



Hazardous Engineering Solutions

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Hazardous Area Professionals

January/February 2022 | Issue 61

HSE inspection sheds light on health and safety issues in South Yorkshire

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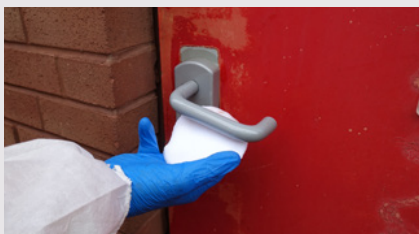
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Robotic arm manufactured to significantly improve industry-wide waste removal methods

A ROBOT which accurately replicates the mechanics of a human arm has been manufactured to remove specific waste from hazardous liquids from a safe, remote distance.

spent fuel rods from waste ponds at its Hinkley Point Power Station, in Bridgwater, by using a more efficient, cheaper and safer procedure.

Instead of removing all materials manually at the end of the process, the creation of the robotic arm allows companies to target

to represent the shoulder, elbow and wrist to improve the maneuverability of the machine. A two-pronged gripping mechanism was placed on the end of the arm to enable the machine to pick up the fuel rods and transport them without difficulty.

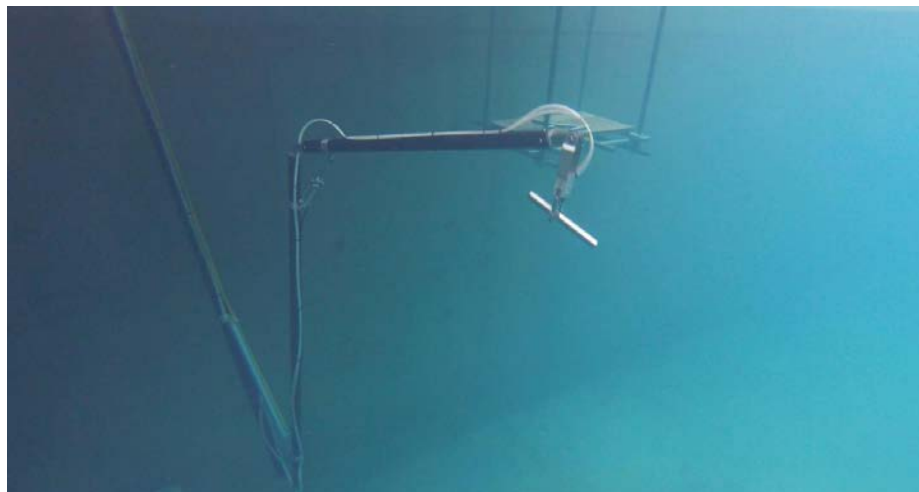
The robotic arm can be adapted by Forth to different clients' needs and can therefore be used industry-wide.

Ben Telford, the engineering manager at Forth, said: "After being given a problem statement from the client, we had a recce of the site and looked at the waste pond and went away to think of some concept ideas.

"The robotic arm was the most versatile idea that would work successfully every time, and we went with that because there were a lot of constraints in the pond which we wouldn't be able to navigate without the flexibility and fluid movement of the arm's mechanics.

"Because it works like a human arm, the machine can manoeuvre around obstacles and angles and that proved game changing in the design.

"Just because we used it in the nuclear industry, it does not



The team at engineering company Forth designed and created a robotic arm to operate like its human counterpart, complete with gripper technology to act as a hand, so the time-consuming process of sifting unwanted materials from liquids and transporting them into a designated area could be significantly speeded up.

Forth was approached by nuclear decommissioning company Magnox to find a solution on how to remove fragments of

specific materials and move them safely into a designated waste area.

The arm, manufactured from carbon fibre and stainless steel, is controlled remotely with a range of 10 metres and has cameras installed to feed back live images to the operator.

The machine operates exactly like a human arm and its flexibility allows the operator to navigate complicated routes. Similarly to an arm, it has joints

mean that it only serves a function for that sector and we can easily adapt this for multiple industries and whatever the job warrants.

“This robotic arm will be a huge asset to the industry because it is going to significantly speed up the process and save companies substantial amounts of money, while also reducing the risk to humans as it removes the interface previously required for the job.”

Magnox approached Forth because of its excellent reputation and experience in developing new products to solve industry-wide solutions.

The successful outcome of the project again highlights just why the company has become a global leader in the engineering industry.

Ben said: “We have worked

previously with Magnox and they were aware of our work with other clients, so it was pleasing that they came to us with the problem statement.

“As a wider team, we all got together to discuss ideas and see what we could come up with collectively, and all the ideas and strategies from the different experts combined to get us to where we needed to be.

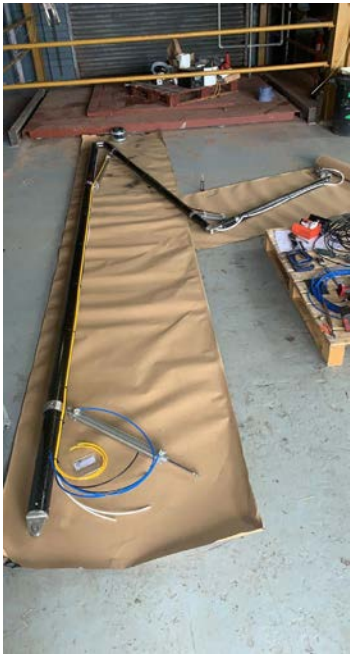
“It is definitely a collaborative approach we take at Forth to get the best possible results, and using the differing levels of expertise helped us dismiss some ideas but also come up with some others that we hadn’t previously thought of.”

Forth manufactured three robotic arms for use by Magnox.

Forth, which has bases in Flimby, Cleator Moor and Barrow, all in Cumbria, provides a number of services including manufacturing; decommissioning; mixed reality services; installation and site services; design and substantiation; innovation;

deep recovery; and a trade counter.
.....

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The New Prime GTX From Solid Gear. Hi-Tech Safety Boots For The Winter

Incorporating some of the most advanced technical features in safety boot design.

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Solid Gear has combined a Vibram® outsole with a full and lightweight EPTU mid-sole to prioritise top-line comfort and stability.

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HSE inspection campaign sheds light on health and safety issues in South Yorkshire

Twenty-two inspectors inspected 71 business in Sheffield and Rotherham.

65 per cent of business inspected were found to be in some form of breach of health and safety law.

Inspectors served three prohibition notices, 31 improvement notices and a further 23 companies were written to.

With its South Yorkshire inspection campaign drawing to its conclusion the Health and Safety Executive (HSE) has found 65 per cent of business to be in some form of breach of the law.

Last week 22 inspectors from HSE's Yorkshire and Northeast Field Operations teams inspected 71 businesses in the Sheffield and Rotherham area. Of those visited 46 companies needed to make improvements to better protect the health, safety and wellbeing of workers in metal fabrication, engineering, general manufacturing and waste and recycling sectors

During the course of the week inspectors served three prohibition notices and 31 improvement notices. Examples of some of the breaches found included poor controls of welding fumes and metal working fluids.

In addition to where notices have been served, HSE has formally written to a further 23 local businesses to compel them to improve various aspects of health and safety.

Andrew Denison, Acting Head of Operations said: "Protecting the health, safety and wellbeing of workers is of paramount importance and at the heart of what we do.

"The high proportion of breaches identified during this initiative indicates that the risks were not being adequately controlled.

"Inspectors have taken robust proportionate action to deal with serious risks and to ensure companies are comply-

ing with the law.

"I hope businesses will take note and understand that they will be held to account if they fail in their responsibilities."

www.hse.gov.uk



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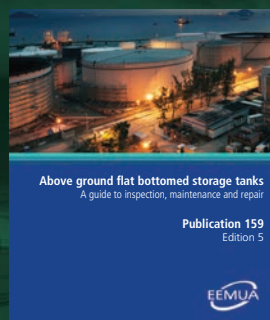
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Hart's continuing drive for energy efficiency

Glasgow's COP26 conference did much to remind us of the issue of Climate Change.

However well-intentioned the debate over two weeks by the global audience was followed by a real, live, reminder that the Earth is very much on the edge with dramatic storms, flooding, forest fires, continuing rising sea levels and melting ice caps. Will it be more of the same at COP27 to be held later this year at Sharm El Sheikh in Egypt or will the Earth's rising temperatures finally show signs of moderation asks, free-lance journalist Chris Dobson.

Research shows that nearly 40% of carbon emissions coming from the construction of property and about a further 30% coming from the actual use of the building, that is heating, lighting, air-conditioning and so on.

As buildings such as manufacturing facilities and warehousing are essential to any country's economy what can be done to reduce carbon emissions from property? Building energy efficient properties is the obvious step but how can this be achieved?

New build is the opportunity to design with climate in mind from day one. But buildings that were built decades ago can still be updated to reduce energy costs. Solar gain through windows can be beneficial, photo voltaic energy panels and other renewable technologies can be retro-fitted such as ground-source heat pumps or biomass boilers. So there are many options which can be retro-fitted.

The day to day operation of a typical warehouse or manufacturing facility does introduce a crucial issue that can undermine the best intentions of occupiers to be climate aware – the ever open industrial door.

Even with the greatest diligence to make a property almost air-tight and energy efficient to the highest standards manufacturers and warehouse users must have properties which provide access for raw materials and exits for goods. This can mean just one door or dozens if required for loading bays for example.

Perceived as weak points in the efficiency of a building, this is where the high-speed door operates at its ultimate - by reducing air-flow in or out of a building or between one section within a building and another.

Busy facilities inevitably have incoming products for manufacture and outgoing completed goods. Well aware of the loss of heated air and the inflow of unheated air to a building, 40 years ago Hart Doors Systems of Newcastle upon Tyne built its first automatic industrial door.

Successful testing showed immense potential for this automatic, high-speed, door branded 'SPEEDOR'. Today Speedors can be found throughout the world from the Falklands to Vladivostok, across Africa, the Middle East, Far East and so on. The original concept is now marketed in seven sub-brands such as Speedor Super, Speedor Storm and Cleanroom.

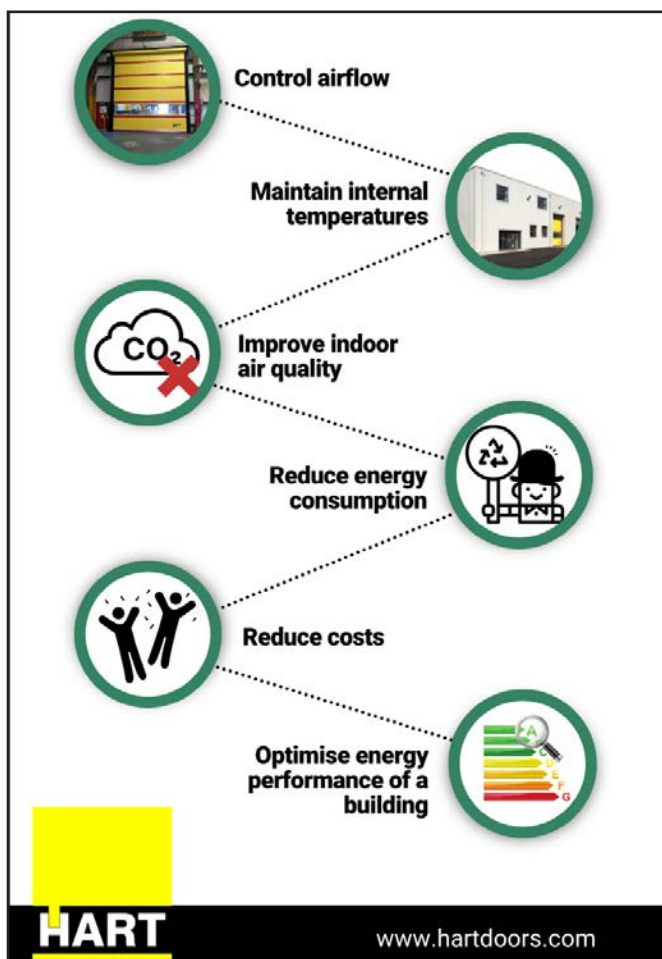
Emissions from the operation of buildings recently hit their high-

est ever level with the building sector accounting for 38% of all energy-related CO² emissions. For many companies, energy consumption is the main contributor to their overall carbon footprint, including heating, cooling, lighting, and operating equipment. The more efficient companies are in their energy use, the greater the reduction in carbon dioxide emissions.

Automatic high speed doors reduce CO² emissions by playing an integral role in the energy efficiency and environmental impact of a building where heating and cooling systems are the highest producers of energy-related CO² emissions.

Where a door is left open, heating and cooling systems work overtime to maintain internal temperatures at comfortable levels. Where it is not practical to keep an entrance closed all day, the fast open-close operation of high-speed automatic doors allows a steady flow of traffic and at the same time energy consumption.

An efficient, well-insulated and low-maintenance high-speed automatic door application can reduce CO² by reducing draughts, maintaining internal temperatures, optimising traffic flow and create more comfortable working conditions.



