

Hazardous Engineering Solutions



Incorporating Health & Safety

The International Magazine For
Hazardous Area Professionals

May/June 2017 | Issue 35

Aspects To Keep In Mind In
The Ex Equipment Design
Process That Will Reduce
Certification Time And Cost

Page 12

6-9

News & Products

14-15

Atex Equipment

20-21

Cranes, Hoists & Safety



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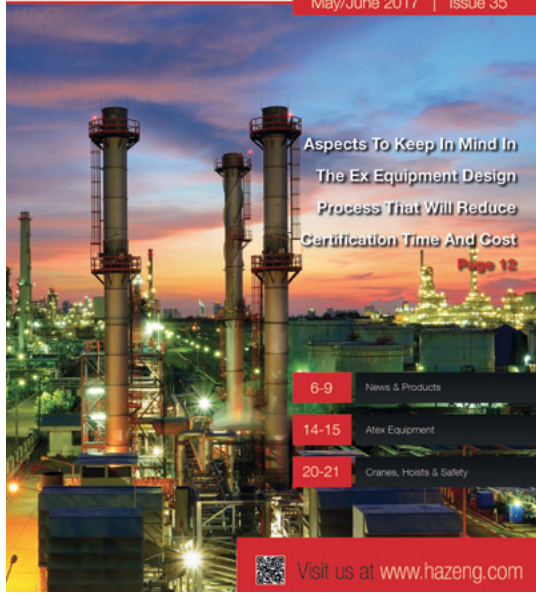


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Contents

In This Months Issue



Contacts

Publisher
Michael Dominguez

Advertising
Steve Pheasant

Email
Info@hazeng.com

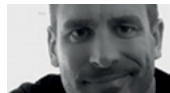
Website
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Telephone +44(0)203 575 1170

Address:
MSL Media Ltd, 88 Lincoln Road, Ingham,
Lincolnshire, LN1 2XF



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P:4-5 Introduction From The Publisher



P:6-9 News & Products



P:10-11 Slips, Trips & Falls



P:12-13 Front Cover Story



P:14-15 Atex Equipment



P:16-17 PPE & News



P:18-19 News & Products



P:20-21 Cranes, Hoists and Safety



P:22-25 News & Products



P:26-27 Hazardous Cable Glands



P:28-29 Enclosures



P:30-31 Buyers Guide

Rules, Rules, Rule!

Hazardous area engineering, like any technical application, is founded on fundamental principles and rules of practice.

The three main applications are founded upon the three-letter acronym, I.E.C.

- Identification of hazards
- Evaluation of hazards
- Control of hazards

Identification

The first step in safety engineering is “hazard identification.” A hazard is anything that has the potential to cause harm.

Many system safety techniques have been pioneered to aid in the identification of potential system hazards. None is more basic than “energy analysis.” Here, potential hazards associated with various physical systems and their associated operation, including common industrial and consumer related activities, can be identified (for later evaluation and control) by first recognizing that system and product “hazards” are directly related to various common forms of “energy.” That is, system component or operator “damage” or “injury” cannot occur without the presence of some form of hazardous “energy.”

“Hazard identification” in reality can be viewed as “energy identification,” recognizing that an unanticipated undesirable release or exchange of energy in a system is absolutely necessary to cause an “accident” and subsequent system damage or operator injury. Therefore, an “accident” can now be seen as “an undesired and unexpected, or at least untimely release, exchange, or action of energy, resulting, or having the potential to result in damage or injury.” This approach simplifies the task of hazard identification as it allows the identification of hazards by means of a finite set of search paths, recognizing that the common forms of energy that produce the vast majority of accidents can be placed into only ten descriptive categories.

The goal of this first step in the hazard control process is to prepare a list of potential hazards (energies) in the system under study. No attempt is made at this stage to prioritize potential hazards or to determine the degree of danger associated with them – that will come later. At this first stage, one is merely taking “inventory” of potential hazards (potential hazardous energies).

Evaluation

The evaluation stage of the safety engineering process has as its goal the prioritizing or ordering of the list of potential system condition or physical state hazards, or potential system personnel of human factors.

The mere presence of a potential hazard tells us nothing about its potential danger. To know the danger related to a particular hazard, one must first examine associated risk factors.

Risk can be measured as the product of three components: (a) the probability that an injury or damage producing mishap will occur during any one exposure to the hazard; (b) the likely severity or degree of injury or damage that will likely result should a mishap occur; and (c) the estimated number of times a person or persons will likely be exposed to the hazard over a specific period of time.

That is...

1. $H \times R = D$, and since
2. $R = P \times S \times E$, then
3. $H (P \times S \times E) = D$

where:

H= Hazard
R = Risk
D = Danger
P = Probability
S = Severity
E = Exposure

In the evaluation of mishap probability, consideration should be given to historical incident data and reasonable methods of prediction.

Use of this equation must take into account that an accident event having a remote probability of occurrence during any single exposure, or during any finite period of exposure to a particular hazard, IS CERTAIN TO OCCUR if exposure to that hazard is allowed to be repeated over a longer period of time. Therefore, a long term or large sample view should be taken for proper evaluation.

Determination of potential severity should centre on the most likely resulting injury or damage as well as the most severe potential outcome. Severity becomes the controlling factor when severe injury or death is a likely possibility among the several plausible outcomes. That is, even when other risk factors indicate a low probability of mishap over time, if severe injury or death may occur as a result of mishap, the risk associated with such hazards must be considered as being “unacceptable,” and strict attention given to the control of such hazards and related mishaps.

Exposure evaluation should consider the typical life expectancy of the system containing a particular hazard, the number of systems in use, and the number of individuals who will be exposed to these systems over time.

Acceptable vs. Unacceptable Risk

This step in the hazard evaluation process will ultimately serve to divide the list of potential hazards into a group of “acceptable” hazards and a group of “unacceptable” hazards. Acceptable hazards are those associated with acceptable risk factors; unacceptable hazards are those associated with unacceptable risk factors.

An “acceptable risk” can be thought of as a risk that a group of rational, well-informed, ethical individuals would deem acceptable to expose themselves to in

“We hope that this edition of Hazardous Engineering Solutions magazine can help provide you with some interesting products, services that can aid you with the implementation of a successful and safe rule practice.”



Michael Dominguez, Publisher.

order to acquire the clear benefits of such exposure. An “unacceptable risk” can be thought of as a risk that a group of rational, well-informed, ethical individuals would deem unacceptable to expose themselves to in order to acquire the exposure benefits.

Hazards associated with an acceptable risk are traditionally called “safe,” while hazards associated with an unacceptable risk are traditionally called “unsafe.” Therefore, what is called “safe” does contain elements of risk that are judged to be “acceptable.” Once again, the mere presence of a hazard does not automatically mean that the hazard is associated with any real danger. It must first be measured as being unacceptable.

The result of this evaluation process will be the compiling of a list of hazards (or risks and dangers) that are considered unacceptable. These unacceptable hazards (rendering the system within which they exist “unreasonably dangerous”) are then carried to the third stage of the safety engineering process, called “hazard control.”

Hazard Control

The primary purpose of engineering and the design of products and facilities is the physical “control” of various materials and processes to produce a specific benefit. The central purpose of safety engineering is the control of system “hazards” which may cause system damage, system user injury, or otherwise decrease system benefits. Current and historic safety engineering references have advocated a specific order or priority in which hazards are best controlled.

For decades, it has been well established by the authoritative safety literature (as well as by logic

and sound engineering practice) that, in the order of preference and effectiveness, regardless of the system being examined, hazards are first to be controlled through (a) “hazard removal,” followed by (b) the use of “physical safeguards,” and then, after all reasonable opportunities have been exhausted related to hazard removal and safeguarding, (c) remaining hazards are to be controlled through the development and use of adequate warnings and instructions (to include prescribed work methods and procedures).

Rule 1

The first cardinal rule of hazard control (safe design) is “hazard elimination” or “inherent safety.” That is, if practical, control (eliminate or minimize) potential hazards by designing them out of products and facilities “on the drawing board.” This is accomplished through the use of such interrelated techniques as hazard removal, hazard substitution, hazard attenuation, and/or hazard isolation through the use of the principles and techniques of system and product safety engineering, system and product safety management, and human factors engineering, beginning with the concept and initial planning stages of the system design process.

