘major’ maintenance visit. A minor maintenance is a visual six-monthly check over of the UPS equipment to make sure it’s all working correctly. I will also inspect the batteries which provide the back-up power to the UPS unit for signs of wear and tear and do a short battery test on-site.

For a major maintenance visit, I would complete a full inspection of the kit, including lifting the covers, checking the fans, capacitors, batteries, etc. If all is well, I would complete a switching test or a ‘mains discharge test’. This means I literally turn the power off to mimic a power outage to ensure the UPS switches over to battery power. I monitor the batteries during the discharge and re-charge to ensure they are performing optimally.

While the UPS is switched off, the site load is supported by the raw mains supply. Any mains interruptions while the UPS is on bypass, will directly affect the site load. Due to this, some customers prefer their ‘major’ maintenance visit to take place outside of normal working hours. However, if their UPS system is set up in an N+1 configuration this redundancy means it is possible to switch the mains power off and remain protected allowing tests to be completed safely.

These tests allow me to make any necessary recommendations for any replacement parts or batteries. It’s really important to replace batteries before their end of life. We say ‘it’s better to replace one year early than a day too late’ as one faulty battery will bring down the whole string, which could cause power protection issues and end up being far more costly for the client.

Next, I’m out on the road again, often supporting our project management team, checking a new site ahead of an installation. Clients and facilities management teams can give us much of the information we need over the phone, but it is important to check access in person too. This is because we are often installing many tonnes of battery equipment and the UPS itself can weigh around half a tonne, so any access issues need to be addressed in advance.

For a recent pre-installation visit, I discovered a step into the comms room which had not been highlighted. This may seem like a small detail, however, knowing this ahead of the installation allowed me to build a ramp to ensure equipment could be delivered and therefore, avoiding delays during the install. A different pre-installation visit recently revealed a broken goods lift which was needed to move 16 tonnes of batteries between floors. Identifying this issue ahead of the installation allowed us to work with the client to provide an alternative solution.

Emergency call outs are the other part of my day. Such calls can happen at any time and often outside normal working hours! Although we manufacture and maintain CENTIEL’s UPS solutions which are renowned for their industry leading levels availability (9.99999999%) with just milliseconds downtime per year, we also look after third party manufacturers’ UPS systems on maintenance and service contracts too.

I was recently called to a major financial institution that had experienced a power outage which took out half the building for half a day. Power protection was supplied by a third-party manufacturer’s UPS which had failed due to a downstream power spike taking out some of the components. I needed to create a temporary power feed to get the system up and running again and the order replacement parts for a permanent fix.

I have to ‘plug’ CENTIEL’s CumulusPowerTM UPS here, which is a ‘truly’ modular system, meaning if one component fails the other modules take over the load so there is no single point of failure and the power remains protected at all times. Replacement of the modules takes just a matter of minutes. If a correctly configured CumulusPowerTM had been installed at this particular financial institution, there would have been no downtime or disruption at all. Educating clients about the advantages upgrading to a more reliable and available UPS system which also results in a lower total cost of ownership is just part and parcel of the job!
Refrigeration efficiency in Catering

In excess of 1.6bn tonnes of food worth around $1.2tn is lost or goes to waste each year – one third of the total amount of food produced globally – due to inadequate refrigeration systems. Shaun Evers, managing director of Stonegate Instruments, explains the high potential for inefficiencies and the excessive food wastage this can lead to.

Cold storage and refrigeration units are essential for maintaining temperatures and therefore the quality of food products and, if operated correctly, they have the potential to not only drive significant reductions in food wastage, but also energy. Equally, failure to maintain the integrity of cold storage can lead to significant deterioration of perishable food, as well as breaches in regulatory compliance and increases in carbon emissions.

High potential for energy inefficiency

The continual growth in the refrigerated food market and ongoing food safety challenges, paired with heavy consumer demands for better quality products with an increasingly extended shelf life, means refrigeration is a critical element of the food supply chain and one fraught with the potential for energy inefficiencies. It is also a hotbed of health and environmental hazards.

There are a number of areas that can lead to refrigeration inefficiencies. From simply overloading fridges, or doors accidentally being left open which leads to inefficient temperature control, to energy loss caused by a leak of refrigerant gas. Leaks can occur for a number of reasons, from improper maintenance and mechanical damage to accidental release during refrigerant replenishment.