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SPE OFFSHORE EUROPE 2022

In alignment with Scottish Government guidance on the coronavirus situation, the organisers of SPE Offshore Europe have made the difficult decision to postpone the event on 1-4 February 2022 at P&J Live, Aberdeen.

Jonathan Heastie, Portfolio Director – Energy & Marine at RX (Reed Exhibitions), co-organiser with the Society of Petroleum Engineers (SPE) of SPE Offshore Europe said: “The health and safety of our exhibitors, attendees and staff is our priority. We were excited for the return of SPE Offshore Europe to Aberdeen in February 2022, but it is clear

that it would not be in the best health and safety interests of our community to go ahead. The decision is made with a heavy heart and thanks for the wonderful support from exhibitors and all those who had been working so hard to make the show a success. The full conference and exhibition will be postponed to 5-8 September 2023.

“It is a complex process to postpone such a large event and we will be in touch directly with our exhibitors and stakeholders in the coming days. Bookings for exhibition space for February 2022 will be guaranteed for September 2023.”

Mr Heastie signalled that a smaller, themed event may be staged later in 2022 if industry demand is sufficient: “We will have discussions with industry and our stakeholders about the possibility of holding an event focused on the energy transition in Aberdeen later in 2022. This would build on the extensive, high-quality content that we had lined up for February to support a fair energy transition.”

www.offshore-europe.co.uk



When can a Zone 1 rated product be safer than a Zone 0 rated product?

This scenario seems impossible, but it is a real-life or death possibility.

This scenario seems impossible, but it is a real-life or death possibility. This is because Zone ratings are measured independently from temperature codes and gas group types defined within the ATEX and IECEx classifications.

Zone 0 is defined as an area where an explosive atmosphere is always present. Zone 1 is defined as an area in which an explosive atmosphere is likely to occur during regular operations due to scheduled maintenance, accidents, or leakage.

Temperature codes refer to the maximum surface temperature of any device component that

can be exposed to a hazardous environment in a fault condition. A T1 rating can be up to 450°C (842°F), but a T4 rating cannot exceed 135°C (275°F). These significant differences between temperature codes often go unnoticed unless examined closely.

Likewise, gas group ratings require careful scrutiny. Group B type gas contains explosive gas-

es like Hydrogen and Ethylene Oxide, while Group D type gas contains less volatile gases like Propane and Gasoline vapors. These differences often go unnoticed by safety professionals who rely solely on a Zone rating for guidance.

These T codes and gas ratings can confuse someone into believing a Zone 0 device with a T1 code, and a rating for group D type gases is safe for use in a Zone 1 environment that requires a T4 code and a rating for group B type gases. In this specific instance, the Zone 1 product rated for this environment is safer than the Zone 0 rated product.

All equipment safety ratings must be based on the potentially hazardous environment it may encounter as the current one may quickly change without you

being aware of it. If you are unsure, analyze the work environment, determine the worst-case scenario, and equip your teams accordingly.

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Winn & Coales International Ltd has recently acquired the FX-70® Structural Piling Repair and Protection System from Simpson Strong-Tie.

In 2022 our long-established SeaShield™ Systems will have provided 50 years of pile protection and rehabilitation systems for timber, steel, concrete piles, and marine structures.

By adding the FX-70 system to the SeaShield range we are now able to offer clients a one-stop pile protection provider.

Since its debut in 1970, the FX-70 system was the first to use a custom-made tongue-and-groove seamed fiberglass jacket with a high-strength, water-resistant repair grout.

The system has extensive case histories for timber, steel, and concrete pile applications and is an excellent addition to our range of products.

To learn more about the SeaSh-

ield FX-70™ System and for all your pile protection and rehabilitation needs, you can contact your local representative directly by calling +44 (0)20 8670 7511 or by e-mailing us at mail@denso.net.

For more than 90 years, the Winn & Coales International Group of companies has been creating bespoke and off-the-shelf solutions that provide enduring protection

against corrosion.

Through their seven subsidiary companies in the UK, USA, Canada, South Africa, Australia & New Zealand, together with their global network of distributors, they are able to provide their solutions to challenging corrosion problems all over the world.



Andrew Stuart Appointed to the IPLOCA Board of Directors

Winn & Coales International Ltd are proud to announce that the Marketing

& Sales Director of Winn & Coales (Denso) Ltd, Mr Andrew Stuart has been appointed to the IPLOCA Board of Directors.

IPLOCA, the International Pipe Line & Offshore Contractors Association has members in more than 40 countries, and represents around 250 of the key players in the onshore and offshore pipeline construction industry worldwide. IPLOCA is governed by a volunteer board of directors made up of 25 owners and senior executives of major pipeline contractors and service companies.

Mr Andrew Stuart joined the Winn & Coales International Group in 1990 at Denso South Africa (Pty) Ltd as a Production Manager in the factory.

In 2015 he moved to the U.K. to take up the position of Export Sales Director for Europe, the Middle East, and Asia. On the 1st of January 2021, Mr Stuart was appointed as the Marketing & Sales Director of Winn & Coales (Denso) Ltd.

Mr Stuart stated, "It is a privilege to be elected to the IPLOCA

Board, I am looking forward to representing the Associate Members and contributing to this prestigious association over the next two years."

For more than 90 years, the Winn & Coales International Group of companies has been creating bespoke and off-the-shelf solutions that provide

enduring protection against corrosion and chemical attack to buried and exposed pipes, valves, fittings, steelwork, marine structures, tanks, and concrete banded areas.

We would like to take this opportunity to wish Mr Stuart every success in his new appointment.



Snap-on's Level 5™ asset management system is network ready

As engineering managers face relentless pressure to deliver improved productivity, often with fewer skilled hands and tighter budgets, the benefits of professional tool storage and management become stronger than ever.

Snap-on Industrial's Level 5™ automated total asset management system brings order to any work place, enabling engineers and technicians to know exactly where to find every tool when they need it, saving time and easing stress.

How useful would it be if all your work shop's valuable tools could be tracked from one central point? Snap-on's Level 5™ system makes that possible. It provides complete reports on everything managers or supervisors need to keep an eye on. They are even informed when a tool needs to be refilled or ordered.

And then there's FOD. The threat of foreign object damage is a real and present danger in many engineering workplaces. Using Snap-on Level 5™ minimises the risk of human error, as automated tool control constantly tracks every tool and detects which tools have been removed or returned, ensuring greater protection against FOD.

Engineered to track individual tools by user, without bar codes, scanners, RFID tags or other add-ons, the system works at the speed its users demand.

Other systems require additional steps to scan or log activity. The Snap-on system does this automatically so users save time and don't have to depend on other steps to ensure accurate results. Snap-on's Level 5™ ATC boxes are net work ready, using either Ethernet or wireless connection.

That enables supervisors to review activity at all Level 5 boxes in their location, whether they are on or offline,

from one central computer. They can check the status of each box, including the number of tools issued, while identifying all active users.

Major benefits of the system include:

- No individual tool scanning required
- No RFID tags to install or replace
- No limitations on tool size: from ¼" screwdriver bit to just less than the size of the drawer
- Intuitive interface, with an easy to use touchscreen
- Audible voice confirmation of tool removal and replacement
- Automatic locking for maximum security
- Errors announced and displayed to indicate incorrect tool position or advise when a drawer is not closed.

Snap-on Level 5 boxes are equipped with Keyless Access Control, giving users the ease of access they need but with security built in.

The control system can be configured

with magnetic cards, barcodes, PIN numbers and proximity cards. And using Snap-on's proprietary software managers can control access from a system or network.

Access control maintains productivity while protecting tools from unauthorised users. Says Richard Packham, Director UK & Europe for Snap-on Industrial: "Snap on's Level 5 automated system takes asset management to an entirely new level. The ability to monitor several boxes from one central computer offers a huge advantage to engineering managers and supervisors."

For technical details visit:
<https://snaponlevel5.com/>
(01536) 413904 or
ukindustrialmarketing@snapon.com



Howden secures contract to supply a mine cooling system for OZ Minerals, Australia

Leading global provider of mission critical air and gas handling products, technologies and services, Howden, has won a contract to supply a cooling system for the expansion of the Prominent Hill mine in South Australia for OZ Minerals.

The solution provided by Howden will be for the complete mine cooling system and Howden's equipment will ensure safe productive outcomes at depth and will bring additional efficiencies to reduce environmental impact for current and future carbon footprint compliance.

Howden will focus on sustainability and the solution will include closed circuitry on both condenser and evaporator circuits and R717 (Ammonia) compressors which emit no harmful CO2 or HFCs. The system consumes no water, using the ambient air as the cooling medium and Howden will supply chillers, air cooled condensers, bulk air coolers, pumps, electronic controls and hydraulic design.

Camille Levy, President of Howden APAC, comments: "Howden works in partnership with customers to create solutions for their needs which are of the highest functionality, while supporting their net zero targets. This project is no exception. Our unique combination of manufacturing excellence, technical and project deliverables, and our global experience, also contributes to the reduction of carbon impact of operations."

The use of Howden refrigeration screw compressor technology coupled with first class OEM suppliers of condenser coolers and bulk air coolers were other supporting factors in the successful offer which will be delivered by the Howden team in China.

Howden focuses on helping customers increase the efficiency and effectiveness

of their air and gas handling processes enabling them to make sustainable improvements in their environmental impact. Howden designs, manufactures and supplies products, solutions and services to customers around the world across highly diversified end-markets and geographies.

The business recently announced its target to be carbon Net Zero by 2035 through the purchase of renewable energy and carbon free energy; efficiency gains from energy conservation measures; and by renewable energy projects at its manufacturing facilities.

The largest impact the business will have on global sustainability will be through its partnership with customers to supply equipment that will make a major impact on their carbon emissions and sustainability.



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ANTI-SLIP COATINGS OUTLAST AND OUTPERFORM SAND-IN-PAINT SYSTEMS AND TAPES

Workforce injuries resulting from slips and falls are one of the leading, long-standing causes of unplanned workplace absence. The latest statistics from the Health and Safety Executive (HSE) make for a sobering read. <https://www.hse.gov.uk/statistics/causinj/index.htm>

Of the annual 750,000+ non-fatal injury reports it received in the UK, 29% cited slips, trips and falls, on the same surface level, as the cause. And this translated into a phenomenal 11.25 million lost working days in just one year.

So, the application of anti-slip coatings to all risk areas not only makes sound sense from a health and safety perspective but also from an operational and cost efficiency standpoint too. Coatings are available with a broad range of characteristics that don't just create a durable anti-slip finish for people but vehicles as well, ranging from light to heavy traffic.

LOCTITE® is a brand with notable benefits in this field. Products in the range outlast and outperform typical sand-in-paint systems and tapes and are proven to be the strongest, most aggressive anti-slip methods available. Typical applications include ramps, walkways,

stairs, changing rooms, machine shops, assembly areas, warehouse floors and loading docks. And they are suitable for use on concrete, asphalt, wood, ceramic, fibreglass and metal surfaces with applications across industry, commerce and in the public service, utilities and transport sectors.

Choice of solutions

LOCTITE anti-slip coatings based on epoxy adhesive technology are designed to provide tough, long lasting, anti-skid surfaces that are easy to clean, resistant to chemicals and available with fire resistant qualities when cured. Complementing these products are water-based acrylic anti-slip coatings that are resistant to chips and scuffs and are

impact and UV resistant, qualities that make them suitable for both indoor and outdoor applications. Both types are rated for use in dry service temperatures from -29°C to +60°C.

Application is simple and quick.

Having removed loose or flaky material by brushing or blasting and ensured the surface is grease-, oil- and contaminant-free, masking tape can be applied to mark the area. The mixed product is then typically applied using a paint roller or trowel and hard roller; the tape is then removed to leave clean, straight edges.

As the choice includes a solvent-free formulation, the tech-





nology can also benefit odour sensitive environments such as

wineries, food processing facilities, hospitals and other confined areas.

This solvent-free anti-slip coating is LOCTITE PC 6315, a two-part, black, epoxy that is fire retardant when cured and resistant to most acids, alkalis, solvents, grease, oil, salt water, detergents, alcohol, petrol, jet fuels and hydraulic acids. It is typically used to create a textured and extremely durable surface that can also withstand forklifts and heavy vehicular traffic. Contaminants are trapped in the 'valleys' of the surface profile while traction is maintained on its 'peaks'.