Rule 2

The second cardinal rule of hazard control (safe design) is the minimization of system hazards through the use of add-on safety devices or safety features engineered or designed into products or facilities, also “on the drawing board,” to prevent the exposure of product or facility users to inherent potential hazards or dangerous combinations of hazards; called “extrinsic safety.” A sample of such devices would include shields or barriers that guard or enclose hazards, component interlocks, pressure relief valves, stairway handrails, adequate

lighting, and passive vehicle occupant restraint and crashworthiness systems.

Passive vs. Active Hazard Controls

A principle that applies equally to the first two cardinal rules of safe design is that of “passive vs. active” hazard control. Simply, a passive control is a control that works without requiring the continuous or periodic involvement or action of system users. An active control, in contrast, requires the system operator or user to “do something” before system use, continuously or periodically during system operation in order for the control to work and avoid injury. Passive controls are “automatic” controls, whereas active controls can be thought of as “manual” controls. Passive controls are unquestionably more effective than active controls.

Rule 3

The third cardinal rule of hazard control (safe design) is the control of hazards through the development of warnings and instructions; that is, through the development and effective communication of safe system use (and maintenance) methods and procedures that first warn persons of the associated system dangers that may potentially be encountered under reasonably foreseeable conditions of system use, misuse, or service, and then instruct them regarding the precise steps that must be followed to cope with or avoid such dangers. This third approach must only be used after all reasonably feasible design and safeguarding opportunities (first and second rule applications) have been exhausted.

We hope that this edition of Hazardous Engineering Solutions magazine can help provide you with some interesting products, services that can aid you with the implementation of a successful and safe rule practice.



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Scott Safety Introduces The Protégé SG Reusable Single Gas Monitor

A truly universal portable gas detector with maximum versatility

Scott Safety, a global leader in innovative personal protective equipment and safety devices, is pleased to introduce the Protégé SG, a versatile new reusable single gas monitor that is configurable to detect 13 different gases.

The Protégé SG is a truly universal portable gas detector with advanced features, such as smart plug and play sensors and a replaceable lithium battery that provides unlimited life. The swappable sensors are equipped with a smart sensor board that automatically recognises sensor type and updates the gas label on the LCD display while automatically downloading the necessary calibration parameters.

With an IP66/67 rating, global regulatory approvals, multiple languages accessible on the LCD, and internal data logging for up to 5,000 events, the Protégé SG provides industrial workers and first

responders maximum flexibility to focus on the task at hand and not on their equipment.

The Protégé SG is the first in a new line of cost-effective high performance portable gas monitors being introduced. All Protégé devices will have a similar look, feel and user interface as well as standard features, such as smart plug and play sensors and lithium/alkaline battery options that are interchangeable between monitors.

Completing the new range of monitors is the MasterDock II, an expandable docking station with up to 10 bays. The MasterDock II has Ethernet and USB connectivity and supports six gas bottles simultaneously with the ability to bump, calibrate, and charge each device. Advanced new software on the intuitive dashboard interface also allows users to print certificates, configure monitors and centralise



data storage for improved fleet management capabilities.

The new Protégé gas detection line will provide customers with global mission critical protective solutions, continuing Scott's Safety commitment to protect what matters most.

For further information on the Protégé SG Reusable Single Gas Monitor, please visit www.scottsafety.com/emea.

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Ensuring The Right Connection

Dixon is a market leading global manufacturer, providing hose, hose assembly and coupling solutions to all major industries.

Since 1916 Dixon has been building a credible reputation within the petrochemical industry and regularly demonstrates that it is a responsible manufacturer that produces safe, reliable and long lasting products!

Over the last few years, a Dixon focus has been on the 'Upstream' segment due to the technological evolution within the directional drilling and hydraulic fracturing processes.

Today, Dixon has many Boss LPS (Low Pressure System) parts being used in hydraulic fracturing applications within North America including hose fittings, flange adapters, split nuts, caps and plugs with no reported failures and/or safety issues.

As part of ongoing product line development Dixon has created a unique non-welded Intake Manifold to be used at hydraulic fracturing sites. It has been

designed for efficient fluid flows and reduction of pump cavitation caused by sand fall out. The LPS products have shown proven performance and benefits to the operators. All Dixon "Frac" products have been designed and tested at a minimum 4:1 safety factor.

At Dixon Europe, based in Preston, Lancashire, we specialise in the support of bespoke engineered solutions from concept to design to installation. Dixon's onsite manufacturing and engineering department means that we can rapidly produce new designs, animations and provide 3D modelling to support our customers.

Dixon Europe has a full design, manufacturing and stocking facility to support the UK market. Locally here in Europe we have facilities in Germany, Russia, France and the Middle East. We hold a large inventory of products and offer very short lead



times for items that require manufacture or that are bespoke.

Dixon Europe are Pressure Equipment Directive accredited (PED 2014/68/EU) by Lloyds Register and certified to ISO 9001.

Through innovation and application expertise, Dixon is committed to improve end user productivity and reduce environmental and safety related incidents within the Petrochemical industry.

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Award-winning Blackline Safety G7 Gains ATEX Certification

Shawcity is delighted to announce that Blackline Safety has completed worldwide intrinsic safety certification for G7c, the world's first wireless gas detector with built-in 3G communication.

G7c has achieved Zone 0 ATEX certification and, with two-way 3G connectivity, a built-in speakerphone and GPS location monitoring, it delivers peace of mind for any size of business. Blackline's 24/7 live monitoring teams automatically connect with an employee should they call for help, if a fall is detected or a gas alert triggered, delivering an optimized emergency response to their exact location.

Highly configurable for various applications, G7 warns both the user and monitoring personnel of live environmental exposure risks to both toxic and explosive gases. G7 is a true 'Internet of Things' tool with wireless communications and location technology to enable real-time emergency response and evacuation management.

The G7 is available in three models, G7c Standard, ideal for monitoring all personnel, lone workers and

actively manage evacuations. Functionality includes: GPS Location, Indoor Location Compatible, SOS Alert, Worker Check-in, Alert Received Light, Speaker Phone, Text Messaging, Fall Detection and No-motion Detection.

The G7 Single-gas and G7 Quad-gas devices offer all of the above functionality and are also capable of supporting your choice of LEL, O₂, H₂S, CO, NH₃ or CO₂ gas sensors.

The G7 has also just been awarded a prestigious Red Dot Award. One of the world's most prestigious design competitions, manufacturers and designers entered 5,500 submissions from 54 countries in 2017.

The awards are assessed by an international committee of 39 leaders in product design



and engineering and are judged on innovation, functionality, ergonomics, durability and overall quality of design.

Barry Moore, VP Product Development at Blackline Safety commented: "G7 makes employees safer by combining three devices into one — a gas detector, a lone worker safety device and a communication tool. This award recognizes the achievements of our design team who have defined a new level of personal safety for our clients."

The revolutionary G7c series is available to order directly from Shawcity today. For further information or to place an order, email: info@shawcity.co.uk, Tel: 01367 899565 or visit www.shawcity.co.uk.

SGS Baseefa Update

SGS Baseefa have been providing Ex testing and certification for over 90 years, and are a world renowned issuer of ATEX certificates.

More recently they have:

- Increased their certification capability to include North America
- Secured the position of the world's largest provider of IECEx certificates
- Achieved 95% positive feedback from customers in receipt of their services
- Implemented systems to help meet the tightest of customer deadlines
- Facilitated certification for regions such as China, Brazil and Korea

In November 2016 SGS Baseefa appointed their new Operations Manager Phil Oates. Phil has an extensive background in the explosive atmospheres industry. He explains 'Since 1975 I have worked in the Explosive Atmospheres industry, primarily within manufacturing. As the vast majority of our customers are manufacturers I feel I can relate to the issues that they have, especially regarding the interaction with test and certification bodies such as SGS Baseefa.'

Since Phil's appointment, SGS Baseefa have carried out some internal re-organisation in order to provide a more customer focussed approach. This has resulted in faster turnaround times for quotes and testing/certification activities, whilst retaining focus on quality and integrity.

Kerry Norcross also joined the team last year as SGS Baseefa Business Development Manager. She concludes 'My role is to understand manufacturer's certification needs and to ensure we deliver all of their certification goals, on time and on budget. We take a solutions driven approach and the team and I are available before, during, and after any project to be of assistance in any way that we can'. If you are interested in discussing your current certification arrangements or any requirements that you may have, either now or in the future, please contact Kerry Norcross or Phil Oates and they will be happy to assist.



