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REVIEW 2020



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Dear Reader

Welcome to the first of our SH Review Documents, this time examining the challenges and solutions around top to toe PPE.

The aim of each review is to provide a working document covering a specific topic which operational managers and supervisors can utilise as a handy reference tool when searching for solutions to common issues.

Throughout this review you will find a series of informative articles written by industry experts dealing with solutions to a number of the hazards we face on a daily basis.

The aim of the review is to set out, in a concise and clear manner, information to guide you, the industry/Highways sector, through selecting what you organisationally need to be the best fit in terms of PPE for your workforce.

This is in line with our common vision of providing an environment where everyone, no matter the size of their organisation, has the ability to access the same levels of information and guidance – irrespective of budget.

Our reviews will be supported in 2020 with a series of free to access webinars and further resources accessible via the Safer Highways Web Portal which launches in late spring of this year.

May I take the opportunity to thank all of those that have given up their time to contribute valuable articles to this document which we hope you find to be of use.

Kindest Regards, Rachel Brent Editor Safer Highways Top to Toe Protection Review

Kindest Regards,
Rachel Brent
Editor
Safer Highways
Top to Toe Protection Review

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SAFER HIGHWAYS 
Safer Road Workers, Safer Road Users

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It's snow joke...

Written by:

Kevin Robinson

Chief Operating Officer
Safer Highways

The importance of PPE in harsh weather

It is an age-old saying that the workforce is a organisation's greatest asset and like any valued resource, employees must be looked after, especially in the depths of a cold winter.

Cranking up the thermostat is not an option for workers operating outside and in unheated areas, such as those on our network carrying out their duties in the depths of the night. With snow forecast over the coming days, the need for adequate PPE to protect our workforce from the elements is more important at this time of year than any other.

Make no mistake, cold weather falls into this category.

The Personal Protective Equipment at Work Act 1992 requires that all employers supply adequate PPE for workers, dependent on differing working conditions. Whilst this may sound simple, providing PPE which is fit for purpose and provides suitable protection against the cold requires a little more thought.

In our sector like many other sectors such as rail and aviation, work must continue despite adverse winter weather in order to simply keep the country moving; and employers owe a duty of care to their workforce to ensure that they are not working in unsafe or unhealthy conditions.

For businesses looking to make the most of their winter workforce, adequate PPE provision is a must, allowing staff to complete tasks to the best of their ability and continue the smooth running of the business.

Over the last few months there have been many new and innovative products, such as JSP's specially designed Beanie hat, which sits under a workers hard hat and keeps his head warm without restricting his hearing, as well as others innovations

which help operatives to be clearly seen in poor lighting conditions.

But, as employers, do we really know enough about the challenges which our guys face on a nightly basis. How we can improve their working conditions, not just at this time of year, but also in the extreme heat of July and August, or in the typically British rain?

Extreme weather can make conditions wretched for those working on our Roads, Rails and Runways, as well as other sites.

The one size fits all approach to PPE is no longer viable or sensible and, when thinking about how we best make the work environment as comfortable as possible, surely we should ask those who work in these conditions day in and day out.

Obvious, I know, but how many of us actually do this.

Don't tell your guys what they are getting – instead ask them what they need, and how best things work for them. A comfortable, warm and well-protected workforce will also be a safer, more alert and more effective one.

Many types of worksite PPE address the issue of providing waterproof protection but fail to allow for the movement and ventilation required by many manual workers, and we all know what happens then. The waterproof layer is removed, the employee gets wet, catches a cold and is off work for a few days, effectively costing the business money in lost time to illness.

Actively engaging your workforce to provide the optimum solutions in all conditions can only benefit your business, whilst at the same time making the employees feel valued by virtue of the fact that you are willing to

spend a little extra to make their life a little easier.

As I said at the top of this article; your workforce is your greatest asset. So treat it as such and invest in it to reap maximum rewards. You wouldn't go skiing without the correct clothing, so don't expect your workforce to wear clothing which is not fit for purpose.



The history of head protection and standards...



Head protection and Standards have been around for years in many guises, but we seldom reflect on where they originated from and how they first came about.