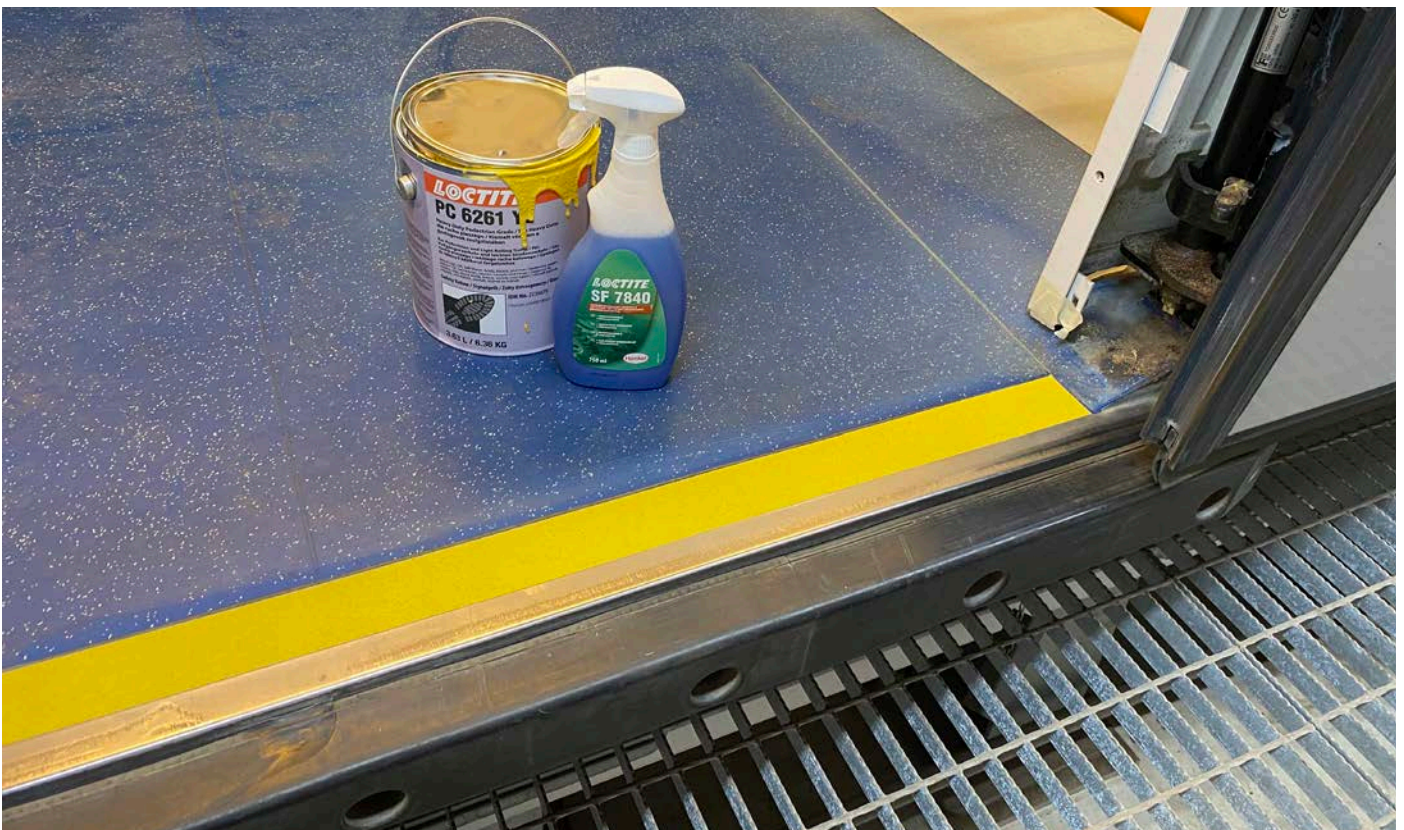
Productivity gains & maintenance savings

An application example for this product from the marine sector illustrates how the anti-slip coating can boost productivity as well as enhance safety. Following the application of LOCTITE PC 6315 to a ferry poop deck, an operator not only confirmed far fewer crew and passenger falls but also a 10% saving in vehicle loading time thanks to better surface traction allowing quicker manoeuvring. LOCTITE PC 6315 replaced anti-slip rubber strips which did not adhere well to the ship's aluminium floor in the presence of sea water and condensation.

A North of England tram operator experienced a similar problem with the durability of the anti-slip tape product it was using on carriage doorways. Although effective when freshly applied, the tape soon lifted with standard cleaning processes and lost

grip when weathered. Replacing the strip was a lengthy process too, typically around two hours. The solution this customer chose was LOCTITE PC 6261, a single-part epoxy that is quick and easy to apply, extremely durable and primarily designed for application in areas of high pedestrian footfall or light rolling traffic. It too is fire-retardant when cured and resists petrol, oil, acids, alkalis and aliphatic solvents. Application is by roller to create a ridged profile or it can be sprayed for a more uniform finish.

As LOCTITE PC 6261 is available in yellow as well as grey, it met the customer's need for a high visibility strip that could be repainted without removal or rework. Not only has the product enhanced passenger safety it has also saved maintenance time. Indeed, its success has now led to the coating being considered for use on the company's bus fleet and other operational areas with high footfall.





Fusion boffins get new shield against COVID contamination

Hundreds of scientists and engineers working on the UK's race to harness fusion energy are being protected from COVID-19 contamination by new super-tough anti-microbial coating Touchpoint Shield.

The UK Atomic Energy Authority (UKAEA) has commissioned bio-hazard cleaning and decontamination specialist SafeGroup to install Touchpoint Shield in washrooms and toilet areas.

Facilities managers at the authority's research centre near Abingdon, Oxfordshire, were impressed with trials that proved the coating suppressed the build-up of SARS-Cov-2, the COVID-19 virus.

A team of SafeGroup technicians has now applied the fast-drying and nearly invisible Touchpoint Shield to showers, toilets and taps at multiple locations across the 200-acre fusion energy research site.

The coating has been installed in time for the UKAEA to provide enhanced surface protection against the new Omicron COVID-19 variant.

Keith Musgrave, the UKAEA's Head of Buildings and Facilities Management, said: "SafeGroup has worked with us to undergo pilot testing of Touchpoint Shield over a six-week period at the height of the pandemic.

"Following the results of controlled testing over several locations, the results were conclusive as to the coating's effectiveness. Touchpoint Shield has now been applied to areas throughout the site.

"The level of service from SafeGroup throughout the

whole process has been efficient, collaborative and totally professional."

Adam Clark, Building and Refurbishment Manager at the UKAEA, said: "Touchpoint Shield provides long-lasting anti-microbial protection on all surfaces while also making them so much easier to keep clean. Treated surfaces also look excellent."

The UKAEA carries out fusion energy research on behalf of the UK Government.

Its Culham Centre for Fusion Energy (CCFE) is a global leader in fusion energy research which, if successful, will harness the power of the stars, including our Sun, to provide safe, sustainable, low-carbon energy.
Chris MacDonald, SafeGroup's

Business Strategy Director, who has been leading the Touchpoint Shield installation, said: "The spread of the Omicron has shown we must take a long view to beat the pandemic.

"Our work at the CCFE demonstrates how Touchpoint Shield is quick and simple to install and instantly begins to provide long-term, active protection against SARS-Cov-2 and a range of other pathogens.

"Uniquely, it combines proven effectiveness against the COVID-19 virus in a long-lasting, low-maintenance coating that, because it is transparent, doesn't change the look or feel of treated surfaces.

"Installing Touchpoint Shield is a proven way to also directly address the heightened concerns employees have about workplace hygiene, supporting enhanced assurance, trust and wellbeing."

Like many organisations, the UKAEA has been looking for effective ways to improve protection for its teams during the COVID-19 pandemic and has made Touchpoint Shield a key element of its enhanced hygiene strategy.

CCFE's work is highly collaborative, with scientists and engineers visiting from around the world to work on highly complex experiments. Putting in place improved hygiene protection measures to allow this to continue has been a top priority for the authority.

The active anti-microbial agent in Touchpoint Shield is silver ions, which have long been proven to

destroy many viruses, bacteria, mould, fungi and many parasites.

Independent laboratory tests, commissioned by SafeGroup, have proven Touchpoint Shield is 99+% effective against SARS-CoV-2 and other bugs that cause serious workplace illness, including the flu virus and Norovirus.

The silver ions are added to liquid coating which is made from billions of nano-ceramic particles. It is these particles that make the coating ultra-smooth and tough, enhancing the look of treated surfaces and makes them easier to clean.

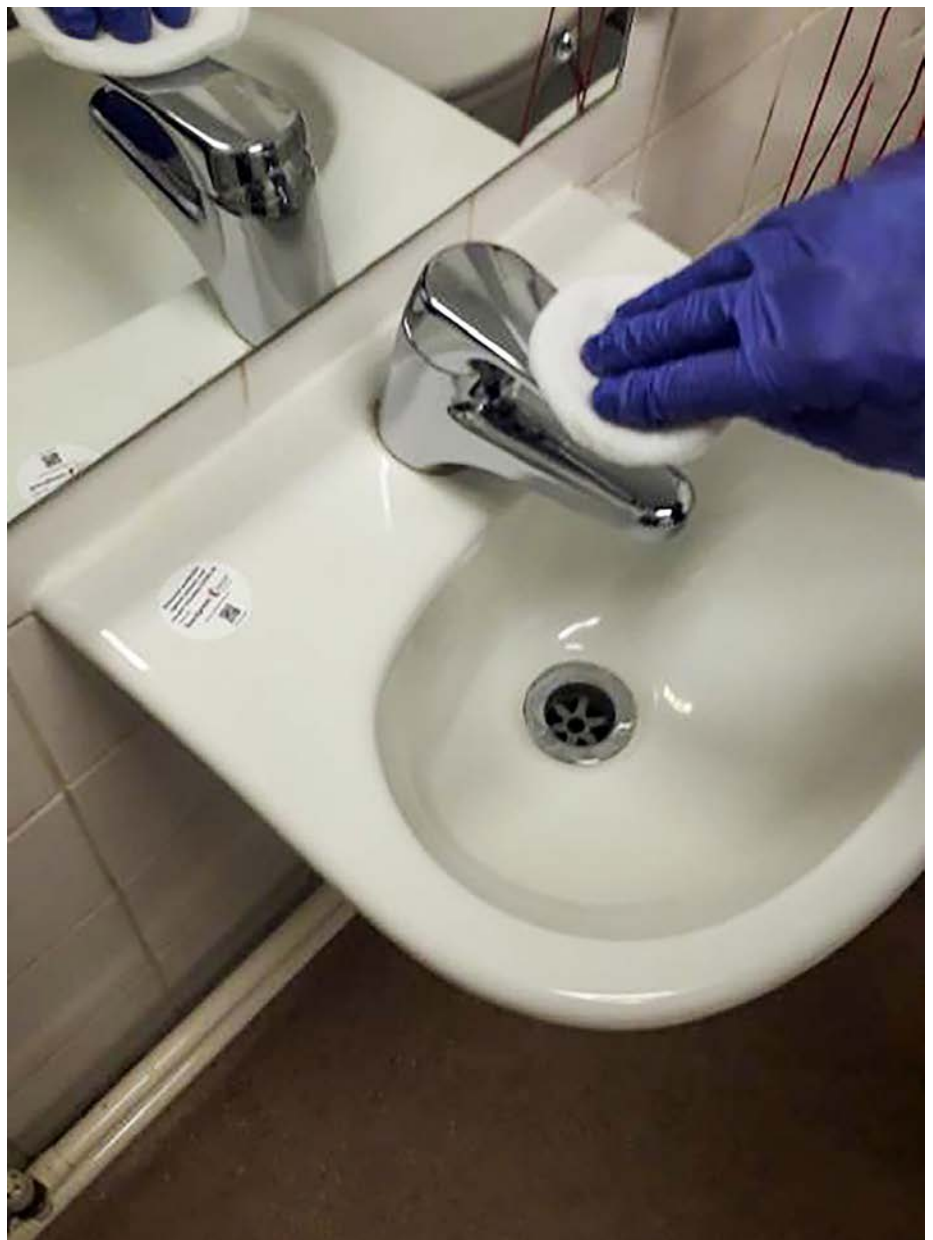
This is giving SafeGroup clients, including the UKAEA, the added advantage of making their cleaning regimes more productive.

Touchpoint Shield is now in use across many sectors, including manufacturing, retail, banking, commercial offices and hospitality.

www.touchpointshield.co.uk

Call: 0800 668 1268

touchpoint@thesafegroup.co.uk



Welsh mineral water company chooses Hart again!

Radnor Hills Mineral Water has chosen Hart Door Systems to supply a further high-speed door for its Radnor-based mineral water plant.

Brian Woodcock, Hart's regional sales manager says, "the order continues an excellent working relationship with the company."

"We have installed several Speedor Minis, so it is good to follow these up with our Speedor Storm variant, designed specifically as an external high-speed door for frequent use in high traffic situations, particularly in exposed areas where exceptional wind resistance is required."

Mr Woodcock adds: "We had a five-star review from the client for our door quality and speed of

installation which underscores the Hart ethos.

The continuing performance of Hart's existing doors on site is a great help I am sure but also our bidding process and the excellence of our engineers on site were pivotal."

Contact: +44(0)191 214 0404
www.hartdoors.com





McMenon eyes further growth in nuclear and renewables with senior appointment

ENGINEERING specialists McMenon have made a senior appointment as the UK company further expands in the nuclear and renewables markets.