Kerry Norcross

Phone: +44 (0) 1298 766608
E-mail: kerry.norcross@sgs.com

Phil Oates

Operations Manager
Phone: +44 (0) 1298 766600
E-mail: Phil.Oates@sgs.com

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U-Power's Revolutionary New RedLion Safety Footwear Dramatically Reduces Fatigue and Increases Wellbeing

U-Power's brand new RedLion range, the latest in the company's collection of original, Italian-designed, work-to-leisure safety footwear, has been conceived with the hugely improved health and wellbeing of the wearer resolutely in mind and features one of the most exciting developments in the industry.

About U-Power

Established in 2006, U-Power is Europe's leading independent manufacturer of innovative safety footwear and clothing. Its company mission is to make daily working life safer, more comfortable, and more aesthetically pleasing. Based in Italy, with facilities in the UK, France and Germany, U-Power makes some of the most technologically advanced safety footwear and workwear in the world, with an array of hi-tech features aimed at enhancing wearers' comfort and supporting their safety in unbeatable Italian style. U-Power has a huge showroom and fully stocked warehouse facilities in the UK, offering a 24-hour turnaround service to its lifestyle-conscious customers. With a massive choice of styles, U-Power's combination of pure Italian design, all-day comfort, innovation, technology, flexibility, and top-quality materials ensures that U-Power safety footwear and clothing cannot be beaten.



The sporty, high-performance, RedLion is a range with a difference – it represents a breakthrough in terms of research and innovation by incorporating a revolutionary new sole using Infinergy®, made of expanded thermoplastic polyurethane (E-TPU), as opposed to the traditional PU.

This insert springs back into its original shape immediately after impact, so helps to maintain energy for longer periods than a conventional shoe. RedLion therefore reduces stress, pressure, fatigue, backache and other musculoskeletal disorders thanks to this revolutionary insert, which returns more than 55% of energy to the wearer, aiding their wellbeing while walking during work activities, and which retains an elastic memory at temperatures from +40°C to -20°C, and is extremely durable, anti-abrasive, and chemical-resistant, making it perfect for all work conditions.

The best the industry has to offer, the RedLion is lighter, stronger and more comfortable and

outperforms any other safety footwear on the market. Offering 3x improved temperature resistance, its materials do not compress over their lifetime, so the RedLion never loses its performance, and lasts much longer than other footwear.

U-Power's ergonomically-designed RedLion is therefore ideal to improve the all-day comfort, wellbeing and conditions of workers subjected to long and repetitive periods of standing, kneeling or squatting, or those who walk short or long distances or up and down stairs at work, avoiding the very real risk of fatigue leading to accidents and injuries.

Soft, flexible, yet stable and impermeable, RedLion is not only good looking, but practical in all ways, with its aluminium toe cap, polysoft footbed, and composite mid-sole.

Stuart Thorne, U-Power's Managing Director, said: "The RedLion is one of the most exciting innovations ever to happen in the safety footwear market and

is by far and away the best development of the last 20 years.

"Ultimately RedLion is about outstanding comfort, as its return of energy gives the wearer extra oxygen and vastly reduces weariness throughout the day. The RedLion range takes comfort and technology to another plane, making workplace fatigue a thing of the past. You simply can't get better footwear."

More information is available from:
www.u-power.it
by emailing info.uk@u-power.it
or calling +44 (0)1543 417 241

FAST DEPLOYABLE NET BARRIER

Hazards present in the worksite, to protect your workforce and other site users you need to keep them away from moving parts or other hazards.



The risks need to be mitigated to as low as reasonable practicable, this is why you need components that prevents and controls workers passage into a dangerous or hazardous area, this is particularly important at unattended worksites.

CableSafe's provides safety equipment that can protect you, your workers and the people on site from any harm or danger. "Fast deployable net barrier" is a piece of equipment for temporarily fencing, it can be easily set up by rolling the fence around a rapid post and clicking the net on the clips. The system comes with a container which holds the fence.

Fast deployable net barrier, is made of strong material and can be carried by a single worker. Use CableSafe's "Fast deployable net barrier" to physically separate your work area and workers from other workers. This particular fencing/net barrier is efficient, fit for purpose, reusable, portable, safe, and available in high visibility bright orange color. It can also be clipped or joined together to form a continuous fence, which can be used to enclose

any hazards surrounding a targeted work sites, construction zones, hazardous areas or even use for crowd control.

Safety is good business, providing a safe working environment isn't just a good idea, it's the law, CableSafe's "Fast deployable net barrier" will help you meet any safety standard and regulations.

Specifications:

- Net length: 15m and 30m
- Weight cartridge empty: 8.6 kg
- Weight cartridge with fence: 12.7 kg
- Dimensions cartridge: 28 mm (H) x 28 mm (W) x 145 mm (L)
- Mesh size 15m net: 43 mm x 28 mm
- Mesh size 30m net: 80 mm x 50 mm or 40 mm x 50 mm
- Material net: Medium-density polyethylene
- Reflective panels
- Carrying handle doubles as Rapid link
- Color: orange



Main Benefit

- Brightly Orange colored with reflective panels for maximum visibility.
- Easily carried by a single person.
- Simple and easy set up in minutes by a single worker.
- Lasts over five years.
- Will not rust or corrode.
- Free of sharp points and objects.
- Attach easily and click to T-posts with self-locking ties.
- Great crowd control for special events.

Our safety net barrier can support a wide variety of industries including, but not limited to, construction, maintenance, industrial and utility work. With CableSafe's "Fast deployable net barrier" the safety of your workers and worksite is assured.

Pricing and availability

Our price is reasonable, we offer standard off-the-shelf safety netting systems as well as customized solutions to meet your specific jobsite requirements.

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Aspects to keep in mind in the Ex equipment design process that will reduce certification time and cost

Although the requirements for selection of parts according to apparatus group and temperature class for the installation are well known, manufacturers must also consider temperature limits of the component parts and leave enough margin so that internal power dissipation will not take the internal (local) ambient higher than can be accepted for these parts.



All new installations should comply with the latest IEC or BS EN standards (or similar specifications, depending on installation location), and everyone associated with the design, selection, installation, inspection and maintenance of electrical equipment for use in explosive atmospheres needs to be fully up-to-speed.

IEC 60079-14:2013 contains the specific requirements for the design, selection, erection and initial inspection of electrical installations in, or associated with, explosive atmospheres.

Assemblies of Ex equipment

Selection of equipment for use in potentially explosive atmospheres is often carried out using IEC 60079-14, or a local standard that is mostly derived from this specification. This requires

end users to select equipment according to the temperature class, apparatus group (gas group) and also the ambient temperature range of the site where the installation is to take place. For end users, the requirements are clearly identifiable, but manufacturers often follow a similar process when creating their equipment, using IEC 60079-0, and in this case, there are aspects of component selection that require careful consideration in order to create a compliant assembly. The incorrect specification can lead to time-consuming delays whilst alternative, correctly rated components are sourced, or at worst, a more restrictive Ex code or ambient range on the finished product.

Many equipment manufacturers will select certified products to use as component parts for their own equipment, which will then be certified as a complete unit. This equipment is usually built for a

specific purpose, simple examples being a rotating machine or a control panel. Certified parts are combined with non-certified parts and then the complete unit is often certified by an appropriate certification body, such as CML.

On a rotating machine, the bought in parts are usually fitted externally – bearing vibration sensors, junction boxes to connect auxiliary circuits, perhaps auxiliary motors to drive cooler ventilation fans. These items, fitted externally, may only be affected by heat generated by the machine they are mounted on.

With a control panel, certified parts may be fitted partly within and partly outside the enclosure, for example, HMI (human machine interface, PLC (programmable logic controller), other examples are switches and indicator lights. Items such as Intrinsically safe barriers or input/output modules may be fitted internally, along with increased safety transformers, powder filled or encapsulated power supplies, terminals etc.

For these enclosed parts, special attention should be paid to the temperature inside the enclosure, since that will be higher than the external ambient the end user will use to select the overall assembly. A control panel, fitted with a number of control modules and other internal parts, will dissipate some heat internally. This will lead to a higher internal air temperature, and in some cases, this increased air temperature may be local to a specific area, if there is significant heat being dissipated and air movement there is restricted.

Items certified as 'equipment' will be identified in the Ex code because it will have a Temperature Class included, along with an ambient range. If no ambient range is specified, the standard -20°C to +40°C can be assumed. The temperature class is one aspect of the certification, but certification bodies also take into account service temperature, which is relevant particularly for non-metallic materials, although protection methods such as flameproof (IEC 60079-1) which generally use metallic enclosures, also has a limiting temperature range because this affects the way it is tested. Intrinsically safe equipment considers temperature rating of safety components and for this protection method the normal operation

of the equipment may not generate significant temperature rise, but fault conditions are also taken into account which can affect temperature assessment of specific components.