Eating away at your energy consumption

With these factors in mind, kitchens and catering facilities can enjoy a number of benefits from optimising equipment efficiency. Properly maintained refrigerators, working at the right temperature and without any refrigerant gas leaks, keep food fresh for longer, dramatically reducing spoilage.

And it may seem like a minor error, but leaving a door open can force a system to work harder to stay cool, in turn using more energy and incurring higher energy costs. An easy way to prevent doors accidentally being left open for an extended period is to install an alarm.

As previously mentioned, reducing the chance of refrigerant gas leaks, or spotting and stopping them as early as possible, will not only improve energy efficiency, but will also help protect the environment – figures from the Carbon Trust show that a leak of 1kg of refrigerant gas has the same environmental impact as a van driving for 10,000 miles.

Refrigeration inefficiencies don’t have to lead to food wastage
Leaks of refrigerant gas are dangerous for several reasons, not least because they often go undetected as the gases in question are odour-free and cannot be seen. When a leak does occur, it impacts on the performance of the refrigeration equipment, putting food at risk of being spoiled.

Poor equipment performance from gas leaks can also result in spiralling energy costs. For example, if left unrepaired for three months, a small leak in an average 300kW refrigeration system could result in increased energy costs of £1,400 – not to mention the repair bill once the leak is identified.

For some organisations, refrigeration costs account for around half of their entire energy bill.

Fortunately, there are various steps that can be taken to minimise the amount spent on electricity.

**Managing your refrigeration systems**

Managing a cold storage system successfully requires a delicate balance of temperature control, refrigerant leak detection and management, as well as keeping personnel safe. Operational efficiencies such as leak reduction and temperature optimisation through the use of leading-edge products can ensure this balance is maintained, while at the same time ensuring the quality of food in storage does not diminish. New gas leak detection systems, for instance, can ensure leaks are quickly identified and swiftly repaired, minimising any potential environmental damage and safeguarding employees, without compromising the effectiveness of equipment.

Fortunately, simple yet highly effective devices can be used to maximise equipment efficiency. Almost certainly the most straightforward way to determine whether equipment is cool enough is to install an easily visible temperature display. Such a display offers a clear indication of the temperature within a refrigerator and should be bright and readable from a distance, alerting staff to any fluctuations which may precede potential problems.

When it comes to preventing food spoilage and reducing energy costs, the simplest solutions can often solve the most complex problems. In fact, turning to technology is a win-win scenario as refrigeration equipment performing at their peak will not only help reduce waste and control energy costs, but will also reduce a hospital’s overall environmental impact.

In addition, with even the most sophisticated devices on the market having a return on investment time of just two years, employing technology makes sense.

Stonegate Instruments designs, develops and manufactures electronic equipment for the refrigeration industry including gas detectors. The company’s products are proven in cold storage facilities for reducing energy, carbon emissions and the associated costs. For more information, please visit www.stonegate-instruments.com.
Most workplaces expose us to noise, but some environments are a lot louder than others. Here Peter explains why employers have a responsibility to treat the issue of noise seriously, particularly on construction sites, in factories or for those operating heavy machinery.

There will always be a certain level of noise in the workplace, but for some, the possibility of being exposed to excessive and uncomfortable levels of noise is much more likely.

If people are having difficulty hearing what others say or must shout to be understood at a distance of one metre, noise levels are likely to be damaging.

And the levels of noise from loud machinery, drilling and demolition over a prolonged period can also cause considerable disruption.

The crisis of noise

Being exposed to noise pollution can affect your health and wreak havoc on various body functions.

Physical and psychological health consequences of regular exposure to consistent elevated sound levels can cause hearing impairment, tinnitus, hypertension, ischemic heart disease, annoyance, and sleep disturbance.

Noise is also a huge source of stress.

Temporary hearing loss can be caused by exposure to loud noise for a few hours. Fortunately, hearing is usually restored after a period of time away from noise.

Permanent hearing loss occurs after the ear has been continually exposed to excess noise. Hair cells gradually harden and die, making it increasingly difficult to recover.

As a rule, noise upwards of 85 decibels is deemed harmful.

Construction workers are at serious risk because the equipment they use regularly is above this limit. Forklifts emit sounds of 90 dBA, while hammer drills reach 120 dBA. Even electricians, who are considered one of the quieter trades, are surrounded in environments over 85 dBA.

The amount of harm done by this depends on several factors, including how long you’re exposed to the noise for, how often, and whether you are wearing any kind of hearing protection.