Scott Castlehow has joined McMenon as its new Business Director to help the Workington-based firm achieve further growth in nuclear, renewables, defence and other sectors.

Scott brings to McMenon almost 20 years of experience in a range of industries, including nine years in the nuclear and decommissioning sector, and ten years in the aeronautical industry.

McMenon CEO Anand Puthran said: "We are delighted Scott has joined McMenon at such an exciting time in the company's development as we expand in the nuclear and renewables markets.

"The timing is perfect to enable our plans to become one of the main Cumbrian SME suppliers to the nuclear industry. McMenon, along with TIS Cumbria, has formed the North West Energy Coast Alliance, to compete for, and deliver, large projects in the nuclear sector.

"Scott's invaluable experience in this sector will aid us as we look to continue our growth across all markets."

Scott said: "I will be helping McMenon develop its engineering and manufacturing solutions within new sectors. It's a great opportunity and I am really looking forward to it.

"I am inspired by the CEO's passion, and I will feed off Anand's drive and his vision. McMenon is a key player in the delivery

of flow and temperature instrumentation products within the global energy industry. But there are lots of opportunities through engineering and manufacturing to grow McMenon's offerings in the nuclear, renewables, defence and other sectors."

Scott will manage McMenon's technical engineering and supply chain departments and lead business growth in the nuclear, renewables and defence sectors.

McMenon has built a global reputation for design and manufacture of quality, specialist flow and temperature measurement products supplying to more than 50 countries around the world. It also provides complete contract engineering and manufacturing solutions, and fabrication, pipe-work and welding services.

Explosion-proof!



Piezoelectric switches are particularly tough. They are hermetically sealed and have no mechanical switching contacts. The production site of the SCHURTER PSE EX has just been re-certified according to ATEX/IECEx.

The switches of the SCHURTER PSE EX family feature aluminium or stainless steel housings.

They offer maximum reliability and a long service life. Due to their hermetically sealed housing (IP69K) they are predestined for use in the harshest environments, in potentially explosive installations above ground, in areas with flammable air-gas mixtures, vapours and dust.

ATEX and IECEx

ATEX certification means that such an approved product can be used and operated in potentially explosive atmospheres. It therefore has the required safety that no ignition of dangerous air-gas mixtures can be triggered.

The designation ATEX is derived from the French abbreviation for ATmosphères EXplosibles. The regulation currently comprises two directives in the field of explosion protection (ATEX Product Directive 2014/34/EU

and the ATEX Operating Directive 1999/92/EC).

In addition to the European ATEX certification, all SCHURTER PSE EX products also have the internationally valid IECEx certification.

Two certificates required
The PSE EX was last certified on 19.08.2020. This was a surveillance audit of the production site. In order to be able to offer ATEX/IECEx certified products, the manufacturer always needs a product and production site certification.

Applications

The potential areas of application of explosion protected components are very diverse. In principle, they are recommended for use wherever explosive atmospheres can arise or prevail. Such atmospheres can occur in refineries (petrochemical industry), mills (food processing), gas works, the chemical industry and others. The SCHURTER PSE EX is certified for above-ground applications, not for under-

ground construction.

Company

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The SCHURTER Group is a globally successful Swiss family business.

With our components ensuring the clean and safe supply of power, input systems for ease of use and sophisticated overall solutions, we impress our customers with agility and excellent product and service quality.

We focus on industrial equipment, medical equipment, automotive, avionics and space, data and communication and energy.

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Contact

marcom@schurter.com

schurter.com

UKEX – Practical Consideration and Implementation

UKCA marking (UK Conformity Assessed marking) is the UK product marking requirement that will be needed for all Ex-products being placed on the market in Great Britain (England, Scotland and Wales). This substitutes the European Union (EU) requirements for CE Marking, which continues to be accepted in Northern Ireland.

UKCA Ex (UKEX) approval came into force from 1st January 2021, with a transitional period lasting up until 1st January 2023. However, the UKCA mark will not be recognised in the EU, European Economic Area, or Northern Ireland. For Northern Ireland, either the CE mark or dual UKNI and CE mark may be required.

To allow businesses time to adjust to the new requirements, CE marked 'existing stock' can still be accepted up until 1st January 2023. For example, if machinery was fully manufactured and ready to be placed on the market before 1 January 2023. With respect to existing products, the rules for the EU and UK are the same, the legislation applies at the point when the individual product is placed on the market. This means that UKCA marking would not be required for products already placed on the market, for example, items which are already imported and sitting with a distributor which was prior to 1st Jan 2023.

CE marking can be used up until 31st December 2022 if any of the following apply:

- Currently applying the CE mark to goods based on self-declaration.
- If a mandatory third-party conformity assessment has been carried out by an EU-recognised notified body
- If the Declaration of Conformity was previously held by a UK approved body has now been transferred to an EU-recognised notified body.
- Using both the CE and UKCA mark, products can continue for both

CE and UKCA, if they are fully compliant with both UK and EU regulations.

Only UKCA-issued EX Certificates will be accepted from 1st January 2023 in the UK for products that previously required ATEX Notified Body Certification. Designated UK Approved Bodies are the EU-equivalent of ATEX Notified Bodies, and only they can issue the appropriate certificates needed for entry to the GB market.

But what products require UKEX approval?

- UKEX Category 1 Electrical and non-electrical – UKEX Approved Body Certificate Technical File Lodge and QAN/QAR (Quality Audit Notification)
- UKEX Category 2 electrical – Approved Body certificate including a UKEX Technical File Lodge and QAN/QAR (Quality Audit Notification)
- UKEX Category 2 non-electrical – Self certified product certificate from the manufacturer (Optional Approved Body Certificate) Technical File Lodge with an approved body
- UKEX Category 3 electrical and non-electrical – Technical File Lodge and a self-certified manufacturers Certificate

Once EX equipment has been self-certified or certified by an approved body, a technical file must be lodged with an approved body for a minimum of 5 years from when the manufacturer ceased making it and the last unit is placed on the market.

Products being placed on the UK Mar-

ket with UKCA Marking will also need to be supported by a UK Declaration of Conformity (DoC). The UK requirements for the DoC are the same as the EU DoC except:

- It must refer to UKSI as these contain the essential requirements
- UK DoCs need to reference the UK Designated Standards (when available)
- UK DoCs must, if applicable/required, reference a UK Approval Body

The good news is that for the foreseeable future, the requirements of the UK Regulation will remain the same as those of the EU's ATEX Directive. However, continuing UK market acceptance of CE marking until 31 December 2022 relies on EU and UK requirements remaining the same. If any deviations exist between EU and UK requirements, UKCA marking would be required immediately. www.tuvsud.com/uk



Rhodri Morgan Ex-Protection UK Technical Lead at TÜV SÜD, a global product testing and certification organisation.

Wolf recommends ATEX certified lighting for safe use in potentially explosive hydrogen atmospheres

Using ATEX or IECEx certified lighting in atmospheres where hydrogen may be present is strongly recommended as a safety precaution by technical experts at Wolf Safety.

While acknowledging that hydrogen's 'green' credentials are highly encouraging, Wolf Safety believe the risks of explosion in atmospheres where hydrogen is present should not be underestimated.

As world leaders in the design and manufacture of portable and temporary lighting for use in hazardous areas, Wolf Safety are well aware of hydrogen related risks and offer safe, certified lighting solutions for use in hydrogen atmospheres.

Says Michael Morley, the company's Technical Director: "Engineers and technicians working where hydrogen or other explosive gases or vapours could be present can be confident that Wolf has a safe, ATEX certified and cost-effective

portable and temporary lighting solution which can be tailored to meet their specific needs."

The company's range of portable lighting, temporary lighting and power distribution solutions includes products already certified for safe use in workplaces where hydrogen gas could be present.

They include Wolf's robust yet highly portable WF-300®XL and WF-250XL LED floodlights which are used worldwide, especially by engineers inspecting, repairing and maintaining storage tanks in the oil and gas industry.

The robust WF-250XL, easy to carry and more economical than comparable units, produces over 3,000 lumens of white light, more than enough to

illuminate a 5m square tank or similar space without dazzling.

It effectively illuminates smaller work areas when using a limited power supply, providing the optimum level of light for working in confined spaces at lower cost. It's also lighter and more compact than similar products, is easily carried and consumes less electrical power."

Mains and low voltage versions of floodlights and luminaires, battery powered LED work lights, torches, handlamps, head torches and warning lights are also available from Wolf Safety.

For technical information visit:

www.wolfsafety.com

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A NEW DESIGN FOR VALPES ATEX ELECTRIC ACTUATORS



Valpes' range of ATEX electric actuators has evolved with a new design and dimensions!

Valpes took the opportunity offered by compliance with the latest requirements of the ATEX directive (2014/34/EU) for installation in potentially explosive and hazardous atmospheres.

New certifications are also achievable for new markets with EACEx (Russia) and IECEx (international) certification.

Valpes is Zoedale's electric actuator supplier. It's a worldwide brand, offering a wide range of electric actuators including quarter-turn, multi-turn and part-turn.

Let's look at Valpes' existing range of ATEX electric actuators, plus the added features and dimensions of the new design.

ATEX electric actuators

An electric actuator allows a valve to be adjusted remotely, or large valves to be operated rapidly. They play a major part in automating process control.

ATEX-rated electric actuators are suitable for any potentially explosive or hazardous environment and any application requiring aluminium housing.

Application examples include technical building, construction equipment, valve control, damper control and in the gas and oil industries.

Valpes' existing ATEX VR, VS, VRX, VTX and VSX electric actuators

So, what does the original range consist of?

The VRX, VSX & VTX are IP68 rated, ATEX certified quarter-turn electric actuators with aluminium housing and cover.

The VS is an IP68 rated, failsafe, quarter-turn electric actuator with aluminium housing and polyamide (meets UL94V0 standards) or aluminium cover.

The VR is also an IP68 rated, quarter-turn electric actuator with aluminium or polyamide housing.

Both the VS and VR include a Bluetooth communication module.

New design

Valpes have taken the opportunity to redesign the casings of the VR, VS, VRX and VSX electric actuator ranges.

This new design has the following features:

Enlarged identification plates

The new design incorporates an area for a new, more detailed and more legible identification plate, and the number of markings have also increased.

New dimensions

- 11mm extension of VR and VRX housings

- 15mm extension of VS and VSX housings

The dimensions of the covers remain the same.

Expanded certifications

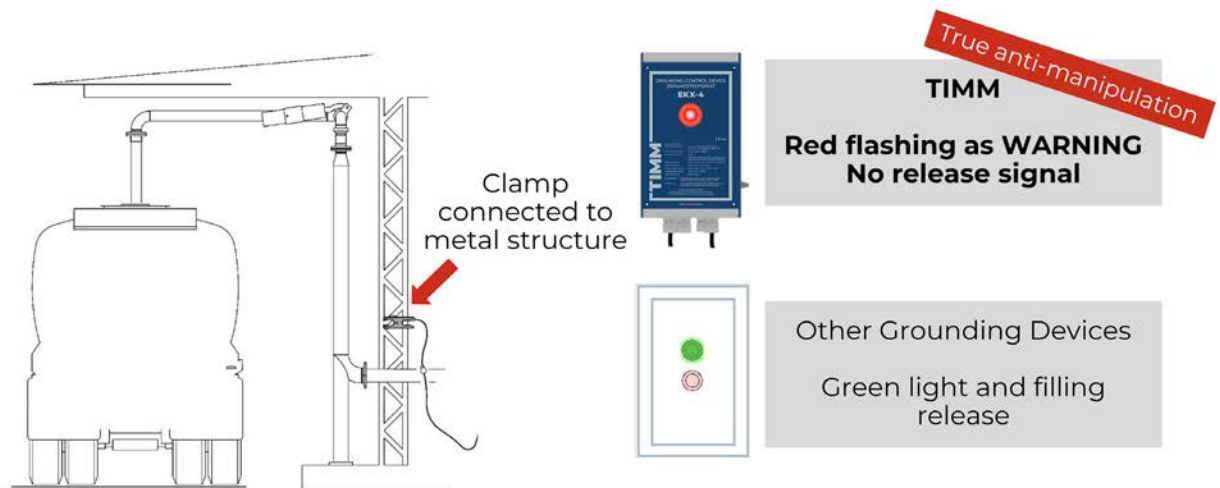
Valpes' ATEX electric actuators are compliant with the latest requirements of the ATEX directive (2014/34/EU) for installation in potentially explosive and hazardous atmospheres.

They also meet the certification requirements for new markets: EACEx (Russia) and IECEx (international).

Valpes new design will also be used for the LT range (low temperature actuators) and the DV range (DNV-GL certified actuators).

More details to come soon. Does this new design interest you? Please email enquiries@zoedale.co.uk or call us on 01234 832 832 to discuss how ATEX electric actuators might fit your requirements.