Component certified parts will normally have a service temperature included on the certificate. Uncertified parts such as connecting wiring will have a continuous operating temperature limit or in a technical data sheet if the item is not certified.

When specifying internal parts in the control panel the internal air temperature rise should be estimated from experience or from preliminary tests. If this is not possible, expect a 15K to 20K rise if there are power components fitted. A control panel with very low power dissipation will have a much lower internal air temperature rise.

Therefore, a control panel assembly intended for use in a +40°C ambient, may have parts inside that are suitable for perhaps a 60°C ambient. Current-carrying parts will also have their own temperature rise which should be considered against the service temperature or limiting temperature of insulation.

Cable entry temperature should also be considered because the cable seal materials are tested for a specific temperature range. If the certificate does not specify a service temperature range or limit, then the minimum range required by the standard is assumed. A plug and socket connector will often have a panel mounting option. The cable entry seal and any non-metallic parts will have been tested for thermal endurance at a minimum of 80°C, and as this thermal endurance is carried out at 20K above service temperature, it can be assumed that a maximum service temperature of 60°C can be applied. A panel mounted plug and socket with this rating may not be sufficient if significant current is passing through it.

Component selection training and advice

CML can offer advice on component selection and also training so that engineers reduce or eliminate the need to modify the product during certification. Time to market is a key factor in



today's manufacturing environment, therefore accurate specification at an early stage can help the product design process run smoothly and reduce certification time and cost.

CML offer an initial free consultation that can be used to obtain advice on requirements and specification. Additional support can also be built into the project cost.

More information is available from:
www.cmlcx.com



Introducing CML your partner in Product Certification, Test & Training



Responsive

Accessible technical know-how, outstanding customer service, focussed on your deadlines

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We have strong technical expertise across all protection methods available to help solve your project challenges across a wide range of needs – electrical, non-electrical, components, assemblies, safety-related devices and protective systems as well as production audits and Quality Assurance Approvals (QAN, QAR)

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About CML

Certification Management Limited (CML) was established in June 2013, offering a complete range of compliance services, including: product evaluation and testing; management system evaluation and support; technical compliance support; functional safety evaluation; certification; and training.

They are an EU Notified Body (No 2503) for the European Directive 2014/34/EU (ATEX), supported by UKAS accreditation (No 8175) for their testing laboratory (ISO/IEC 17025) and product, process and service certification (ISO/IEC 17065). They are also an IECEX Ex certified body (ExCB) and test laboratory (ExTL) with a full scope of standards for the Ex product certification scheme. CML has numerous partnerships with certification bodies and authorities around the world, enabling CML certificate holders greater access to the global market.

Recently CML has become the only body outside of Japan that is recognised by the Japanese government for the certification of Ex Equipment for use within Japan.

For more information go to www.cmlcx.com, or contact on +44 151 559 1160 or email sales@cmlcx.com.



Optimal solutions for TV survey of Ex hazardous sites

ECA group offers a range of ATEX and IECEx certified TV cameras for the survey of hazardous sites such as drilling rigs, offshore platforms, petrochemical plants, gas storage areas.

Masterpiece is the **DTR 120Z Ex**, a night & day Ex colour TV camera with an 18x zoom and a swivelling head for panoramic survey; incorporates an IP server for access and control of a network of cameras, thus permitting a large area surveillance.

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New Timers And Clocks: Timing Made Simple In Hazardous And Safe Areas

New BEKA Timers and Clocks simplify process timing in hazardous and safe areas.

Able to display elapsed time between events, or control external devices, timing cycles can be repeated continuously or a specified number of times.

As a Clock the instruments display local time in various formats.

Two sizes of panel mounting instrument with IP66 front of panel protection and a rugged 316 stainless steel instrument for applications in severe or marine environments.

Field mounting instruments have IP66 impact resistant GRP enclosures suitable for harsh environments. Accessories include a backlight, pipe and panel mounting kits and a stainless steel legend plate that can be supplied with customer specified information.

ATEX, IECEx and North American intrinsic safety gas and dust certification. For applications in Zone 2 or 22, Ex nA and Ex tc approval permits installation without the need for Zener barriers or galvanic isolators which significantly reduces the installation cost.



- ATEX, IECEx and ETL gas or dust certified models
- Configurable input: magnetic pick-off, switch contact, proximity detector, open collector or voltage pulse.
- Three panel mounting enclosures DIN 144 x 72mm plus two new additions DIN 96 x 48mm and Rugged 105 x 60mm.
- Two field mounting enclosures Compact 'G' and 'E' with a separate terminal compartment.
- Other features: synchronous pulse output, dual alarms, 4-20mA output and backlight models.
- General purpose models also available

For further information including datasheets and certificates please visit http://www.beka.co.uk/timer_clocks.html or phone the BEKA sales office on 01462 438301.

BEKA
associates

www.beka.co.uk
Hitchin, Herts. SG5 2DA, UK
sales@beka.co.uk Tel +44 (0)1462 438301

ROTRONIC ATEX Certified Humidity and Temperature Sensors

The ROTRONIC Intrinsically Safe HygroFlex5-EX series of humidity/moisture and temperature sensors was developed for easy installation in areas where there is a risk of explosion due to dust or gas in the environment.

They were designed to meet the demanding requirements of the oil & gas industry as well as the pharmaceutical, biotechnology and food industries, and will be suitable for hazardous applications elsewhere.

The Rotronic HygroFlex5-EX measurement transmitter conforms to the latest international standards.

ATEX certified probes are available for all applications.

The Intrinsically Safe (secondary side) transmitters have two channel 4...20 mA outputs selected from

temperature, humidity or a moisture value such as dew point or 'absolute humidity' (for example Mixing Ratio g/kg). These can be freely scaled exactly as required, using Rotronic HW4 software, for the process being monitored or controlled

Main features:

- Stainless steel probes certified for ATEX Zone 0/20
- Standard & cable mount probes with a screw-in probe for pressure applications
- HygroFlex5-EX measurement transmitter certified for Zone 1/21
- Wall and duct versions available. An LC display is an option



rotronic

- 2-wire supply, 2-analogue outputs (option of dew point, absolute humidity (g/kg) or another moisture value)
- Robust Aluminium transmitter housing; high IP66 protection
- Range of calibration accessories for use in the safe area.

A technical datasheet is available, visit:

www.rotronic.co.uk

ROTRONIC Instruments (UK) Ltd
www.rotronic.co.uk
 01293 571000

Humidity & Temperature Monitoring in ATEX Environments

A new generation of Intrinsically Safe humidity and temperature sensors for ATEX rated dust and gas environments is available. Conforming to the latest international standards, the HygroFlex5-EX transmitter from Rotronic uses interchangeable ATEX certified probes suitable for all applications. Rotronic developed the HygroFlex5-EX for the pharmaceutical, biotechnology, grain & sugar, petrochemical and oil & gas industries.

HygroFlex5-EX

- Stainless steel probes certified for operation in Zone 0/20
- HygroFlex5-EX measurement transmitter certified for Zone 1/21
- ATEX certified ranges - 40...85 ° C, 0...100 % rh
- Intrinsically Safe (secondary side); two-channel transmitter
- Robust aluminium transmitter housing; IP66 protection
- LC display with trend indicators and keypad

Visit www.rotronic.co.uk for more information or call 01293 571000

ROTRONIC Instruments (UK) Ltd, Crompton Fields, Crompton Way, Crawley, West Sussex, RH10 9EE
 T: 01293 571000, F: 01293 571008, E: instruments@rotronic.co.uk



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MEASUREMENT SOLUTIONS

SBES

lone worker protection

LIFE SAVER PROTECTOR RESPONDER TRACER

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Ex **EX**

Offshore Oil Rig Installation with ATEX Mag Meter

Bell flow systems were recently approached about a sea water pumping application for an offshore oil rig.



The customer required a highly accurate meter to fit onto an existing 3" line, which would be suitable for operation in an ATEX zone 1 hazardous area, and also capable of withstanding the harsh conditions that come with being offshore. In addition to this, the meter was required to come with a UKAS accredited calibration and EN 10204 material certification.

Due to the high quality build, and robust nature, the Siemens Sitrans MAG 3100 electromagnetic flow sensor combined with an ATEX 18-30V DC MAG 6000 display, was naturally a perfect match for the application. The Siemens Sitrans MAG meters have a large variety of liners to suit almost any medium, as well as a choice of 316 steel, hastalloy, platinum,



or titanium electrode materials and grounding electrodes as standard.