Helmets were invented around 2500BC to protect the wearer during battle; these were individual examples but not mass produced. The first mass produced versions were worn by Assyrian soldiers around 900BC mainly made from bronze and protecting the wearer from sword blows and arrow strikes. Unlike respiratory, we never really thought about protecting workers till the late 1800's; even between 1850 and 1900 most miners wore a canvas cap giving no protection from falling objects or striking their head against an object. In 1882, The Patented Pulp Manufacturing Company produced the first ever mass-produced hard hat to protect workers. The British company who later became Centurion Safety Products manufactured a helmet from pulp which was mixed with lime and fed to formers. The formed hat was left to dry and then lacquered giving a smooth if slightly textured finish and a steel plate was riveted to the inside of the helmet to give further protection. These, although pioneering, were slightly uncomfortable due to the lack of a cradle inside the helmet. The cradle was invented much later by an American in 1919 but by then companies had started to look at mandatory hard hat wearing on construction sites and shipyards. The 2 most famous of these were the Hoover Dam and Golden Gate Bridge construction. Whilst six companies mandated helmet wearing at the

Hoover Dam, every worker on the Golden Gate Bridge was instructed to wear a hard hat. Hard hat wearing became much more widespread with aluminium versions in the 1930's to the first thermoplastic injection moulded helmet in 1952. But up until the early 1950's, no-one really knew if a helmet would protect them as none were safety tested against a standard.

When T E Lawrence (Lawrence of Arabia) was fatally injured in a motorcycle accident in May 1935, his doctor, the young Australian neurosurgeon Sir Hugh Cairns, realised that his life might have been saved if he had been wearing a helmet. Cairns went on to research and campaign for the use of motorcycle helmets in the UK. Cairns researched head trauma in 1940 and this was published in 1941 in the British Medical Journal (Head injuries in motorcyclists. The importance of the crash helmet). After the second World War, this journal was used by the Ministry of Transport who investigated further head injuries and their mechanisms. This all led to the first motorcycle standard in 1952 which was followed 2 years later by the first hard hat standard in 1954 (The Light Duty Safety Helmet Standard); both were British Standards. This standard was updated once before the International Standards Organisation tried to unify safety helmet standards in 1977 with ISO3873. The British Standard was updated again in the early 80's



Written by:

Chris Tidy
Centurion Safety Products

before the EU was formed and a European Standard, commonly known as EN397, was produced in 1995. This standard was based on the 1977 ISO3873 with just a few tweaks to make it an EN but most of the ISO3873 remained intact. In 2000, EN12492 was introduced as a Mountaineering Standard and this seems to have been adopted by those working at height. Although this standard was never produced for that reason, most see it as an industrial standard when it is clearly a recreational standard. As we make technological advances in materials and design the correct industrial standard EN397 needs to be updated to reflect the dangers and injuries our workers face. Which is happening as I blog. I am proud to be a massive part of that process where I can help change a standard to truly reflect the workers requirements.



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WHEN CLARITY COUNTS

Regular eye tests are vital for road safety...



Huge strides have been made in improving road safety over the past few decades but UK Government statistics show that 1,7841 people died on the country's roads last year.

That stark figure has remained fairly static for the last few years despite numerous campaigns and initiatives to improve road safety.

The amount of time spent on the roads is increasing with the Department for Transport recording 324 billion vehicle miles in 2016/17, an increase of 20 per cent of the previous five years and a jump of 70 per cent from 1997. Government figures also show that up to a third of all road traffic accidents involve someone who is working on the road at the time.

Driving is one of the most hazardous tasks most people do in the course of their everyday lives and although vehicles have to undergo regular checks, most drivers do not. One of the most basic steps an employer can take to improve safety is to encourage anyone who drives during the course of their work to have regular eye tests.

More and more trade is on the road now, particularly with home delivery, so employers have a duty of care to their staff and to other road users to look after their drivers' eyesight. We provide thousands of corporate eye tests every day and the benefits for the employee and the company are always positive.

Many opticians operate an efficient and cost-effective pre-paid voucher scheme for companies so that their staff can get a convenient eye test and prescription swiftly.

Our recent research has found that nearly half (45%) of employers worry that their employees' eyesight is not adequate for driving, which is a worrying number.

The standards for driving vision are well-defined, but arguably, are not well enforced. The law states that drivers must be able to read (with glasses or contact lenses if necessary) a car number plate (of the new style made after 1 September 2001) from a distance of 20 metres. Most people are aware of the 'number plate test' as it is carried out on the day they undertake their practical driving test.