How Electrostatic Hazards Are Generated & How To Prevent The Danger Effectively?

Over time, various accidents caused by ignition, were recorded during the loading of tank trucks.

For example, over 250 accidents were recorded between 1960 and 1981 in the USA and Germany.

The accident rate is reducing. These accidents are all related to static Electricity, or more precisely, uncontrolled electrostatic discharge.

In many accidents, although measures against electrostatics were established, uncontrolled discharge was still found to be the ignition source, after investigation.

Generation of electrostatic charge
Two surfaces in close contact (liquid/liquid or liquid/solid) will generate an electrical double layer (EDL) when they are moving relative to each other. As a result of the physical separation of the surfaces, the electrical charge separation will lead to electrostatic charging.

The static electric charging rate will be increased as the speed of interface separation increases.

If the recombination of the electric charges is not possible, or when the charges cannot be dissipated, or the charges dissipate too slowly, the charges generated during the process will remain and accumulate on the surface.

Typical situations in loading operations include flowing, mixing, pouring, pumping, filtering or agitating materials, where there is forceful charge separation.

The following mechanisms lead to the accumulation of electrostatics during truck loading:

1. product flow through filters and screens
2. product flow through pipes or hoses
3. splash during loading
4. multiphase flow

The real danger arises through uncontrolled electrostatic discharge. After the potential difference between the two surfaces reaches

3 kV/mm, discharge in the form of a spark with enormous energy can easily ignite hydrocarbon products. What can we do to protect the loading process from the hazards of static electricity?

Prevention of electrostatic hazards during truck loading

The answer is simple: prevent the accumulation of electrostatic charges on the loading equipment and tank trucks during the process and dissipate the static charges in time before they reach the limit.

According to the German Technical Rules for Hazardous Substances, practical and effective methods to prevent the accumulation of static electricity are:

- limit the filling speed (decreasing the speed of separation)
- avoid splashing of liquid
- prevent gas bubbles
- avoid a second, immiscible phase (e.g. water in the bottom of the container)

Increasing the dissipation of static

charges can also be achieved by:

- increase the conductivity of the liquids (with additives)
- leave sufficient time for the relaxation of the electrostatic charge during the process
- dissipation of static electricity by grounding all conductive components

Some of the methods can be applied forcibly in an organizational way, e.g. by limiting the filling speed or not including different products in the same tank.

There are still some more methods which are regarded as uneconomical or inefficient, like leaving enough time for the relaxation of static.

Theoretically, spark discharge can be easily avoided by simply grounding all conductive parts.

However, experience shows that the safe grounding of all conductive parts in practice is not always that easy to ensure. This applies in particular to mobile objects that have to be grounded again and again by the staff, such as tank trucks.

How to ensure a reliable and effective grounding of the tank truck?

Reliable grounding monitoring system

According to the IEC TS 60079-32-1: a grounding cable should be connected to the truck before any operation is carried out.

To ensure the grounding of tank trucks, TRGS recommends a ground monitoring system (with interlock equipment) that blocks the loading or unloading process when the grounding cable is not connected or not working appropriately.

It is further recommended by IEC TS 60079-32-1 that the system should

be capable of differentiating between the truck and other metal objects.

This type of system can prevent operators from connecting the rounding system to objects that may be electrically isolated from the truck's container.

The main difference between the tank trucks and the metallic objects are their electrical properties.

Tank trucks are not purely resistive.

A typical tank truck nowadays has an electrical capacity and resistance. To fulfil the recommendation from the IEC TS 60079-32-1, the grounding device should be able to measure the impedance of the object. It should be capable of distinguishing between proper truck grounding and metallic parts on the gantry.

It should also be able to identify the grounding connection, if the operator inadvertently connects the system to an insulated part on the truck.

The quality of the connection should be also evaluated continu-

ously during the loading /unloading process, to ensure that the generated static charge is dissipated.

Signals should be sent by the system to the control system to terminate the process, if the grounding connection is not sufficient.

Meanwhile, it should also be able to indicate an unsafe situation to the operator with a light signal. Additional safety thanks to object recognition.

A modern grounding system such as TIMM's Grounding Control Device EKX-4 provides an object recognition function to detect the tank truck.

This function prevents manipulation by connecting the clamp to other metallic parts.

To realize this recognition function, the impedance (resistance and capacitance) of the connected object is measured.

www.timm-technology.de





ECOM presents Tab-Ex® 03 third generation of its 8-inch Android tablet series

The Pepperl+Fuchs brand ECOM Instruments continues the success story of its 8-inch Tab-Ex® series with the intrinsically safe Tab-Ex® 03 tablet in the DZ2 (for Zone 2/22 & Division 2) and D2 (for Division 2) variants. The successor model to the Tab-Ex® 02 is thus the third generation of Samsung devices in variants for industrial use in hazardous areas. Based on the Samsung Galaxy Tab Active 3, the Tab-Ex® 03 offers state-of-the-art technology for harsh environments as well as Android 11 with update guarantee. Samsung Knox ensures high security for data and devices. The

Samsung DeX feature supports a quick switch to the desktop version. In addition, the tablet offers more RAM and external storage than the previous models.

Tab-Ex® 03 DZ2 and D2 delivers industry-leading performance in mobile devices for hazardous areas with a slim and lightweight design. It is easy to operate with gloves or the S Pen stylus. A desktop version as well as peripherals for industrial use make the Tab-Ex® 03 the perfect companion for the modern mobile worker. Digital products and services from ECOM complete the all-round solution. Thus, the Tab-Ex® 03 can be fully adapted to individual requirements and offers optimal support for everyday work.

Increased security for employees and companies

Compared to the previous version, the new Tablet Tab-Ex® 03 provides enhanced data protection and device security, for example through the new Enterprise Edition of Samsung Knox. As with all Knox-certified devices, it supports functions such as mobile login, configuration, management and E-FOTA (Enterprise Firmware-Over-The-Air) via a separately purchased license. Knox also provides basic protection against malware and data protection hacks.

To simplify access, biometric authentication methods via facial recognition or fingerprint scanner can be used for user authentication with the Tab-Ex® 03.

Like other mobile devices from ECOM, the new Samsung Galaxy Tab Active 3, as the base device of the Tab-Ex® 03, is part of the Android Enterprise Recommended (AER) program, which ensures consistent, easy deployment and management of mobile solutions through hardware and operating system support, as well as guaranteed Android upgrades and regular security patches within 90 days of release by Google. This way, users save time and money on device deployment and maintenance.

Increased efficiency and productivity for mobile workers

With the Tab-Ex® 03, mobile workers get a tablet with the latest specifications, which enables significant time and cost savings in the completion of their daily work – whether in the field or in the office. With the included S Pen stylus, users can make precise entries, quickly create notes, highlight texts or digitally sign documents – for example via Air Command or the Samsung Notes app. The S Pen writes like a real pen thanks to high pressure sensitivity, a 0.7 mm tip and 4,096 pressure levels. Its IP68-certification ensures its reliability under all conditions.

For taking photos and videos, the Tab-Ex® 03 is equipped with a 13-megapixel camera with autofocus and LED flash on the back as well as a 5-megapixel camera in the front. An optional version without camera is also available.

With integrated Google AR-Core, the tablet is designed for comprehensive Industry 4.0 augmented reality applications, including environment recog-

nition or object identification, e. g. for plant management or predictive maintenance of devices. This ensures a high level of quality, accelerates processes and minimizes risks.

Like other ECOM hardware solutions, the new tablet also has a Pogo pin for power supply and data transfer. The replaceable battery with a capacity of 5,050 mAh ensures flawless operation and a long operating time with a runtime of up to 11 hours.

Flexible use combined with high performance

Like other ECOM devices, the new tablet comes with a useful feature for office use: Via the Samsung DeX function, users can connect the tablet with a large screen and a keyboard and thus turn it into a desktop device. This quickly and easily turns the tablet for field use into a device for the office or home office. By replacing the desktop PC with the tablet, companies can implement a “one-device” strategy, saving significant costs for hardware, software and administration.

Users in the field benefit from the sleek and lightweight design of the handy 8-inch tablet. Thanks to a display resolution of 1,920 x 1,200 pixel, visualizations of e. g. construction drawings can be viewed with more detail and in a larger size compared to smartphones. An Exynos 9810 processor as well as an improved working memory of 4 GB contribute to an overall better performance. The internal memory of 64 GB can be expanded by up to 1 TB via a microSD card.

Like all ECOM devices, the Tab-Ex® 03 is also equipped with an individually programmable button, for example for a quick and effective alarm, emergency calls or push-to-talk (PTT).

Easy administration, global service and support

ECOM's Digital Products & Services division enables the staging, management and real-time monitoring of the Tab-Ex® 03, combining automated pre-configuration with comprehensive mobile device management and device analytics. This means that the tablet is not only easy to set up and manage, but can also be updated at any time – even over-the-air. Historical data analysis is possible at any time and supports the visualization of security-critical processes. The device can be used as a fully-fledged enterprise mobility management system. This helps to reduce the workload of IT departments and increase security during ongoing operations.

Global support by Pepperl+Fuchs and Samsung provides operational security and rapid assistance. Local contact persons and application engineers are available to answer questions, solve problems or carry out repairs as quickly as possible.

The Tab-Ex® 03 is available immediately in the DZ2 (for Zone 2/22 and Division 2) and D2 (for Division 2) variants, with the DZ1 (for Zone 1/21 and Division 1) variant following in mid-2022.

www.ecom-ex.com

www.pepperl-fuchs.com

Ex-protected FX60 LED floodlights



Lighting solutions specialist
Glamox has launched a range of
Ex-protected LED floodlights for
Zone 1 and Zone 2 hazardous
areas.

The floodlights offer an extremely long rated life of 100,000 hours at an ambient temperature of 45°C, as well as low power consumption (only 40W per module) and low maintenance requirements.

The FX60 series of Ex de LED floodlights are suitable for installation in Zone 1 and 2 hazardous gas environments and can be supplied as single-, two-, three- or four-module versions that correspond to 4500lm up to 18,000lm system output, in 5000k light colour.

The lights are designed for illumination duties in harsh, hazardous environments, particularly on-shore oil refineries, petrochemical plants, offshore oil and gas platforms and marine vessels.

The floodlights are manufactured in accordance with the European Directive (ATEX), IECEx and TRCU standards.

The Ex d module of the floodlight has no flame path and the connection box is Ex e approved. LED gives instant light and the floodlight is immune against voltage drops. The special design

of die cast, seawater-resistant, anodised aluminium housing ensures excellent cooling.

Mounting frame and bracket are made from AISI 316 stainless steel.

The FX60 is available in wide, medium or narrow beam versions, with clear safety glass.

The floodlights operate in ambient temperatures from -50°C to +55°C.

Gordon Low, Area Sales Manager at Glamox International

comments: "As hazardous area floodlights are normally installed in inaccessible locations that are difficult to reach without using scaffolding or rope access, the increased maintenance intervals associated with the FX60 LED floodlights result in substantial cost savings for end users, particularly if they have hundreds of floodlights installed.

Reduced maintenance also means reduced risk of injuries to workers accessing the area lights."

Light source and connection

The FX60 offers an LED array with 4500lm output per module. For external connection the FX60 comes with two cable glands (others on request). The glands are for cable diameters from 10mm up to 17mm. The

Ex e external connection box at the back of the floodlight has terminals for cross sections up to 6mm².

The integrated IC driver is available in 120V AC or 230V AC or 254V AC, 50/60Hz. No inrush current due to the IC driver technology. The modules are connected in the external connection box and work independently.

Mounting of the floodlight is via adjustable stainless steel bracket (8x50mm as standard). Mounting hole plates have position locks as standard on both sides for the two- to four-module versions.

Glamox recently supplied a complete lighting package, including FX60 floodlights, to the newly built liquified natural gas (LNG) carriers, GasLog Houston and

GasLog Hong Kong. The vessels were constructed by Hyundai Heavy Industries and are equipped with XDF two-stroke main engines.

The tankers are equipped with two types of LED floodlight from Glamox.

The FX60 for Zone 1 hazardous areas and the FL60 for safe areas. Both floodlights are characterised by their low power consumption and low maintenance requirements.

Glamox also supplied more than a thousand TL60 LED luminaires for the project, as well as more than 400 recessed TL11 luminaires.

www.glamox.com/gmo



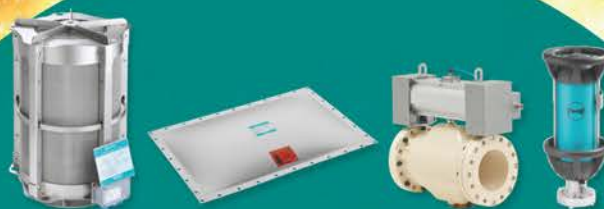


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EXKOP Express – Self-monitoring safety electronics

In the event of an explosion, the EXKOP Express controller receives a trigger signal, for example from the signalling unit of a flameless venting device, an explosion vent, a pressure detector or an IR-Flame sensor.