To strengthen the resistance to the harsh offshore environment, the meter body was also coated in a special wear and fire resistant paint, which conforms to a Norsok M-501 system 1 Spec. The benefit of the using the Norsok M-501 is to ensure optimal protection of the installation with minimum need for maintenance.

With an accuracy of +/-0.2% and ATEX approval, the MAG 3100 meter was an ideal choice for the precise measurement that the client required.

For more information on this product please contact us on sales@bellflowsystems.co.uk or 0800 027 7786.

DON'T FORGET YOUR LONE WORKERS, URGE LONE WORKER ALARM SPECIALISTS SBES

Legislation does not prohibit lone working in a general sense, but companies and organisations must conduct a risk assessment covering the activities of all employees, including lone workers.



Since the Corporate Manslaughter and Corporate Homicide Act of 2007, companies and organisations can be found guilty of corporate manslaughter as a result of serious management failures resulting in a gross breach of duty of care.

SBES has developed a simple yet highly specified site based lone worker alarm system specifically for use within the ATEX Environment.

The SBES LifeSaver Lone Worker Alarm System automatically alerts colleagues in the event of a worker collapsing or being rendered unconscious, ensuring an immediate response in the vital few minutes following an incident.

The alarm can be raised manually by means of a panic button, or automatically by a 'tilt' sensor (with programmed delay and pre-alarm warning) should

the lone worker become incapacitated. Upon alarm activation, the SBES LifeSaver Control System will automatically dial up to 10 telephone numbers, alerting the recipients that the lone worker alarm has been activated.

The SBES ATEX LifeSaver lone worker alarm units are certified Ex II 1 G, EEx ia IIC T4 ($T_a = -20^{\circ}\text{C}$ to $+40^{\circ}\text{C}$).

The SBES LifeSaver Control System can be linked into third party access control systems in order to release entry doors automatically, ensuring quick access for emergency response teams. The SBES Lifesaver System can also be linked into building management systems for remote monitoring.

All SBES Lone worker alarm systems are modular and can be 'Taylor Made' to specific requirements.

About SBES

SBES Ltd is a world leader in providing ATEX and non ATEX lone worker alarm systems. SBES's in-depth knowledge of the issues surrounding lone workers and emergency response is based on experience in consultation, research, design, implementation and project management, and has proved invaluable to their customers.

Incorporated in 1997, SBES Limited has over 17 years' experience in providing lone worker alarm systems. SBES achieved UKAS ISO 9001:2008 accreditation in December 2005 to go along with their ATEX/Ex Certification. SBES are currently working towards UKAS ISO 9001:2015 certification (expected completion December 2017). SBES are also Alcumus Safe Contractor Approved.

SBES's entire approach to lone worker protection is second to none and SBES provide lone worker alarm systems to suit all sizes of companies.

Peter Swan, Managing Director of SBES, said: "Although employers are well aware of their duty of care, personnel working in isolated areas are often forgotten about. Lone working is apparent in virtually every organisation, and I would call upon all employers to protect them properly".

More information is available from:
www.sbes.co.uk




Exloc Instruments - Hazardous Area Solutions in Communications & Computing



- Zone 1 & 2 mobile phones
- Zone 1 & 2 smart phones
- Zone 1 Windows 10 tablet
- Zone 1 Android tablet
- Zone 1 & 2 iPad and iPhone Cases



EXLOC Instruments (UK) Ltd www.exloc.co.uk Tel 01457 239301 sales@exloc.co.uk




Exloc Instruments - Hazardous Area Solutions in DIN Rail Mounted Process Interfaces



- Intrinsically Safe Isolators
- Signal Conditioners & Trip Amplifiers
- Surge Protection
- SIL3 Safety Relays
- SIL2/3 Zone 2 Power Supplies



EXLOC Instruments (UK) Ltd www.exloc.co.uk Tel 01457 239301 sales@exloc.co.uk

Elfab's flame arresters and breather valves offer superior performance and significant cost savings

Elfab's latest generation of flame arresters offer a brand new and patented construction concept for both deflagration-proof and detonation-proof designs.



The new concept contributes to better performance, easier maintenance (for 100% cleanliness) and easy assembling and disassembling without any risk of damage to the parts.

Elfab's Breather Valves comprise a completely

new valve philosophy with the introduction of its unique modular design construction resulting in an increased number of configurations to fit various valve sizes reducing costs associated with oversizing and quantity of valves needed to fulfil the application requirements. The design offers better access to

internal parts for improved maintenance, while due to the improved construction; less spare parts are needed.

Further advantages can be achieved with the combination of Elfab's breather valves together with its new generation of flame arresters. Both are fully approved and tested to the highest possible standards and all these benefits lead to a cost-effective, superior performance solution and industry best lead-times.

To find out more about these product offerings, please visit www.elfab.com or email sales@elfab.com to request a quotation.

DuPont™ Kalrez® Portfolio Optimises Life Sciences Sector Production

The LS222 perfluoroelastomer product recently launched in the DuPont™ Kalrez® range of high performance sealing products is available in the UK from Dichtomatik Ltd, an official authorised DuPont™ Kalrez® distributor.



This product range has been designed specifically for operation in the Life Science markets including pharmaceutical and medical packaging together with the food and beverage industries.

The excellent dynamic qualities provided by the Kalrez® product include operation at elevated temperature levels combined with optimal chemical resistance to ensure that these sealing products can be successfully utilised in a wide range of devices including aerosol rings, infusion hangers, microvalves, needle covers, plungers and serum stoppers etc.

Typical applications that include pharmaceuticals production include safety and butterfly valves, granulators and both mechanical and sanitary

seals. Applications associated with food and beverage production include stirrers, together with homogenising, filling and bottling equipment, as well as sterilisation and O-ring seals plus sanitary gaskets and custom parts.

This LS222 (FFKM) range offers both reliability and performance, providing best in class FDA – compliant seals, having both appropriate elastomeric properties and high endurance and sealing level capabilities. These products combine performance, efficiency and cleanliness, making them an ideal replacement in markets where PTFE components have previously been the seal material of choice.

The FFKM products feature high thermal and steam tolerance up to 327°C, as well as extensive chemical

resistance qualities to over 1800 different chemicals. They ensure long-term performance with minimal seal changes and equipment repairs, leading to fewer inspection requirements and increased production-up times and yields. Kalrez® parts have proven to provide superior sealing and longer service life when compared to lower performing elastomers, resulting in longer, more effective performance combined with increased safety and more efficient production processes.

The LS222 products represent a major expansion to the Kalrez® range to meet demands from equipment OEMs who require high volumes of specific high quality sealing components (ie applications requiring FDA and/or USP VI certification). Typically such applications cover more than 10,000 parts per order, with packages of 500 pieces per bag. These requirements are typically for O-ring and custom parts featuring outer diameters up to 2" (50.8mm). However, alternative sizes and special shapes can also be manufactured to order.

Manufacturers operating in the critical Life Sciences fields can utilise the high volume LS222 product range to achieve reductions in their total operating costs resulting from the excellent and universal chemical and temperature resistance as well as extended seal life being achieved. They will be able to operate with reduced overall plant sealing costs compared to other perfluoroelastomers, enabling more efficient sealing together with higher quality and cost effective production procedures resulting in maximum outputs.

Further information is available from:
Dichtomatik Ltd, Donington House,
Riverside Road, Pride Park, Derby
DE24 8HX
Telephone: 01332 524401
e-mail: kalrez@dichtomatik.co.uk
www.dichtomatik-kalrez.co.uk

Multisorb Improve Workplace Safety with Pelloby Cranes

Active packaging technology company Multisorb Technologies Limited recently refurbished some existing lifting equipment with two new Pelloby crane beams to improve workplace safety practices.



One tonne bags of silicone are regularly transported to a mezzanine floor within Multisorb's large warehouse in order to be loaded from above into special equipment for further processing. Until recently these bags were lifted to the mezzanine level via a forklift truck and a goods lift, before finally being taken to the station via two existing Pelloby post mounted monorail cranes.

This convoluted progress was far from ideal, not least because the goods lift was located above a busy doorway, meaning staff would often want to walk directly through the area that the forklift truck was occupying.

After consulting with Pelloby's design experts the decision was taken that two new beam cranes would be manufactured to be used in conjunction with the existing supporting columns, one of which extended over the edge of the mezzanine area to collect the silicone bags from the ground level – removing the need to use forklifts in this process.