Breaking the rules

Recent data revealed that 19% of staff age 21 or under admit not wearing hearing protection at work, compared to 12% of older workers.

The picture was even worse in the construction industry where 24% of young workers were not wearing hearing protection, compared to 13% of workers over the age of 50.

Hearing loss due to noise is fastest during the first 10 years of exposure, making hearing protection especially important for young workers.

Once individuals realise they are losing their hearing, it’s too late; it’s gone forever.

So why aren’t young workers wearing hearing protection?

Could they be under the illusion that they are not susceptible to noise damage?

Or perhaps it’s lack of proper training?

If this is the case, the industry needs to do far more to educate their new recruits and insist on health and safety compliance.

After all, the buck stops with them.

A duty of care

The Noise Regulations 2005 requires employers to prevent, or reduce, risks to health and safety from exposure to noise at work.

The regulations require employers to do several things, including taking action to reduce noise exposure wherever possible.

This also applies to the music and entertainment industry and covers events such as loud concerts.
First and foremost, an employer should carry out a thorough risk assessment which will allow you to identify the areas where you need to act.

If the noise assessment identifies exposures to noise between 80dB(A) and 84dB(A), then hearing protection must be provided by the employer, employees should be told it is available, they should be informed about the dangers of excess noise, and then it is up to them if they choose to wear it or not.

This is covered by Regulation 7 in the Noise Regulations.

However, it is mandatory from 85dBA upwards.

In short, once the noise levels hit 85dBA, then there is no choice but to wear hearing protection and it is no longer optional - wearing it is compulsory and both the employer and employee have no choice in this.

If an employee refuses to wear hearing protection, there are limits on how far an employer can accommodate. They can offer alternative styles of protection or move them to a lower-noise job. What an employer cannot do is allow someone to continue to work knowing they are at risk.

Take your responsibilities seriously

The law says that every employer has a duty of care to protect employees from suffering harm in the workplace.

If you fail to foresee the harm that could be caused by a job, or to ensure that staff were protected from damaging noise levels, you could be said to have failed in your duty of care.

What's more, if a worker believes their hearing problems could have been caused by negligence in the workplace, they may be able to claim compensation – and this could cost you thousands.

You also risk financial penalties if you fail to minimise disruption from noise to the general public.

Acoustic barriers can be the solution to protecting other individuals who may live or work in the vicinity of your noisy construction site.

They typically reduce noise by 90-97%, and are lightweight, weatherproof and adaptable to any setting.

As well as protecting workers and nearby residents, noise barriers can also help to improve your company reputation because it shows you are taking the consequences of noise seriously, and it reflects steps taken to care about the local community and the wellbeing of its people.

As well as noise barriers, you can consider a low noise purchasing policy for machinery and you can offer staff regular hearing checks and health reviews to ensure you are maintaining your duty of care.

Consider everyone

Some 17,000 people in the UK suffer deafness, ringing in the ears or other ear conditions caused by excessive noise at work and the HSE estimates that more than two million people in Great Britain are regularly exposed to unacceptable levels of noise at work.

Meanwhile, noise-induced hearing loss is the second most common reason for employers' liabilities claims for occupational health.

This isn't something you can have a bury-your-head-in-the-sand attitude to.

By law you must assess and identify measures to eliminate or reduce risks and take simple actions to keep people safe.

Echo barrier systems make noise management simple, fast and highly effective. Barriers are flexible, provide exceptional acoustic performance and are easy to store, transport and fit.

For more information about echo barrier visit www.echobarrier.co.uk
Modular Buildings: Smart Homes

Rising populations and changing demographics have created housing shortages across the world. The UK faces a shortfall of four million homes, meaning that around 340,000 new homes need to be built every year until 2031 to meet current and future demand, according to research conducted by Heriot Watt University for the National Housing Federation and homeless charity Crisis. (source: https://www.propertywire.com/news/uk/housing-shortfall-england-four-million-much-higher-thought-says-new-report/). Worse, the homes that are needed will need to meet demand for home automation and ever-increasing environmental constraints.

Traditional building techniques will likely fail to meet this demand. They are relatively costly, and too slow to complete whilst also meeting the necessary regulations. Moreover, quality and capacity are limited by the shortage of traditional building skills. The only solution is modular housing based on factory automation principles. It's a solution that dovetails perfectly with home automation using wire- and battery-free energy harvesting controls and sensors.