The EXKOP Express controller then activates the connected explosion isolation systems, causing adjacent plant components to be isolated within milliseconds and protected against explosion propagation.

The EXKOP Express is suitable for the following isolation systems: REMBE quench valves QV II and QV III, the Q-Bic extinguishing barrier and the RSV Slide Valve and REDEX Slide.

Together with the REMBE iQ Safety Cockpit, a software program to centrally display the explosion safety of your plant, the EXKOP Express offers the complete monitoring of plant components, process sections and statuses of various protective components. As soon as the EXKOP Express receives a trigger signal in the event of an explosion, it passes this information on to the REMBE iQ Safety Cockpit.

Due to the direct notification to the desired communication medium, e.g. the mobile phone of the person in charge, REMBE has enabled causes to be identi-

fied in an optimised and targeted manner, thus allowing downtimes to be reduced.

By detecting operationally relevant components for explosion protection or temperature/fire gas detectors and grounding systems for explosion prevention, they can be registered via the REMBE iQ Safety Cockpit and connected to material management. So if a disruptive event such as an explosion occurs, the system detects which areas are affected and provides information about which spare parts

are needed to restore the plant to a safe condition as quickly as possible.

These functions can be presented in the operator's system as a "suggestion" or can be sent directly to the manufacturer as a non-binding request. Continuous optimisation of processes is made possible through detailed documentation and evaluation of all results.

www.rembe.de



Fig. 1: EXKOP Express controller

ATEX safety company Pyroban acquires specialist MEWP manufacturer Euro Access



Explosion proof safety company Pyroban® has announced the acquisition of specialist work platform manufacturer Euro Access® Ltd in Cork, Ireland. The purchase completed on 17th November 2021 and has allowed the original founders to retire knowing their legacy will live on in a company they have trusted for more 20 years.

Euro Access, founded in 1996, manufactures ground support equipment specifically used for the maintenance of military aircraft.

The specially designed access platforms enable maintenance engineers to reach the nose cone and other confined areas of the fighter jets.

"The area around each aircraft is formally classified as Zone 1, meaning a potentially explosive atmosphere is likely to occur during normal operations, so the access platform must be explosion proof and meet ATEX 2G compliance," says Steve Noakes, Managing Director of Pyroban.

"To support safety, Pyroban was involved in the equipment's original design process and certification in the 1990s with Euro Access' founders Paul and Michael."

Since then, Pyroban has continued to supply Euro Access with hundreds of explosion proof kits which are fitted on

the production line in Cork, Ireland. The strong relationship that developed led the founders to approach Pyroban as a suitable new owner in early 2021.

"Euro Access fits perfectly within our portfolio because it has great synergies with Pyroban's innovative, safety-driven culture and bespoke engineering capabilities," says Steve.

"It is also aligned with our existing support for many organisations in the military and aerospace sectors and opens up further opportunities to expand our offerings. We are proud to be the new owners of Euro Access, starting a new and exciting chapter in the long-standing relationship."

Euro Access was started by Paul and Michael who had previously worked for leading MEWP (Mobile Elevated Work Platform) manufacturers.

They saw an opportunity to develop the specialist equipment due to their technical knowledge, understanding of the military application, and ATEX experience.

The company soon became an Approved supplier to BAE Systems Ltd. (British Aerospace) and the wider military partnerships globally.

"Euro Access has been our passion for the last 25 years, but it is time for us to retire and let our legacy live on with a strong custodian that has the same values, principles and engineering excellence," says Paul.

Sussex (UK) based Pyroban provides explosion protection conversions for materials handling equipment, including many other brands and types of MEWP. It also delivers and maintains explosion protected diesel engine packages and kits for well service applications. Pyroban is part of the Longacre Group, with strong financial backing to support ambitious acquisition plans over the next five years.

For more information about Pyroban visit www.pyroban.com, email sales@pyroban.com or call (UK) +44 (0)1273 456800.

Ashtead launches intrinsically safe dust monitor

Ashtead Technology has added TSI's latest personal aerosol monitor, the SidePak™ AM520i to its fleet of instruments available for both rental and sale.

"This is a major addition to our equipment portfolio," comments Senior Sales Manager Josh Thomas. "Many workplaces include areas that contain or produce explosive or potentially explosive atmospheres, and a high proportion of these zones contain risks associated with particulates. So, an intrinsically safe monitor is required to test these areas, and the launch of the TSI AM520i makes that possible with a lightweight instrument that is ideal for personal monitoring."

Potentially explosive atmospheres exist in locations where work activities create or release flammable gases or vapours, such as petrochemicals, VOCs from paint spraying, or in workplaces handling fine organic dusts such as grain flour or wood. Applications for this new intrinsically safe personal dust monitor therefore include a wide variety of workplaces within the oil and gas, petrochemical, manufacturing, processing, aerospace, and bulk material handling sectors, as well as those with confined spaces such as mining and wastewater.

Employers are responsible for the classification into zones of areas where hazardous explosive atmospheres may occur. Each zone's classification and its size and location, depend on the likelihood of an explosive atmosphere occurring and its persistence. Schedule 2 of the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) contains descriptions of the various classifications of zones for gases and vapours and for dusts.

DSEAR requires employers to eliminate or control the risks from dangerous substances, so monitoring is essential in ATEX zones, and the AM520i is certified for dust measurements in Zone 0. ATEX

is the name commonly applied to the two EU Directives for controlling explosive atmospheres; the 'ATEX Workplace Directive' and the ATEX Equipment Directive' which necessitates the use of intrinsically safe monitoring equipment for example.

The SidePak™ Personal Aerosol Monitor AM520i is a small, single-channel, battery-operated instrument that provides real-time aerosol mass concentration readings of dusts, fumes, mists, smoke and fog within a worker's breathing zone. Typically, the monitor is fitted to the wearer's belt, or left in a location of concern. Alternatively, it can be used as a portable monitor providing real-time readings in survey mode.

With a built-in pump and internal datalogger, the instrument can provide continuous measurements, which provide extremely useful temporal information in comparison with gravimetric methods.

Operators are able to select from a choice of inlet conditioners providing size fraction cut points for PM10, PM4 (Respirable), PM5 (China Respirable), PM2.5, PM1 and 0.8 µm Diesel Particulate Matter (DPM).

Summarising, Josh says: "The non-intrinsically safe version of this instrument has been hugely popular for many years, so the technology is well proven, and the launch of this new EX version will mean that anybody with a potential requirement for monitoring in explosive atmospheres, can rent or purchase an instrument that can operate in all areas.

"We are also a TSI Gold Partner, so customers can be assured that we have the resources to ensure that TSI equipment is supplied and maintained in perfect condition."

www.ashtead-technology.com



How Korea handles Certification of Explosion Proof products



The author: Julian Busch, Managing Director of MPR International GmbH

South Korea, with its super high-speed internet and giant technology corporations is considered a world leader in many innovation-driven industries.

The growth development of the South Korean market is impressive and unique.

As the eighth largest importer in the world, South Korea is a very attractive market for many international companies looking to sell technology and other sophisticated products.

In 2021 the country announced investments totalling \$432 billion USD in the semiconductor industry alone. This industry was in the news recently as it became major problem affecting manufacturing and international trade during the COVID-19 pandemic.

Suppliers from all over the world are faced with the challenge of obtaining the required approval for the Korean market to sell

their parts and components. Depending on the product type there are many different types of approvals that may be needed. Explosion protection products require a certification to be imported into Korea.

Explosion protection certification procedures in Korea have been drastically consolidated over the past fifteen years and are now much better suited to international trade.

The procedures are based on existing international standards or have been adapted to fit with them.

With the approval for the Korean market building on the IECEx standards, companies can further expand their competitive advantages in the increasingly fast-moving international trade.

More than 730 types of products are now regulated under the umbrella of KC certification.

Although these standards are

generally comparable to IEC standards, KC certification must be obtained to ensure that the products meet local Korean standards before they can be imported or sold in the country.

It was only in 2009 that all these certifications were consolidated and transferred to the KC certification system.

Before the consolidation of the certification systems, South Korea had 13 different certification systems and 140 different certification marks. This multitude of different certification marks was in turn regulated by different governmental organisations, sometimes even with partial overlaps.

The consolidation of explosion-proof certifications now makes the process more efficient. It remains a challenge for companies to ensure that their products conform to all the current regulations and requirements and are correctly certified.

This is especially important

regarding the approval of electrical explosionproof components based on an existing IECEx certification.

As the Korean economy is advanced and mature, sudden regulatory changes are uncommon. Staying on top of new developments in the regulatory arena is key to successfully participate in the future growth and development of one of Asia's most advanced and thriving economies.

The purpose of this article is to show how this development currently applies to the approval of explosion-protected products and how manufacturers can gain competitive advantages in the market by supplementing a KCs approval for South Korea with existing internationally recognised certificates.

The lucky ones are those who know can successfully navigate the complex Korean rules needed to get certification.



KCs Ex for Electrical Components

How Korea handles Certification of Explosion Proof Products

The KCs mark was established to ensure the fundamental safety in the design and manufacturing of hazardous machinery and protective equipment used in hazardous work environments.

The ultimate goal is to protect the health and safety of workers

by preventing accidents.

By successfully completing the required certification and marking the product with the KCs mark, the manufacturer can ship to South Korea and the product is shown to meet all the regulations and assure safety.

The KCs Certification is a special safety certification for machines and certain industrial equipment.

This certification scheme is overseen by the Korea Occupational Safety and Health Agency (KOSHA) and requires certain potentially harmful machines or safety equipment to obtain the KCs Mark ("s" for safety).

Under the Occupational Health and Safety Act, KOSHA requires the KCs certification of explosion proof electrical components. Korea has had an approval system for explosion-proof components since 1992.

KOSHA joined the IECEx scheme and became an internationally recognized IECEx certification body (ExCB) and IECEx testing laboratory (ExTL) in 2000.

Apart from KOSHA, the KCs Ex certification can also be obtained through the Korea Gas Safety Corporation (KGS) and KTL, which are both accredited to issue KCs certificates as well. In general, there are two certification types under KCs Ex. The manufacturer certification allows for continuous export of KCs certified Ex components, but the import certification is limited to a one-time import of a maximum quantity of 10 pieces per certified product.

Machines with explosion-proof

capabilities that are used in hazardous zones can also fall under the KCs certification requirements.

However, the KCs certification is only required in the context of electrical explosion protection. Non-electrical, mechanical explosion-proof equipment or machines are not relevant for a KCs certification. It is especially important to clarify the certification status of electrical explosion proof components when planning to build them into machines.

In such cases, the timeline can increase substantially, because the certification of the components needs to be factored in as well.

Manufacturers of affected machines should clarify certification requirements with their component suppliers in advance. This can help with avoiding unnecessary delays and discussions over the allocation of responsibilities at later stages.

The certification cannot be carried out by the manufacturer or assembler of a complete machine or facility but must be applied for by the producer of the electrical Ex components. In the context of an import certification, active participation of the manufacturer together with the importer is required.

For a KCs manufacturer certification, the standard certification process under the KOSHA regulations is as follows:

KCs Ex for Electrical Components

Regular follow-up inspections are normally conducted by the



Korean authority every two years after obtaining the KCs certification to ensure that the product is being produced under the same standards that were confirmed during the initial certification process. The import certification in contrast does not require a factory audit.

For manufacturers who want to export to Korea, the standard certification process is usually not the most practical and efficient solution. It can be much easier to obtain KCs certification if there is an existing IECEx certification for in Korea.

IECEx And Sometimes ATEX Can Simplify The Procedure

In case the manufacturer already has an IECEx certification for their product, there is a simplified certification process to obtain a Korean explosion-proof certificate. For this process the entire IECEx documentation will be thoroughly examined so that the ExTRs can replace the product tests and the IECEx QAR can substitute the initial factory inspection.

Even though IECEx can simplify the process, especially with regards to skipping product testing in Korea, it is not a simple 1:1 transfer of IECEx to KCs. For the application process it is not sufficient to only provide ExTRs.

The authority will examine the entire IECEx documentation that is referenced in the existing test reports and will compare this to the Korean regulations. Even though these are mainly based on IECEx, any differences will be brought up and evaluated during the approval process.

Another important difference with IECEx are the unit classification criteria, which are much more restrictive in Korea and can significantly complicate the process and increase approval costs.

Manufacturers should not start the process with the assumption that the same product scope on their IECEx certificate can just be carried over to a KCs certificate. In certain product categories, even differences that do not necessarily influence the explosion protection properties, like product dimensions, can result in a request to apply for separate certificates.

It is highly recommended that these differences are evaluated individually in advance to avoid delays and unexpected cost increases.

Another difference to IECEx is the requirement to apply for gas and dust separately. After approval, the authority will issue two certificates, whereas under IECEx everything can be put together on one certificate.