This 10.2m cantilever beam, which can support loads of 1.25 tonnes, provides two key safety advantages. Firstly, it means goods are no longer lifted in front of the commonly used doorway, and secondly a special audible flashing beacon was installed to warn staff when the crane is directly overhead. The alarm and lights are triggered when the hoist travels over the cantilever section of the beam that protrudes from the mezzanine platform, it then stops once the hoist has been repositioned away from this edge.

The second beam Pelloby manufactured for this project was 9.6m long and could support weights of up to two tonnes. While a brand new two speed chain hoist was provided for use with the cantilever crane, two pre-existing hoists were fitted to this beam. This helped keep the overall cost of the project down which is often the case with refurbishment work.

Company Profile

Pelloby Ltd. are one of the UK's leading crane manufacturers, having designed and produced reliable lifting equipment for use worldwide since 1968.

Their product range covers everything from simple hoists and small jibs, to large overhead and gantry cranes. They also produce bespoke special cranes and complex automated handling systems.

Dealing with both trade clients and end users directly, Pelloby project manage each order from quotation through to delivery, installation and final commissioning.

Pelloby also offer preventative maintenance contracts, operator training, inspections and breakdown support.

Carl Jones, Manufacturing Engineer at Multisorb explained that as well as improving the safety of the workplace, the new Pelloby cranes were helping to increase workplace efficiency.

"The team at our Telford site have noticed a big advancement in terms of the speed and ease at which our materials can be lifted to the mezzanine floor.

"Whereas previously we would have had to transfer the silicone from the forklift, to the good lifts, to a manual floor transporter and finally to our existing cranes in order to reach the relevant loading point – we now just use a single piece of equipment, our new Pelloby crane."

Call Pelloby on
+44 (0) 1952 586626
or email sales@pelloby.com
for a free quotation.

New Concept Standardises Hoist & Crane Control

J D Neuhaus (JDN) has developed an innovative and robust new concept for controlling hoists and cranes.



The company's JDN-RC (Radio Control) receiver is designed for long-lasting performance in rigorous operating environments commonly found in industrial and offshore applications, including ATEX (explosive atmosphere) zone 2/22 conditions.

Featuring a solid and extremely compact receiver (w = 250 mm, d = 120 mm, h = 200 mm) to suit even hoists with low-carrying capacity, all components are accommodated in a shock-resistant GRP casing offering protection class IP65. This means that the device is totally protected against the ingress of dust, and can withstand low-pressure water jets from any direction, thus making it resistant to seawater in offshore applications. Breathable membranes are deployed to help guide any condensation from the interior to the exterior.

The meticulously-designed device facilitates quick and straightforward installation. This is largely because the JDN-RC has been developed to help standardise hoist and crane control. As a result, the receiver can be mounted on the hoist or trolley, or at a separate location, in line with specific customer requirements. What's more, the standardised interface on the JDN-RC means it can be offered as a retrofit solution for JDN's existing product range, e.g. their industry-leading Profi air operated hoists.

At the transmitter, single or two-step commands are supported by control elements that include a key switch, start and stop buttons, joystick, LED

operating status display and LED low-voltage indicator. The JDN-RC control allows users to work at a safe distance from the load and take a better viewpoint during operations. Here, the signal and selected command is transmitted and transferred into the controls of the crane or hoist by the receiver to ensure instantaneous performance.

Ultimately, the JDN-RC is ideal for spanning long distances between the hoist and the operator, and represents a sensible alternative to applications demanding a long control hose. The design also facilitates use in hard-to-access locations, while multiple hoists can be controlled simultaneously if required. A charger for the external battery and a leather strap are supplied with every unit.

Both the transmitter and control receiver are rated for operation within the toughest of working conditions and are insensitive to dust and humidity. The transmitter has a working temperature range of -20 to +55°C whilst the receiver operates within a -25 to +55°C range. A transmitter Ex classification is provided of Ex II 3G Ex ic IIB T4 Gc and Ex II 3D Ex ic IIIC T95° C Dc for zones 2 and 22 respectively and Ex II 3G Ex nc [ic] IIB T4 Gc (zone 2) Ex II 3D Ex tc [ic] IIIC T135° C Dc (zone 22) for the receiver.

With over 200 employees across the group, J D Neuhaus manufactures pneumatically and hydraulically-operated hoists and crane systems up to 115 tonne capacity from its state-of-the-art



facility in Witten, Germany. This globally unique specialisation means that J D Neuhaus has set the quality standard for the market, a move that has seen the company become the established global leader in its technology field with customers in more than 90 countries worldwide.

Resilience and reliability are the key product differentiators, thanks largely to their explosion protection rating which makes them ideal for use even in the most challenging of operating environments. Extreme applications include oil and gas exploration in arctic temperatures as low as 45°C, along with underwater tasks such as ship hull repairs, and plenty of others in demanding sectors like mining, the chemical industry, heavy plant construction and many areas of logistics.

The wide portfolio of services provided by J D Neuhaus includes equipment assembly, inspection, maintenance and general overhaul, along with the supply of customer training courses. Over 80% of production from the Witten plant is exported, which is why the company has long-established subsidiary companies in France, Great Britain, Singapore and the USA, all of which have helped create a tight-knit global network in collaboration with international partners.

J D Neuhaus has history that can be traced back to 1745, and is now in its seventh generation of family ownership. Visitors to the Hebezeug-Museum (Hoist Museum) in Witten, are able to see for themselves the remarkable history of this progressive company.

Further information is available on request to:
J D Neuhaus GmbH & Co. KG, 58449,
Witten-Heven, Germany
Telephone: +49 2302 208-219
Fax: +49 2302 208-286
e-mail: info@jdngroup.com
www.jdngroup.com

High output LED warning beacons that are brighter than a 5J Xenon strobe

E2S Warning Signals have developed a comprehensive range of LED beacons for use as warning beacons and status indicators for systems installed in hazardous areas and industrial environments.

The LED units, using a multiple array of high power white Cree LEDs, offer significant advantages over traditional Xenon strobe technology in many applications. The typical light output level from the LED units is a very bright 338 candela, significantly higher than the 120 candela effective intensity of a 5J Xenon tube unit. E2S LED beacons have five flash rates for warning beacon uses: 1, 1.5 and 2 Hz and double and triple flashes. They also have high and low power steady modes for status indicator uses – enhancing the typical life of more than 60,000 hours. DC voltage versions feature three remotely

selectable stages enabling multiple warnings to be signalled from one device.

The same light engines and control electronics are at the heart of beacons available in all the product families in the E2S range. The STEx (316L stainless steel), the GNEx and E2x (GRP) and BEx and D2x (marine grade LM6 aluminium enclosures), are all available with the new generation of LEDs providing a variety of mechanical protection, corrosion resistance, weight and price to suit different environmental requirements and applications. The



Polycarbonate, UV stable lenses are available as spare items in Amber, Blue, Clear, Green, Magenta, Red and Yellow. Whilst enhancing the light output, the lens filters are also field replaceable enabling the reassignment of beacon function to be a simple and quick process.

E2S Warning Signals
Tel: + 44 (0)20 8743 8880
sales@e2s.com
www.e2s.com

Mobexx – The Leading ATEX Computer Solutions Supplier

Potentially explosive environments occur with the presence of dust, vapours or gases that have the potential to ignite and cause an explosion, and are referred to as ATEX areas.

In industries like Oil and Gas, Pharmaceuticals, Surface Coatings (paint, etc), milk drying and distilleries, to name a few, ATEX areas are unavoidable. Using only ATEX certified equipment in these areas is not only a statutory requirement, but can prevent accidents and loss of life.

Historically pen and paper has been the easiest way to capture data in ATEX areas. This is because non ATEX Certified computers have the potential to generate energy with voltages or temperatures of a magnitude that could ignite the atmosphere and potentially cause an explosion.

At Mobexx we understand that changing times and advancement in technology has made finding simple to use computer solutions that work safely and efficiently in an ATEX environment a must, and now a reality.

Mobexx ATEX computers

- Transition from pen and paper to improve efficiency and speed of data capture
- Real time communication to ensure timely response and increased safety

- Efficient and quick input of data in real time to increase productivity
- Easy integration with existing systems using Windows based ATEX tablets such as Aegex 10 for rapid deployment
- iPhone and iPad compatible ATEX cases to enable IOS corporate systems to be utilised in ATEX areas using standard hardware to ease training and user acceptance

Our latest addition to the line-up is the XCZ1 ATEX Zone 1 Case for iPad Mini 4.

This ground-breaking product enables the use of standard iPad Mini 4 tablets in Zone 1 hazardous areas, so enabling organisations that have standardised on IOS solutions to take mobility into all areas the workforce goes.