Modular housing

Modular buildings are based on a combination of building technologies known as “Modern Methods of Construction” (MMC). Typical elements include the use of panelised systems and volumetric elements such as roof and floor cassettes, precast concrete foundation assemblies, pre-formed wiring looms, mechanical engineering composites along with innovative techniques such as tunnel form or thin-joint block work.

Already popular in Europe, the UK is using MMC to build prefabricated homes following the opening of several factories to build fully fitted homes in modular format, which can be loaded on to lorries for delivery across the country. Factory building onsite assembly allows houses to be completed in days instead of months, and at significantly lower cost. Factories with outputs up to 5,000 houses per year are set to make a significant impact, potentially launching their owners into the top echelon of volume housebuilders nation-wide. What is more, these new technologies promise homes built to higher standards than those using traditional methods. Energy bills could be half that of a conventional home due to better insulation. (Source: https://www.theguardian.com/society/2018/nov/30/uk-housebuilding-revolution-65000-prefab-homes-go-into-production)

Modular houses are supplied fitted with kitchens and bathrooms, and for electrical requirements, power and lighting come already installed via modular power cabling and wireless controls together with the increasingly important networking and telecoms infrastructure.

With origins in commercial electrical and industrial installations, structured cabling and modular wiring ensure that electrical installations are undertaken efficiently and in the least possible time. With technology constantly changing, such ready-made installations are highly adaptable and offer a high degree of flexibility.

The alarming scale of the UK’s housing shortfall means we need to build houses more quickly and at lower cost than ever. New builds also need to embody the intelligence to suit modern lifestyles, from millennials’ always-connected automation to cognitive homes for an ageing population. Fortunately, the combination of modular factory construction, flexible smart-home ecosystems and energy harvesting wireless technology is ready to meet the challenges.

The House That’s Built Smart From The Start

By: John Corbett, Sales Director UK, EnOcean

The alarming scale of the UK’s housing shortfall means we need to build houses more quickly and at lower cost than ever. New builds also need to embody the intelligence to suit modern lifestyles, from millennials’ always-connected automation to cognitive homes for an ageing population. Fortunately, the combination of modular factory construction, flexible smart-home ecosystems and energy harvesting wireless technology is ready to meet the challenges.
Experience from industrial and commercial building shows that traditional fixed installations are labour intensive, offer little in flexibility and remain costly. However modular wiring and IDC systems prefabricated off-site coupled to wireless controllers and sensors, enable a complete installation to be implemented at low cost. These are proven technologies and processes, now filtering down from commercial premises to the home.

Total modular wiring CAD design support can be provided, with all the power cabling pre-wired in the ceiling or wall space. The installation process for energy harvesting wireless devices makes it a simple process as switch drops and associated conduit drops are not required. There is no need to coordinate the switch position with the wall studwork and less time is spent during electrical first fix feeding cables through a closed wall. There is also a reduction in the level of interfaces and task dependencies between trades on-site. Typically the drywall contractor cuts a hole in the plasterboard, installs the back box and conduit before the electricians can complete the first fix. This is no longer required and the drywall installation can be completed quicker. Energy harvesting wireless sensors, switches and controls can be placed anywhere in the building, even at places that are difficult to access. Installed once, there are no requirements for maintaining the devices, e.g. changing dead batteries. Thanks to the energy harvesting principle, the switches and sensors are powered by their surrounding environment solely. In addition, this flexibility and reliability allows the system to be expanded any time.

Modular construction techniques enable a variety of house types, serving the needs of modern living through flexible layouts coupled with a variety of external finishes. Typical portfolios provide a three-bedroom family home and a spacious two-bedroom home on the same 40.5 sqm footprint. The family home provides an open plan kitchen/dining area on the ground floor with the option of a separate lounge or full open plan living. Wide French doors with side windows add daylight to the living room and lead out onto a rear garden, whilst the downstairs W.C and storage space finish the ground floor. Above is a good-sized single bedroom, a double bedroom and master bedroom with en-suite. There is also a large bathroom and additional storage space. The second option features two large double bedrooms, open plan kitchen/dining with option of fully open plan living, a lounge with wide French doors opening onto the rear garden, along with downstairs W.C family bathroom and additional storage space.