For the application it is also required to submit a Korean manual and a drawing of the marking proposal according to Korean requirements. For products that already have different international approvals and limited space on the nameplate, adding the required marking information for the KCs certification can be an additional challenge.

Applying for a KCs manufacturer certification with an existing IECEx certification can still shorten lead times as product testing in Korea can be bypassed and skipping the initial factory audit avoids delays with regards to audit planning and international travel. This is an important advantage that enables certification, especially in challenging times like the COVID-19 pandemic.

After skipping the initial audit, it is still necessary to pass regular follow-up inspections by the Korean authority to maintain the validity of the certificates. Even for one-time deliveries of electrical ex-proof components a KCs certification is still required, but it is possible to apply for an import certification. An import certificate can cover a maximum of 10 identical Ex components, for which each specific serial number will be documented on the certificate.

A factory audit is not necessary for an import certification, but the detailed examination of the IECEx documentation and ExTRs is still required to avoid product testing in Korea as the alternative.

IECEx And Sometimes ATEX Can Simplify The Procedure The overall lead time and sequence

of events for obtaining an import certification is different compared to the manufacturer certification.

A crucial document in the application process for the import certification is the import declaration that contains the serial numbers of the imported products.

Since this document will only be available after import, the application can only be submitted afterwards.

That means the components can be exported, but before they can be put into operation there is a time delay to obtain the KCs import certification.

When planning to apply for an import certification it is recommended to start with the preparation of the application well in advance before import, so that the application can be submitted as soon as the import declaration is available.

With proper planning and execution delay is minimized. In contrast to the universal recognition of IECEx to simplify the application process, the utility of an existing ATEX certification is much narrower. For obtaining a KCs manufacturer certification, ATEX is not accepted to simplify the application process.

ATEX can be used under certain circumstances only in the context of an import certification. Here it is mainly dependent on which European institution issued the ATEX certificate and if they have a memorandum of understanding (MOU) with the respective Korean authority for recognition of their ATEX certificates.

It should always be checked in advance whether this critical condition can be fulfilled. If so, then the product testing can be substituted by submitting the ATEX documentation in English and the process is comparable to using an existing IECEx certifica-

tion.

It should also be noted that an import certification must have the importer as the applicant, so both the manufacturer and the importer must be involved in the process.

The Korean regulations provide viable avenues to certification for all companies that can provide an existing IECEx certification or in certain instances also ATEX. It is just a question of proper planning and lead time to prepare for the Korean market.

We can assist with the certification of your explosion proof products in Korea.

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www.korea-certification.com/en



Hoist & Winch Raise Corporate Profile



“Hoist and Winch Ltd has come a long way in a short space of time. From humble beginnings in 2007, the company today offers a full spectrum of lifting equipment services to the UK and global marketplace. Indeed, the Hoist and Winch portfolio now comprises product sales, installation, service, inspection, repair and hire, with a special emphasis on project work. With increasing demand, the reputation and corporate profile of this ISO9001-accredited business is rising fast.”

The company excels in managing the supply and installation of standard and explosion-proof air-powered/electric hoists, while another strong business area is hoist hire, an offer that includes higher capacity air/electric hoists.

As one of many market differentiators with its competitors, the company also offers installation services for rental hoists.

Although Hoist and Winch serves a number of sectors, the company is particularly at home supplying demanding industries such as heavy construction, cement production, petrochemical, offshore, marine, mining and tunnelling,

many of which require explosion-proof equipment.

The Hoist and Winch distribution, hire and workshop facility is centrally located in the Midlands, at Alcester.

However, the company also offers the facility to purchase many items of lifting and winching equipment online, whether for standard or ATEX environments. In addition, material handling equipment and height safety products are also available via the website.

A notable part of the business is exporting: the company exports all order values, from spare parts and small items, up to complete

packages of lifting equipment comprising a mixture of powered/manual hoists, overhead cranes and ancillaries.

Hoist and Winch has built up a strong working relationship with a number of key freight forwarders, exporting equipment to Africa, Asia, Australia, Central Europe, the Middle East and South America.

Alongside the supply of standard lifting equipment for both domestic and export markets, Hoist and Winch provides full project engineering capability.

The company offers a proven and highly competent track record in the delivery of special projects.



Areas of expertise include the oil and gas industry, explosion-proof lifting equipment for a variety of hazardous industries, and non-standard bespoke solutions to satisfy the particular requirements of customers.

A complete turnkey project solution from Hoist and Winch comprises initial consultation and assessment of application requirements; proposal development involving exchange of relevant information; submission of proposal; contract award; final design and submission of drawings; project management; installation, commissioning and test; handover; and ongoing service and maintenance support.

Extensive service provision

Beyond the products themselves, primary among the Hoist and Winch service portfolio is the installation, commissioning, test-

ing and LOLER certification of all types of lifting equipment, material handling equipment and height safety products.

The company has an extensive range of rigging equipment required to carry out a wide variety of installation work and this is included in the cost.

In certain cases it is possible to hire specialist items of rigging or lifting equipment to provide specific functions.

The service, repair and inspection of lifting equipment can take place on-site or remotely. Hoist and Winch has expertise in the servicing of manual, air, hydraulic and electric powered hoists, cranes and winches.

Further specialties include the design, supply, installation, testing and LOLER certification

of hoist runway monorail beams, as well as light crane and monorail profile tracks (up to 2000 kg safe working load).

Moving forward, Hoist and Winch is looking to further expand its product sales, online presence, export business and project engineering success.

With the company's impressive track record to date, few would bet against this progressive business winning even more market share.

Tel: 08450 171126

e-mail: sales@hoistandwinch.co.uk

web: www.hoistandwinch.co.uk

New game-changing flameproof cable glands

A new flameproof cable gland range from Pratley allows for soft-bedding cables like PVC and the like, which are prone to creep, to be fitted to flameproof equipment without any concern regarding cable damage or poor long-term sealing.

The Pratley Taper-Tech® flameproof gland range consists of four separate glands in two unique categories.

First is the Pratley Taper-Tech® gland for armoured and braided cable. This is a 'double compression' gland, meaning it has both an inner and an outer seal.

The second is the Pratley Taper-Tech® single-seal flameproof gland, also for armoured and braided cable, but with a durable rubber shroud.

The range also includes two 'double compression' glands for unarmoured cable, one being a hose-tail version that features a spigot on the compression nut.

This is intended to be fitted with flexible hosing, for example, where cables are fitted to mining machines, for protecting the cable outer sheath.

The unique feature of this flameproof cable gland range is that all versions are fitted with Pratley Taper-Tech® flame seal technology, consisting of tapered seals made from superior, Pratley developed, high temperature,

and low compression-set elastomers. The seals all have a taper on the leading edge that abuts against the gland nipple taper on the inside. The taper on the bush and the one on the cable gland's nipple are angled differently.

This means that, under thrust or pressure from the front, when it is tightened, this differential taper allows the bush to slide down the taper easily, reducing the force needed to achieve radial compression. "In other words, less torque to reduce the diameter of the bush," explains Sven Breedts, Electrical Research & Development Manager.

A major benefit of this technology is low initial radial pressure or a small amount of contact pressure on the cable. This is important because most cables in the field are made from PVC, which exhibits 'cold flow', meaning the relaxation of the cable bedding over time.

"This can be dangerous for both the flameproof sealing properties of the termination, as well as the secureness of the cable to the equipment," points out Sven.

Flameproof cable glands fitted to flameproof equipment are intended to seal against extremely

high explosion pressures, which in many cases may be as high as 30 bar. For the seal to function properly, there must be adequate pressure between the seal and the gland bedding.

"Imagine the explosive gases travelling down the cable and pressing against this seal. This seal is now being pressed on its taper which, due to the taper action, forces the bush to press down onto the cable, increasing the seal force.

As the pressure rises, the contact pressure between the bush and the cable increases proportionally. Even if you increase the pressure to 40 or 50 bar, the seal will accommodate that pressure by further closing onto the cable. Once that pressure is released, the bush will relax again, and reduce the contact pressure on the cable," highlights Sven.

As the leading edge of the seal forms a taper in the direction of the applied explosive pressure, when this applied pressure increases so too does the contact radial seal pressure on the cable bedding. Once the pressure is relieved, the bush returns to its initial low-pressure state, so the high seal pressure is only on the cable when it is needed.

The same technology is amplified in the cable gland for unarmoured cable, which not only has to seal against high explosion pressures, but also retain the cable axially against pull-out forces.

"This is achieved in a similar manner to that used for sealing, however, the rear outer seal has a taper which is in the direction of the cable pull-force.

This too increases proportionally to the pull-force on the cable, meaning that high contact pressures are only present on the cable when it is being pulled on.

Taper-Tech® completely negates cable damage usually experienced with subpar weak-back seals, while complying 100% to the stringent IECEx flameproof cable gland requirements," concludes Sven.

The main features of the different versions in the Pratley Taper-Tech® Flameproof Cable Gland range are as follows:

Pratley Taper-Tech® Flameproof Double Compression Gland for armoured and braided cable

- Flameproof double compression gland for both SWA and braided cables

- Complete with unique Taper-Tech® flame seal technology
- Fully certified to both SANS and IECEx Standards

- Quad certified Ex d/e/nR and t, for Fiery Mines and Surface applications

- IP66/68 tested to 350 m continuous

- Continuous operation at -35 to 120 C

- Patented cable safety gauge

- Red Ex band, for easy identification in the field.

Pratley Taper-Tech® Flameproof Double Compression Gland for armoured and braided cable with a shroud

- Flameproof gland for both SWA and braided cables with a durable UV resistant rubber shroud

- Complete with unique Taper-Tech® flame seal technology
- Fully certified to both SANS and IECEx Standards

- Quad certified Ex d/e/nR and t, for Fiery Mines and Surface applications
- IP66/68 tested to 350 m continuous
- Continuous operation at -35 to 120 C
- Patented cable safety gauge
- Red Ex band, for easy identification in the field.

t, for Fiery Mines and Surface applications

- IP66/68 tested to 350 m continuous

- Continuous operation at -35 to 120 C

- Patented cable safety gauge

- Red Ex band, for easy identification in the field.

Pratley Taper-Tech® Flameproof Double Compress Gland for circular unarmoured cable

- Flameproof double compression gland for circular unarmoured cables

- Complete with two unique Taper-Tech® sealing technology seals

- Fully certified to both SANS and IECEx Standards
- Quad certified Ex d/e/nR and t for Fiery Mines and Surface applications

- IP66/68 tested to 350 m continuous
- Continuous operation at -35 to 120 C
- Patented cable safety gauge
- Red Ex band, for easy identification in the field.

- IP66/68 tested to 350 m continuous

- Continuous operation at -35 to 120 C

- Patented cable safety gauge

- Red Ex band, for easy identification in the field.

www.pratleyelectrical.com





Environmental Hazard Monitoring Expert Casella Announces 2022 Webinar Series on Noise, Air Sampling and Vibration

Global occupational health and workplace hazard monitoring expert Casella has announced its schedule of industry-leading webinars for 2022.

The schedule of free-to-attend, accessible webinars covers Casella's areas of core knowledge, including workplace monitoring for noise, dust, gas and vapour hazards, as well as instrumentation usage and best

practice.

In order to reach worldwide attendees, two sessions will be run on each date, with one taking place at 10am and a later session at 3pm to ensure learners across multiple time zones can benefit. Each webinar will conclude with

a Q&A session to recap. The webinar schedule is set to run as follows:

23rd February - Environmental Boundary Monitoring in Construction:

Understanding Data

Parameters and data can be intimidating to those unfamiliar with environmental monitoring. This session will provide expert guidance on key parameters for noise, particulate and vibration so that site managers can know their Leq from their PM10 and PPV. Casella will also advise on how to use data to prevent potential complaints, saving site time and costs.

16th March - Introduction to Air Sampling

Airborne hazards from fibres, gases, dust and vapours can all cause potentially life-threatening damage to worker health. This session will provide expert insights on monitoring workers' exposure with guidance on equipment, current requirements and best practice techniques.

13th April - Introduction to Noise at Work

This session will cover the different international workplace noise regulations, offering guidance on employer responsibilities and exploring ways that the use of noise dosimeters and sound level meters can support compliance.

18th May - Introduction to Asbestos Sampling

This session will provide a quick insight into the international use of asbestos, both now and historically, its associated health risks and how to perform air sampling for asbestos.

Attendees will be guided through the equipment and accessories needed with best practice advice on how to set up equipment.

8th June - Setting up Air Sampling Pumps

Setting up air sampling pumps and their associated items is paramount to ensuring accurate exposure data. This webinar covers selecting the correct pump, setting up a 'sample train' and ensuring accurate flow, as well as best practice to ensure good quality data.

6th July - Introduction to HAV Monitoring

Hand Arm Vibration Syndrome (HAVS) is a serious condition that can be prevented with the correct control of exposure. This webinar reviews the terminology around HAV measurement, legislation and exposure limits, as well as how to measure exposure on tools correctly and subsequently calculate exposure levels.