Already adopted by some global organisations the XCZ1 allows fast deployment into hazardous areas. Mobexx is Xciel's European Distributor and is accredited to provide installation service for the XCZ1, as well as all other Xciel cases.



At Mobexx we work with our channel partners to provide end users with computer solutions that are tailor-made for your business and are cost effective. As a specialist supplier, our strengths lie in our in-depth understanding of our products and our close relations with both our manufacturers and partners. Our in-house team is always available to answer any technical questions that our partners and users have.

For more information, visit our website:
www.mobexx.co.uk

Engineering And Maintenance Are Two Of The Most Hazardous Industries

Both have huge potential for serious injuries if precautions are not taken to safeguard individuals working in them.

Not least of these potential hazards are dust and fumes, both common by-products of these industries that can lead to significant harm to the worker's respiratory system.

Fortunately, much can be done to prevent and reduce the likelihood of harm. First, the employer should use less hazardous processes if feasible. If hazardous processes are unavoidable, the next step is to remove the maximum amount of dust and fumes from the atmosphere by local exhaust ventilation at source. But, although ideally these would all be extracted and hazards completely eliminated, often this cannot practically be done, so the employer has a duty to provide respiratory protective equipment (RPE).

The law

Exposure to dust and fumes is covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH). <http://www.hse.gov.uk/coshh/>

Each type of respiratory product must also conform to its own individual standard. These include EN149 for disposable dust masks; EN140 for reusable half masks; and EN143 and 14387 covering filters and vapour filters. There is also the standard EN529 for selection, use and maintenance of respirators.

Maintenance

In a workshop there are likely to be cutting, shaping or blasting machinery hazards such as angle-grinders for steel, giving off fine particles of metal into the atmosphere; lathes and milling machines using oil-based cooling fluids that may give off an invisible mist; paints, lubricants, adhesives and other chemicals emitting organic vapours and volatile organic compounds (VOCs); cleaning and metalworking fluids releasing vapours and bacteria; and soldering circuitry giving off solder fume.

Engineering

Engineering carries similar hazards to those found in the maintenance industry.

Painting may give off dangerous but invisible organic

vapours as well as particles, particularly if it is being sprayed, which although cannot be seen, can be smelt. However, if you get a strong smell, it's too late to put on your respirator. Often in spray painting, workers using powered devices lift up their face shields to look at their work, so getting no protection at all. Selecting the right sort of unit that enables the user to see properly whilst still getting respiratory protection is essential.

Measures that can be taken

First, the type of hazard a person is being exposed to, and how much of it, must be ascertained. Dosimeters can be used to assess the hazard concentration and determine what assigned protection factor is required.

HSG53 is a helpful HSE guide for the use of RPE, giving guidance for particular assigned protection factors and on determining the required protection factor. <http://www.hse.gov.uk/pUbns/priced/hsg53.pdf>

RPE must be both adequate and suitable for the individual wearer, the tasks they are doing, and the environment in which they are working.

RPE should be chosen to ensure it is suitable for a particular individual and fits them perfectly. For instance, if a worker is using a tight-fitting respirator of the EN149 or 140-type, people must be clean shaven or their respirator will not protect them. If they sport a beard, they should wear powered air devices (EN 12941).

Ease of use is another factor to consider. For example, an air conditioning maintenance engineer



cannot climb ladders with a huge bottle of gas on his back. So the RPE must not only be suited to the hazard, but also suited to the task and the person. Wearers must know when to use RPE and how long it can be worn before they need a break, or it needs changing. Sweat can also build up, altering the fit of the mask. Wearers need to keep checking to ensure a correct fit, both initially and during wear.

It is also vital to be familiar with how it feels when masks and filters are exhausted, such as when blocked by metal particles from an angle grinder, or wood fibres from furniture making. If the filter blocks, the person will start to breathe in air around the edge of the seal, so leaving them with no protection to their airways.

“Exposure to dust and fumes is covered by the Control of Substances Hazardous to Health Regulations 2002 (COSHH).”

Finally, people using reusable products such as EN140 half masks need to understand how to clean, store and inspect them, to ensure they continue to work.

If all these measures are taken, maintenance and engineering will be as safe as possible for those who work in these industries.

For more information visit:

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New Finish For Versatile Hoist Range Is Environment Optimised

J D Neuhaus (JDN) is implementing a new Hydro Coating on its industry-leading hoist range. The coating not only enhances quality and appearance, but is far more environmentally friendly.

JDN takes its corporate and social responsibilities extremely seriously, and moving from a standard hammer finish to the Hydro Coating will contribute to sustainable protection of the environment. In fact, the new Hydro Coating features a percentage of organic solvents that is less than 3%, which is significantly more environmentally-friendly than the former hammer finish. In addition, the coating is silicone-free, which means no wetting failures, an important consideration for automotive or coating plants.



Further benefits of the Hydro Coating include optimised adhesion, high resistance to corrosion and oil, and the potential to be diluted with water if required. It offers excellent surface quality, even when refitting, and complies fully with the VOC (Volatile Organic Compounds) Directive.

JDN's lifting equipment is designed to be used in the world's toughest operating conditions, a fact supported by the company's mantra of 'engineered for extremes'. In sectors such as mining, offshore, energy, chemical and construction, safety is the number one priority. From an equipment perspective, this means reliability and robust manufacture, as the margins for failure are typically zero, particularly in long-lift and/or repetitive cycling applications.

In addition, the hoists are rated for use in explosion and hazardous dust-laden areas up to ATEX Zone 2, with even higher classifications available upon request. This means that JDN equipment will not generate any sparks or electrostatic discharge.

JDN hoists are also required to offer full functionality at all times, regardless of the presence of contaminants such as dust, dirt, heat, cold or seawater. As a result, each component is actually manufactured to a level beyond its standard specification and rigorously tested to ensure that both performance and quality are maximised. In turn, this renders the hoists ideal for use in a wide variety of industries, from automotive, shipbuilding and steelmaking, through to food, glass, leather, printing and papermaking.

JDN's hoists, such as the company's class-leading air-powered Profi range is available with various control systems and load capacities from 250kg up to an impressive 100T. Alternatively, JDN's hydraulic powered Profi hoists can be deployed, which are available from 3T up to 100T in lift capacity. Alternatively, the Monorail hoist series is ideal for low-headroom as well as heavy-load applications.



The pneumatic Monorail series covers carrying capacities from 10T to 115T, while units from 20T to 100T are also available with hydraulic drives.

Among the latest developments to the JDN range of hoists and cranes is a robust new control concept. The company's JDN-RC (Radio Control) features a solid and extremely compact receiver to suit even hoists with low-carrying capacity. The receiver can be mounted on the hoist or trolley, or at a separate location, in line with specific customer requirements. It allows users to work at a safe distance from the load and take a better viewpoint during operations.

Furthermore, the control is ideal for spanning long distances between the hoist and the operator, and represents a sensible alternative to applications demanding a long control hose. The receiver is suitable for use in harsh operating environments, including ATEX (explosive atmosphere) zone 2/22 conditions.

A further recent innovation is the introduction of a range of C rail and light crane systems for operation with the company's established and successful mini air hoist range. Both the C rail/suspension tracks and the light crane systems are rated for use in explosion and hazardous dust-laden areas up to ATEX Zone 2, 22. Featuring high quality standard elements, the modular C rail systems/suspension tracks make for smooth movement of loads in accordance with individual customer requirements. Also offering modularity, the light crane systems adapt easily to load and operating conditions, and are available in four standard profile sizes that provide smooth movement of the reinforced crane bridge.

Company Information

With over 200 employees across the group, J D Neuhaus manufactures pneumatically and hydraulically-operated hoists and crane systems up to 115 tonne capacity from its state-of-the-art facility in Witten, Germany. This globally unique specialisation means that J D Neuhaus has set the quality standard for the market, a move that has seen the company become the established global leader in its technology field with customers in more than 90 countries worldwide.

Resilience and reliability are the key product differentiators, thanks largely to their explosive protection rating which makes them ideal for use even in the most challenging of operating environments. Extreme applications include oil and gas exploration in arctic temperatures as low as -45°C, along with underwater tasks such as ship hull repairs, and plenty of others in demanding sectors like mining, the chemical industry, heavy plant construction and many areas of logistics.

The wide portfolio of services provided by J D Neuhaus includes equipment assembly,

inspection, maintenance and general overhaul, along with the supply of customer training courses.