But these are not “identikit” homes, like those of older “prefabs”. By offering a range of both traditional and contemporary external finishes available with rooflines to suit the local vernacular, they are being used alongside traditional developments as well as across entire sites. The same kind of customisation and personalisation is available for home technologies as well.

**Automation built-in**

Affordable and sustainable smart homes are more than boxes to live in. A combination of innovative product technology and good design puts the focus back on safety, security, comfort and the lifestyle needs of the owner. A common requirement is to place lighting switches and dimmers where it is most convenient. Powered by the kinetic energy harvested from the switch operation itself, these can be placed anywhere. They don’t need to be wired-in, instead sending a wireless signal to the receiver in or near the light or din rail fitting. Furthermore, there is no need to use batteries – and no need to replace them - saving all the inconvenience and environmental harm that battery replacement can cause.

Such devices enable a wide range of applications. Lighting and home entertainment are obvious candidates for battery-free switches. As well as controlling light levels and colour, self-powered switches can also be used for controlling volume of sound systems or window shading. A key application for smart homes is an “all off/all on” switch which allows turning off/on all non-essential electrical consumables when leaving the home or getting back.

Energy harvesting technology also enables other applications based on solar-powered sensors. For example, self-powered occupancy sensors can link wirelessly to intruder alarms; in addition, they can switch the lighting and heating off when nobody is around. Similar capabilities are available by equipping windows with contact sensors powered by light. Safety and security can also be extended, for example using light-powered CO sensors or flood detection with solar-powered or kinetic sensors. Another energy source is temperature differences between heating radiators and their environment. This kind of energy harvesting for example enables self-powered heating valves to communicate wirelessly with a room thermostat or a smart home box for heating.
control according to the specific situation.

The EnOcean energy harvesting wireless technology is already proven in around 1,000,000 buildings worldwide, from factories to offices and multi-occupancy buildings as well as smart homes. It works flawlessly, is highly reliable and secure. Most energy harvesting sensors, switches and other self-powered devices communicate over distances of up to 30 metres in buildings, with short encrypted messages sent via the international EnOcean wireless standard (ISO/IEC 14543-3-1X) in sub-1-GHz. With a large variety of sensors and switches available, initiatives such as the EnOcean Alliance allows users to choose functions with style and certified interoperability. This makes it easy to choose a range of home automation options while the modular building is being fabricated; and it is simple to add new functions later.

There are also self-powered devices integrating EnOcean’s energy harvesting technology which communicate directly with lights via Bluetooth® or Zigbee. This enables green, battery-free switches and solar-powered sensors to be used to flexibly control additional applications such as LED lights or loudspeakers.

From smart homes to intelligent ones

Now that energy harvesting wireless sensors can gather data in the home, it is not a great leap to communicate the information, aggregate it and perform useful analysis. Bringing data together via the Internet of Things (IoT) enables a holistic approach, using Artificial Intelligence (AI) to track patterns of occupancy and activities in the modular home.

An obvious application is the analysis of energy consumption. Currently it is possible to discern patterns of activity linked to energy use; and this information can be delivered via an app providing advice to help owners reduce their consumption still further.

Going forward, the combination of IoT and AI could bring in a huge array of data into the equations. Geographic data, weather and climate information are among the factors that, along with patterns of activity, water and energy consumption, will be immensely useful for planners, housing organisations and builders. This also assists progress towards building cognitive homes.

Towards the cognitive home

Cognitive buildings represent the next generation of sustainable building systems. Intelligent buildings will soon be able to integrate IoT devices on their own, generate vast amounts of data and use them to optimize the building. This gives an entirely new dimension to services and business models. It is particularly relevant to the UK’s ageing population, as these smart technologies can revolutionise the way older people and their families live at home. It promises transformative benefits to health and wellness.

Key elements of the cognitive home include smart non-intrusive, secure connections with friends, family, GPs, nurses and carers, all involved in looking after the residents. Conditions such as dementia would be addressed through ‘sensory-loss’ technologies based on patterns of activity and behaviour. And technology based on IoT connected battery-free sensors will help prevent incidents in the home such as cookers left on, overflowing baths and people becoming confused about their whereabouts.

With exciting technologies like energy harvesting wireless devices, modern factory-built homes are set not only to meet housebuilding targets but improve our way of living in them as well.
From prehistoric homes that were made from twigs and branches, to 800 metre-high skyscrapers, construction has developed rapidly over the years. However, the speed of construction for some builds is still not as fast as desired. Despite this, one method in particular has become increasingly popular for its fast completion times, low cost and environmentally friendly factors. Here, Nick Cowley, managing director at leading manufacturer of PVCu windows and doors, Euramax, explains modular construction.