24th August - Environmental Boundary Monitoring in Construction:

Best Practice
Boundary monitors can measure dust, noise, ground vibration and wind parameters.

Acquiring accurate measurements from these units is essential for reporting quality data and preventing environmental complaints.

This session will cover the correct siting and installation of monitoring units to ensure compliance with guidance and legislation.

In addition, attendees will gain a best practice understanding of sensor operation and maintenance.

14th September - Introduction to Dust Sampling

This webinar will guide attendees through different facets of

dust monitoring using air sampling pumps, including types of dust to measure and the selection of equipment, such as sampling heads or filters. Additionally, the webinar will cover how to calculate airborne concentration and exposure.

19th October - Use of SLM's and Noise Dosimeters

This session will guide attendees through the applications and uses of noise dosimeters and sound level meters, and the pros and cons of each. This webinar will also provide a best practice guide to getting the most from noise monitoring equipment, and cover the critical do's and don'ts of instrumentation.

24th November - Introduction to Sampling Gases and Vapours

Personal sampling of vapours and gases requires knowledge to select the correct sampling media and the right accessories and flow rates.

This webinar covers sources of information, how to set up a 'sample train', and how to select the correct air-sampling pump and equipment calibration.

To sign up for any of these webinars, free of charge, please visit; UK & International - <https://www.casellasolutions.com/uk/en/support/training/casella-webinars.html>

US – <https://www.casellasolutions.com/us/en/support/casella-webinars.html>

To find out more about Casella's industry-leading range of monitoring solutions, please visit www.casellasolutions.com

DSEAR 3 DAY - Risk Assessment Training Course



DSC Limited - DSEAR Risk Assessment and Training Consultants
Dangerous Substance Control

Our "Three Day" DSEAR course is aimed at those who are responsible for conducting DSEAR assessments, but are not necessarily fully confident with the process.

They may work in a flammable environment, in-addition to being responsible for managing the area, day to day.

The course content:

- Legal foundations

- How sources of danger arise.
- What is the difference between flashpoint, fire point, boiling point and Auto Ignition?
- The fundamentals on the origin of Explosions, Deflagrations and Fires
- Risks resulting from improper storage or handling of these substances
- The meaning of the danger triangle and pentagon.

An overview of the regulations, understanding solvents and their physical properties, explosive dusts, ATEX classifications, gas

groups, temperature ratings and BS 60079-10 Ex Zone determination, all giving a greater understanding of how ATEX fits into the DSEAR equation when establishing hazardous zones.

Reference is made to the theoretical understanding of flammable vapours with examples of how the L.E.L can be converted into a meaningful quantity of chemical per cubic metre.

Supported by a full and detailed 200-page, training manual to assist with their learning.

Book On-line

Our "Three Day" DSEAR training course is aimed at those who may be responsible for conducting risk assessments, but are not necessarily fully confident to do so with such a technical subject.

The Course Content :

Legal foundations of DSEAR and COSHH

How Fires and explosions occur,

The fundamentals of understanding the explosive potential - Deflagrations

Understanding the Chemical Properties of a substance

Risks resulting from improper storage or handling of substances

The danger triangle and dust pentagon.

Dust explosion potentials

An overview of the regulations is included along with, explanations and understanding of solvents and their physical properties, explosive dusts, ATEX classifications and coding, gas groups, temperature ratings and BS 60079-10 Ex Zone determination, all giving a greater understanding of how

ATEX fits into the DSEAR equation when establishing hazardous zones.

Reference is also drawn to the theoretical understanding of flammable vapours with examples of how the Lower Explosive Limit can be converted into a meaningful quantity or volume of chemical per cubic metre of space.

The course includes:

A detailed 200-page, training manual for all delegates

Working group activities

A "multiple choice" exam

Buffet Lunch Tea Coffee and refreshments. – COVID conditions apply.

Venue and Dates 2022:
Cannock Staffordshire

March 15-17th

Jun 14-16th

Oct 11-14th.

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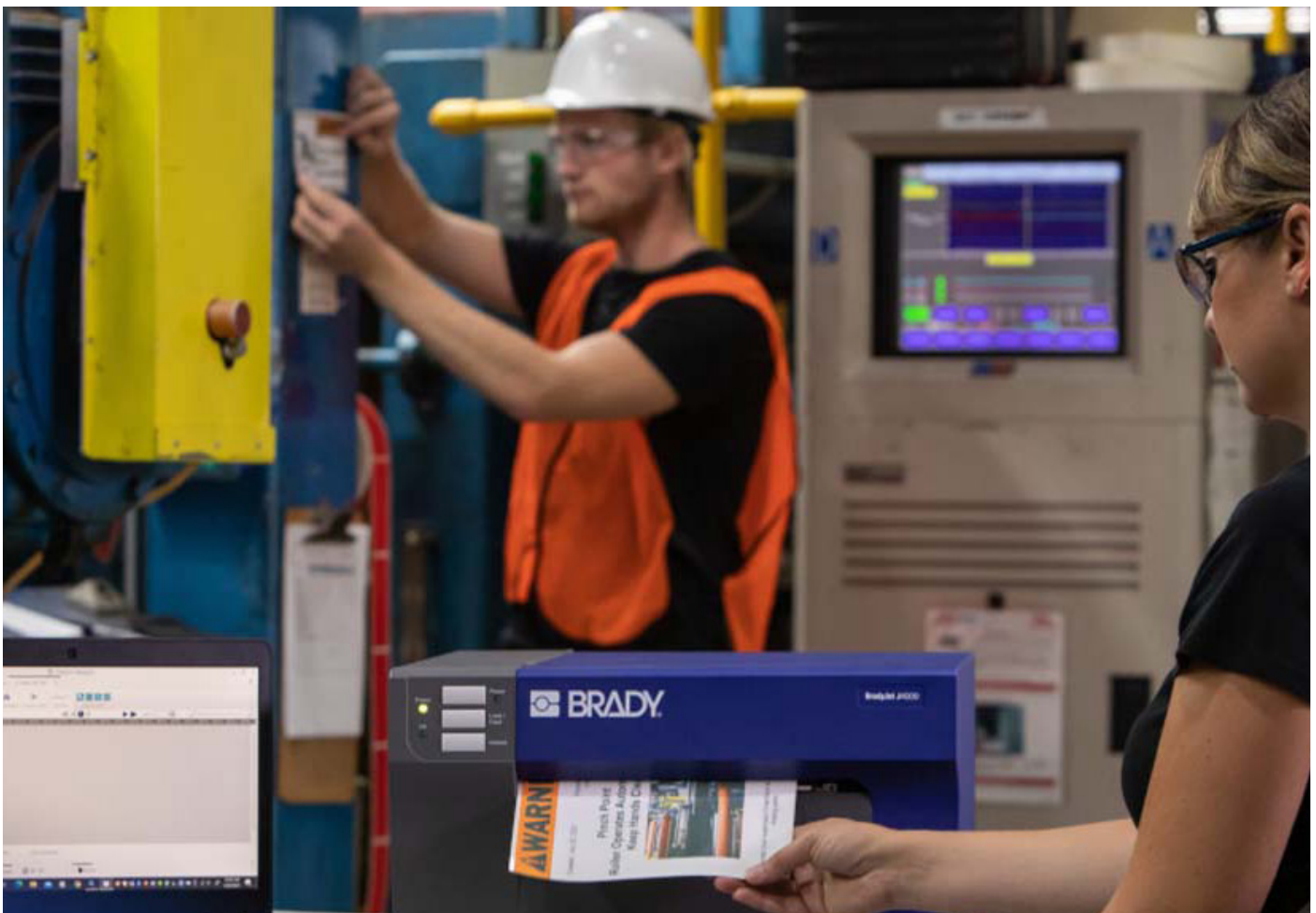
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Water Jetting Association - The Engine House,
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Supersonic water jets boost highway improvement project

The destructive power of water is playing a key role in a highway improvement project along one of the busiest roads in the UK's West Midlands region.

Jets of water travelling at supersonic speeds are blasting concrete from around bearings in two flyovers on the A4440 Southern Link Road near Worcester.

The jets are so powerful they can tear lumps of concrete bigger than a fist from around the bearings, exposing the steel rebar for the first time since the carriageway was built. However, in the hands of the experienced operatives from hydrodemolition specialist Aquaforce Concrete Services, they can also be directed with impressive precision to remove just the right amount of material.

Aquaforce is working on the project for its parent company, civil and structural engineering specialist Freyssinet, which is carrying out concrete repairs on the existing roadway for main contractor Alun Griffiths (Contractors) Ltd.

Worcestershire County Council is overseeing the £62m scheme to upgrade a 3.5-mile section of the link road connecting the M5 with south and west Worcester, Great Malvern, Ledbury, Upton and Herefordshire.

The project, now nearing completion, has involved the phased dualling of the carriageway and the repair and up-grading of the in situ roadway, including two raised sections over the River Severn and its flood plain.

Aquaforce, a member of the Water

Jetting Association, has been working with Freyssinet to release 56 bearings on four abutments and 10 piers along the two flyover sections, so they can be replaced.

Freyssinet engineers jack up the carriageway to unload the bearing. Aquaforce operatives remove the concrete. The bearing can be taken out. The concrete is then reinstated, and a new bearing installed.

Their success demonstrates the advantages of hydrodemolition in supporting highway maintenance tasks, said Aquaforce General Manager Gavin Thomas, a member of the WJA's technical committee.

He added: "Our operatives are exposed to almost none of the hand arm vibration (HAV) risks of mechanical tools, and water jetting causes no vibration damage to the structures we work on.

"Particles released are held within water, so dust pollution and highway visibility hazards are reduced. Also, structures like rebar are not damaged and surfaces need little or no further preparation before being reworked." The handheld jetting guns are set at an average pressure of 1100 bar (17,000 psi) and a water flow rate of 48 litres per minute.

Wastewater is filtered to remove a significant percentage of suspended solids and pH balanced on site to ensure it can be disposed of safely and correctly. Each abutment and pier has four bearings. On average, one bearing can be undermined ready to be released every shift, a task that involves removing approximately one metre cube of concrete.



It is a level of productivity that no other methodology is likely to match, which is why hydrodemolition has become the standard method to release bridge bearings in the UK.

Safety is a key consideration. Aquaforce's operatives wear the latest water jetting suits made from the same material used in bulletproof vests, plus steel-lined boots, and visored helmets. The WJA's class-based safety awareness course and practice modules, accredited by City & Guilds, are designed to give operatives the fundamental knowledge and skills they need to begin their water jetting careers.

Now operatives and their employers can benefit from a new WJA course, the world's first competency qualification for water jetting.

Accredited by ABBE, the Level 2 Water Jetting Technician Certificate, adds a substantial period of work-based assessment (at least a year) carried out by a WJA-approved assessor.

Talk to the WJA about water jetting.
Email info@waterjetting.org.uk.
web www.waterjetting.org.uk
Phone +44 (0)20 8320 1090.

ARCO Announces Exclusive Partnership With FLX Health To Launch The Unique FLX Physio APP

Arco, the UK's leading health and safety company, has announced an exciting partnership with FLX Health, to become the exclusive UK reseller of the FLX app, a targeted physiotherapy app that works to prevent musculoskeletal disorders (MSDs) in the workplace and rehabilitate employees more quickly when they arise.

MSDs are a leading cause of occupational ill health in Great Britain, accounting for 30% of all work-related ill health cases and 27% of lost working days. Affecting 14.9 million people nationally, MSDs cost the NHS over £5 billion per-year for treatment and support. As a growing issue that exists in many work environments, the FLX app empowers individuals to self-manage low grade pain and injuries through behavioural change and correcting biomechanical function, reducing the need for face-to-

face and online physiotherapy appointments. The FLX app will also help employers boost productivity, reduce sick days and keep their workforce healthy, happy and active

The FLX app works in two ways, accelerating the process of recovery, and preventing injury by detecting and correcting biomechanical issues. For example, during a three-month trial conducted with the South Yorkshire Police Force, MSDs were reduced by 64% and the rate of absenteeism due to MSDs was reduced from 43 to 18 days per month. This trial amongst 237 police workers, resulted in savings of £65,000 a year. When scaled across all staff within the Force, the calculated savings could reach £1.4m a year. In a similar trial with 480 workers at Dorset Fire and Rescue Service, days lost due to low level back pain reduced by 52%.

The FLX app is available via subscription on mobile devices. Users can opt to use the Pain Programme to aid existing problems through corrective exercises and self-management advice or the Biomechanics Programme to help prevent future pain and injuries. The app uses clinically proven algorithms developed over 15 years to identify an individual's biomechanical profile through a series of screening tests to suggest a course of personalised physiotherapy exercises. The app learns and adjusts the programme to address users' continuously evolving biomechanical needs.

For more information about the FLX app visit: <https://www.arco.co.uk/expert-advice/musculoskeletal-disorders>

For more information, visit www.arco.co.uk.

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