Over 80% of production from the Witten plant is exported, which is why the company has long-established subsidiary companies in France, Great Britain, Singapore and the USA, all of which have helped create a tight-knit global network in collaboration with international partners.

J D Neuhaus has history that can be traced back to 1745, and is now in its seventh generation of family ownership. Visitors to the Hebezeug-Museum (Hoist Museum) in Witten, are able to see for themselves the remarkable history of this progressive company.

Further information is available on request to:

J D Neuhaus GmbH & Co. KG, 58449, Witten-Heven, Germany

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‘Sentinel’ at Attention for OTC Launch

The largest oil and gas show in the world will provide the backdrop for the launch of CMP Products’ latest innovation, the ‘Sentinel’ corrosion shield.

CMP Products, a market-leading specialist in cable glands and cable cleats, has designed and engineered the Sentinel to protect glands in some of the harshest environments on the planet, including freezing temperatures where the Sentinel withstands impact tests at temperatures as low as -76o F (-60oC).

The new shield is fully resistant to corrosive substances such as potash, ammonia, chlorine, hydrogen chloride (sour gas) and salt spray; as well as being resistant to other environmental factors such as UV exposure.

Initially developed for Potash mining applications in Canada, the Sentinel is designed for the TMC2 and TMC2X products, which are used predominantly throughout North and South America.

CMP has been designing, engineering and manufacturing cable glands for more than 60 years and the company is keen to showcase the product from their booth at the exhibition, as Jamie Hughes, Regional Manager explains:

“Launching the Sentinel at OTC provides us with the opportunity to showcase our product to as large an audience as possible and directly to the North and South American markets.

Vince Patterson, CEO of CMP Products added:

“CMP is constantly bringing solutions to the market that help solve the problems of our customers. In the current economic climate, customers need cost-effective solutions that extend the life of products, so the Sentinel corrosion shield is sure to attract a great deal of attention.”



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Dropped Objects Guard Net

Worksite cuts and abrasions are just a few minor injuries workers can sustain on a worksite due to falling or flying objects, much serious injuries includes concussion, blindness, and even death.



Working at height, beneath scaffolds or areas where overhead work is being performed puts workers and the public below at risk from falling (dropped) objects.

The term dropped object takes on a specific meaning, it can be:

- An object that falls from a height by its own weight and gravity, or
- An object that falls from a height due to contact with an energy source.

In either case, the result can be injury and harm to people, property or the environment.

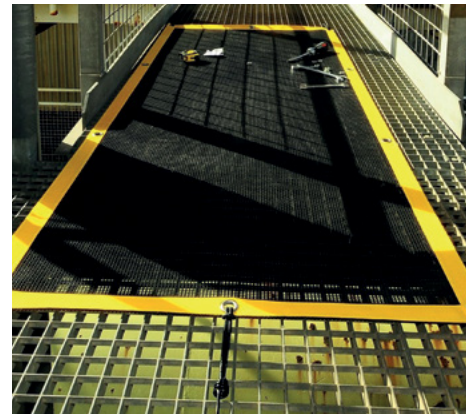
According to Dropped Object Prevention Scheme (DROPS), an object that weighs less than three pounds if dropped from a height of 30 feet can be fatal. If your worksites is typically elevated, you will definitely be dealing with such dropped object hazards on a daily basis.

You may have purchased or use several safety net/guard, the one that promise but does not deliver.

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CableSafe's "Dropped Objects Guard Net is a cost effective drop safety tool, that is made in Germany, and efficiently protect and prevent personnel from dropped objects accident in the worksite. The guard rail/net is made out of flame retardant coated polyester fabric with a reinforced hem provided all around, secured with lashing ratchets and come with a life span of 5 years.

Through our commitment to excellence, we have delivered top quality standard products to customers across the globe in many industries and we guarantee, that Dropped Objects Guard Net will brings safety to your "Work at Height" operations without requiring much active involvement of your worker or any one on the worksite site.



Benefits of Dropped Objects Guard Net

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- Reusable
- No hot work permit required
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Technical data:

- Coated polyester mesh fabric
- Flame retardant (DIN4102B1)
- Strength: tensile 200N/50mm (ENISO1421/V1); tear 400N (DIN53363)
- Temperature: -20 °C + 70 °C (EN 1876-1)
- Weight: 295 g/m²
- Openness factor: 35%
- Air permeability: 7520 l/m²*sec

Pricing and availability

We offer standard off the shelf safety netting systems as well as customized solutions to meet your specific jobsite requirements. Dropped Objects Guards Net is available now, for a free quote, visit the link <http://www.cablesafe.com/dropped-objects-and-barriers/drops-prevention/>

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Where safety is critical, Bifolds range of volume and filter boosters are SIL 3 third party certified to IEC 61508 Parts 1 & 2.

In applications where a fast response time on modulating service, in combination with a fast shutdown time (ESD), is required, the VBP also eliminates the need for an additional poppet or Quick Exhaust Valve to achieve the required closing speeds. This results in reduced material and labour costs and simplifies positioned set up and control.

The range functions with a working pressure range of 2 to 10 bar g, with maximum inlet pressure of 20 bar g and operates at a working temperature of -55°C to +180°C. The common design format offers a choice of four main sizes with port threads of 1/4", 3/8", 1/2", 3/4", 1", 1 1/2" and 2" NPT which allow for installation flexibility and easy hookup.

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Easy Access, Easy Installation. | The new Easy Access Enclosure Range from Hawke International

In the words of Hawke's Enclosure Specialist, Steve Parkin, Hawke are 'always asking themselves how they can improve their products to make them better for the customer.'

The Easy Access Range is testament to this dedication. The culmination of 30 years of experience designing and manufacturing Enclosures for hazardous areas, the Easy Access is Hawke's most innovative Enclosure yet.

The idea for the EA range came from Hawke's desire to increase productivity for their customers. This would come from two goals: firstly, to design a cost effective Enclosure that is faster and easier to install than any competitor equivalent and, additionally, to make a box that's easier to inspect and maintain than any other Enclosure on the market.

After several designs and rigorous in-house testing, the EA's radical sloped face design was borne. The design delivers up to 55% greater installation space compared to competitor Enclosures of a similar footprint, providing easier hand and tool access.

This means unparalleled installation and inspection speeds. When comparing the EA's exceptional installation time and purchase cost with competitor solutions, it proves an extremely attractive proposition. And that isn't all.

Designed to protect secure assets and protect personnel in some of the world's toughest environments, the EA range has undergone rigorous in-house and third party testing to comply with a variety of Increased Safety Standards. These include: IEC/EN 60079-0, IEC/EN 60079-7 and IEC/EN 60079-31. All Easy Access Enclosures are also globally certified for use in Zones 1, 2, 21 and 22 to ATEX, IECEx, EAC and INMETRO, providing customers with peace of mind when operating in harsh environments.

In order to make it as easy as possible for their customers to benefit from the new range, Hawke



have created all 9 EA sizes to follow common industry sizes. This means that customers can easily switch out or retrofit any of their current Enclosures for the EA. And, with other benefits like superior corrosion resistance, IP66 dust and water protection and a retractable hinge design which prevents the EA's door from being dropped from height, the EA is the ideal choice for your next Oil and Gas, Pharmaceutical, industrial, renewable or other project.

To find out more about the EA range visit the Hawke Website or email Steve Parkin via sparkin@ehawke.com.

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- A range of explosion detectors for various applications.
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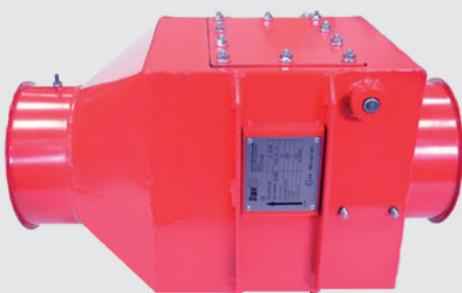
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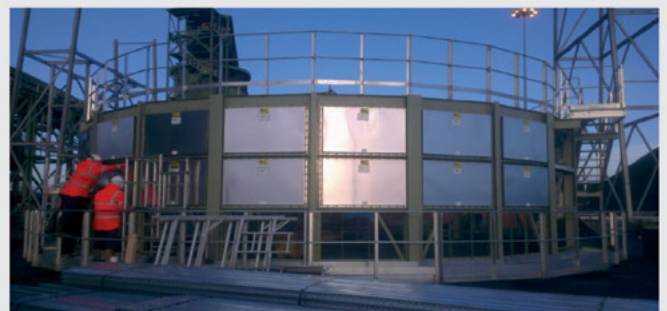
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