Prefabricated, offsite or modular building is the method of construction whereby parts of a building — referred to as modules — are fabricated away from the building site, before being transported to the designated location for installation. This method has become increasingly popular and offers many benefits for the construction industry, as well as for homeowners.

**Quick construction**

As modular builds are prefabricated in a controlled factory environment, they can be constructed up to 50 per cent more quickly than traditional methods of construction. In fact, it can take as little as two weeks to assemble a modular home. This is because a controlled environment eliminates disruptions to the construction process, which can occur from external elements such as the weather. Construction projects can face major setbacks if adverse weather damages the products or site. However, this is eradicated in a controlled environment.

Unlike traditional construction methods, noise and traffic disruption are also limited for local residents that live near to where assembly takes place.

Construction within a controlled environment also ensures
that builds can be completed to a higher standard than traditionally constructed houses. This means that issues can be resolved and faults to modules can be amended before they arrive at the site, which also helps to increase the speed at which the build is completed.

Constructing the modules at the same location during the fabrication stage means that they can be inspected for damages. There is no need to spend time additional time replacing a damaged module, for example, which also saves time for project managers and workers.

**Low cost**

Quicker construction times mean that prices for a modular home are around 30 per cent cheaper. This is a result of reduced labour costs, due to shorter build times and fewer materials that are required for construction. Though fewer materials are required, project managers can buy the materials in larger quantities, thereby saving money on material costs. Additionally, with reduced labour costs and no requirement for on-site equipment hire, the overall cost of the project is reduced compared with traditional construction.

Furthermore, as the modules for the build are prefabricated in the same location, delivery and transport costs are also reduced, allowing project managers to work more cost-effectively.

**Design potential**

Another reason for the increasing popularity of modular construction is the design potential that it offers. Modular build designs are not as restricted by planning regulations or space allowances, unlike traditional building methods. This means that modular builds can be of a bespoke design to meet individual requirements such as measurements, budget and design aesthetic. Due to the flexibility of design options, modular builds are now commonly designed for other purposes including school classrooms, offices and studios.

**Enviro-benefits**

Besides their design benefits, modular builds are also more environmentally friendly than traditionally constructed builds. Modular builds produce less waste as they are constructed with high quality, durable and sustainable materials. Plus, as modular builds are bolted together, they are extremely airtight, boasting a higher thermal performance and increasing energy efficiency. Modular construction also reduces pollution to land and to the environment that occurs from traditional onsite construction.

**Modular variation**

The flexibility associated with a modular build isn’t just limited to the design possibilities. There are three variations of modular build construction.

A kit home is the most basic of modular builds. The home buyers purchase the modules, then assemble and install the build themselves without the help of construction workers. This simple method requires one or two modules, but allows the homeowner to control the location and position of the build for a low cost and completion time.

A modular home is larger and more advanced than a kit home and is usually mass produced. These homes uphold a high level of quality and customisation flexibility, which is among the reasons why modular apartments beginning to become increasingly popular in the market.

Though modular builds can benefit a range of customers and projects, they are particularly ideal for larger construction projects. For instance, as the modules arrive at the assembly site near-finished, they can be assembled far more quickly and thereby reduce delays to move in dates. Shorter completion times and minimal setbacks can greatly benefit large construction projects.

The same can be applied to hotels that are built using modular construction techniques as they can be completed up to 50 per cent more quickly. This allows project managers of commercial buildings to improve their financial costs, as a reduced completion time means that interest payments and loans from unnecessary extra months of work can be avoided.

**UK housing shortage**

For these reasons, this quick and effective method of construction is being relied upon to combat the current UK housing shortage.

It’s estimated that the UK needs to build around 300,000 homes every year by 2025. To achieve this, the industry needs to build more houses at a faster rate. As a result, modular construction is being used.

In 2017, 70,000 families were forced to live in emergency housing, which demonstrates the impact that the housing shortage is having on people. However, by adopting Modern Methods of Construction (MMC) such as modular, the industry can afford to construct more houses at the rate needed, and more people can afford to buy and live in modular houses.

While our homes are no longer made from twigs and branches, there are still improvements within the industry to be made. However, modular construction may hold the answers the industry is looking for with lower costs, faster completion times, greater design potential and environmental benefits.

Whether it’s DIY projects, commercial buildings or providing homes for the population, modular construction is changing the way the industry operates and the way people procure homes — and it looks like this method is here to stay.
Modular Flooring

The future of modular flooring

Whether it’s repurposing space, refurbishing for new tenants, accommodating changes of technology or adapting to changing floor plan configurations, evolving business requirements mean that modern commercial building designs have to work harder than ever before.

Fixture and fittings manufacturers have to innovate as a result, providing agile and flexible solutions that work with changing building needs. This is never more true than for flooring solutions.

We caught up with IOBAC’s CEO, Paul Woolvine, to discuss how modular flooring has evolved to meet these challenges and why he believes IOBAC’s new MagTabs – recent winner at the National Flooring Innovation Awards 2019 – represent the future of modular flooring installation.

Evolution of Modular Flooring Installation

Modular carpet, also known as carpet tiles, was first invented in the 1970s by Dutch manufacturer, Heuga (later acquired by Interface), as a more versatile format to rolls, offering less wastage and easier transportation and storage. It rapidly gained popularity, especially in the growing office sector where its flexibility, simplicity and speed of installation were seen as key advantages.

Paul continues: “Originally carpet tiles were adhered using adhesives or tackifiers, with the objective of ensuring that the carpet tiles remained well adhered to the base. Future uplift and replacement of the carpet tile wasn’t a particularly high priority. However as times have moved on, various installation solutions have been developed which hold the carpet tile in place without the need for wet adhesives, meaning less mess and more flexibility. We wanted to go one step further and develop a new solution that enabled an even cleaner, more flexible and faster installation. So after listening to lots of feedback from the industry on how current solutions perform, IOBAC MagTabs were born”.

Strong Little Squares

MagTabs are little squares, magnetic on one side and self-adhesive on the other. They work by locking floor tiles both tightly to each other and also to a metallic base such as a metal raised access floor. Not only are the tiles held together horizontally as per conventional floating floor attachment solutions, but magnetic attraction also strongly fixes them to the floor in the vertical direction. This unique two-dimensional grip ensures tiles are secured well in place, movement-free, until the time comes to uplift them.

The solution maintains direct contact between all three components of the system, and unlike methods which incorporate floor tiles with self-adhesive or high friction backings, its performance is not as affected by potential dust contamination, reducing the risk of squeaky floors as a result.

Contamination-free access

Widely used in modern office buildings, data centres and larger retailers, raised access floors create a hidden void for the huge passage of data, mechanical and/or electrical services required in today’s working environments. Indeed, research
Modular Flooring

suggests that a large corporation can have over 20,000 miles of cabling in a single facility.

Paul comments: "MagTabs affix flooring tiles directly to the raised metal access floor, with no need for any additional preparation bases to be used. They can be pre-loaded directly onto the metal floor, with the surface floor tiles loose laid on top, accelerating installation time by up to 30-40% versus other tab based systems. This installation method clearly eliminates the need for any messy tackifiers or wet adhesives, enabling a clean, odour free process.

Uplift of the surface tile, either for temporary access to the metal floor and services below, or for a more permanent change of design, is quick and clean – simply pick up the existing tile and replace. There’s no residue or contamination of either the tile or the metal floor. The metal floor remains uncontaminated and ready for installation of new tiles straight away, no preparation required, and the flooring that’s been uplifted is perfectly safe and fine to be reused elsewhere or be more easily recycled. The MagTabs themselves can either be recycled by the manufacturer or down-cycled by specialist waste contractors.”

In contrast, when adhesives are used, the flooring tile is more likely to be contaminated by not only the adhesive but also the subfloor to which it was adhered. This means that many flooring types are not suitable for recovery and reuse and are often difficult to dispose of in an environmentally friendly manner. Around 400,000 tonnes of waste carpet arise in the UK alone, with over half of this currently going into landfill. Using solutions such as MagTabs increases the volume of waste diverted from landfill, helping the cause of organisations including Carpet Recycling UK and Recofloor that promote the re-use, repurposing and recycling of flooring waste.

**Design Freedom**

MagTabs allow most carpet tiles in the world to be installed, as well as +4mm Luxury Vinyl Tiles, enabling multiple floor surface types to be installed seamlessly alongside each other. This increased design freedom is particularly welcomed in the office sector, where serviced offices and co-working spaces often have the need to differentiate spaces for particular uses and/or company branding.

New companies coming in can quickly and easily uplift the existing floor and replace with flooring affixed with MagTabs in-keeping with their unique brand identity. Meanwhile, the outgoing company can take its flooring and use elsewhere or recycle it in an environmentally-friendly manner.

Paul concludes “For all the reasons we’ve discussed – superior grab, contamination free floors and tiles, faster installation, easier uplift, design agility – we believe MagTabs really do deliver enhanced benefits in line with the changing needs of installers and building-owners, enabling fast and easy access and saving significant time, effort, and money in the process.”
A stitch in time: gpad completes refurbishment to provide new workspace, Wool + Tailor, in Aldgate

Award-winning architecture and interior design practice gpad london and developer Maurice Investments have completed a grade A workspace refurbishment in Aldgate, East London. Wool + Tailor paves the way for a new generation of creativity and innovation in an area steeped in the history of tailoring and the wool trade. It adds to the rich tapestry of buildings in Aldgate’s busy commercial hub.

Situated in one of London’s fastest growing areas, key to the brief was to bring it up to contemporary standards. Wool + Tailor now offers high quality media-style workspace, catering for a range of businesses and start-ups. An extension on the top floor increases net internal floor area and maximises efficient site usage.

Dynamic fret-cut detailing and a bespoke reception desk create an outstanding first impression. The office floors have generous floor-to-ceiling heights and a widely spaced column grid. Exposed industrial features celebrate the building’s history.

Two-faced

Unusually, the two 1980s, street-facing north and south facades were markedly different in style and this gave a disjointed effect. It was crucial to knit together the distinct styles of the surrounding buildings, the modernist look of Allie Street and the more traditional yellow brick frontage of St Mark Street, while allowing each to respond to its specific context.

Giving the tired building a new lease of life, the dark red and purple polished granite of the front facade has been sand-
blasted and painted matt black. This introduces a cleaner, simplified contemporary aesthetic and ties in sensitively with the streetscape, which has recently been radically altered.

Contrasting with the black paint, anodised aluminium reveals accentuate the fenestration. The use of existing openings was maximised, flooding the interior with more natural light. The windows have been replaced with high performance aluminium glazing, bringing window and door elements up to modern standards.

Working with the grain of a neighbouring, listed Victorian warehouse, the rear elevation has been extended with red sand-faced wire-cut brick. New aluminium Crittal-style windows embellish the fabric and a new black render finish on the ground floor gives the building a base on which to sit.

**Top floor extension**

The 6th floor extension, with a lightweight zinc standing seam, bridges the differing scale and style of the front and the rear and ties them together. The 7th floor, primarily visible from the front façade, features aluminium rainscreen cladding to match the window reveals below, providing consistency to the design yet appearing as a lightweight extension element.
A south-facing terrace on the 6th floor and a dual-aspect one on the 7th give panoramic views across the City and beyond, acting as a place to meet or unwind and complementing an inspiring workspace. Internal layouts have been improved and a cycle store, lockers and shower changing area are included.

To ensure sustainability and provide comfortable working conditions all-year round, a high-efficiency HVAC system and a waste strategy were provided, along with a photovoltaic solar system. Alie Street also boasts an eco-friendly biodiverse roof, and facilities to ensure full accessibility with level access to all building entrances, step-free circulation and access to external terraces, lift access to all floors and disabled refuge on every level.

Architect, Simon Fancourt, comments: ‘Alie Street was peculiar with its two very different aesthetics, both betraying their ages. To add to this, the streetscape itself is characterised by an array of massing, scale and architectural styles. The challenge to find a common ground that would unite and celebrate both captivated us at gpad. We’re excited to have brought something new to the area to stimulate its continuing regeneration.’

‘In London it’s that patchwork effect of new and historic buildings that is really exciting. It gives you a lot to feed off as a designer. Placemaking was also an important factor influencing our approach; in order to reinvigorate the neighbourhood for the vibrant community in the area, causing minimal impact on adjacent buildings in terms of daylight and sense of place and permanence was key.’

Gavin Wogman from Maurice Investments comments: ‘Aldgate is a thriving area that’s recently gone through a major transformation. Being on the fringes of the City, it sees a lot of overspill in terms of demand for office space. This was a great opportunity to create a really curated space that reflects the history of the area while responding to the need for great quality offices.’
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