Drivers may not be aware, however, that the law states that they must also meet the minimum eyesight standard for driving by having a visual acuity of at least decimal 0.5 (6/12) measured on the Snellen scale (with glasses or contact lenses if necessary). Drivers must also have an adequate field of vision, as ascertained through tests by an optician.

The problem is, firstly, that the number plate test only takes place once, at the very start of a driving career, and secondly, that the equivalent tests by an optician are not obligatory but the requirements must still be met. In practice, this means that most drivers may only be asked to prove that their eyesight is adequate after an incident has taken place.

Specsavers is committed to trying to improve safety on the roads and recently sponsored Brake's Road

Written by:

Jim Lythgow

Director of Strategic Alliances
for Specsavers

Safety Week to highlight the dangers of driving with poor vision and to encourage all motorists to have regular tests.

Specsavers carries out ten million sight tests in the UK every year and, as well as checking vision, a standard eye test also includes a health assessment and can pick up symptoms of conditions such as glaucoma, diabetic retinopathy and even high blood pressure. Picking up conditions earlier and getting effective treatment means people can live more fulfilling lives for longer and continue to work and remain productive.

Recent Specsavers' research reported that only 52 per cent of companies and organisations provided eye care at work. More than 25 per cent of employers surveyed stated they offered eye care to improve productivity while a significant 24 per cent provided them to reduce absence.

We have seen a great increase in employers' understanding of eye care as a valued benefit in itself and as part of a bigger picture of preventative health solutions. We are working to help make the most of this trend into as many businesses and organisations as possible by making employers and employees aware of the much wider benefits of eye care, such as the detection of serious health conditions like glaucoma or symptoms of cardiovascular disease.



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Noise control for highway workers, measuring and reporting the benefits...



Written by:

Dr. David Greenberg
Audiologist and Founder of Eave

Dr David Greenberg, audiologist and founder of Eave, shares best practice when it comes to protecting highway workers from noise and how to evaluate the effectiveness of noise controls.

In life and at work we use our eyes and ears to communicate and to stay safe. This is especially true for highway workers who are always operating with the risk posed by the unpredictability of civilian drivers. The standard approach to protecting our eyes when they are at risk at work is to wear see-through protective glasses. However, the modern approach to protecting our ears at work is to block them with pieces of plastic that we can't hear through – this is completely illogical.

When working on the highways, operatives are often forced into choosing to protect their hearing

or protect their lives, removing their hearing protection in order to maintain awareness of their environment.

This is untenable because, not only do employers have a legal duty to protect the hearing of operatives (under the Control of Noise at Work Regulations 2005), noise exposure can be devastatingly harmful to both our hearing and overall health. It is the most common preventable cause of hearing loss/deafness, which we now know is the number one preventable risk factor for dementia. £360 million was spent by insurance companies on occupational deafness claims in 2014 and it is still the most commonly

reported occupational disease in the EU.

Despite advancements in our understanding of the life-long negative health consequences of noise exposure, there are cross-sector failings in our ability to manage noise at work effectively. A key reason for this is that measuring and reporting the benefit of noise control interventions has traditionally been the domain of experts in acoustics or simply deemed to be too difficult. My background as an NHS Audiologist left me appalled at the state of the UK's hearing health and its impact on relationships and safety at work, suggesting that something more needed to be done to prevent noise exposure at the source.

There is no single technique or solution that is appropriate for every noise control requirement on the highway, so a good understanding of operations and work processes is necessary in order to determine the most effective intervention.

The hierarchy of noise control

Occupational safety and health professionals should follow the hierarchy of noise control, a widely accepted model of hazard control promoted by the Health and Safety Executive when deciding what risk management mechanisms they will use to tackle noise-related issues during highway works:

Elimination of the noise source is the most effective way to prevent risk to workers. Examples include avoiding the use of noisy processes or machinery, elimination of impacts between hard objects or surfaces, outsourcing the noisy work processes and moving the noisy operations away from other work activities.

Substitution by replacing noisy machinery or equipment with quieter alternatives, when elimination is not possible, is often the next-best alternative to protect workers from exposure to noise. Performing a task differently can also protect the workers from noise.

Engineering controls involve making changes to processes, machinery or equipment to reduce exposure to noise. Some engineering measures include separating noisy areas from other workspaces, avoiding metal-to-metal contact by using plastic

bumpers, replacing loose parts, worn bearings and gears and undertaking regular maintenance of equipment.

Administrative controls can be applied to the way the work is organised to reduce either the number of workers who are exposed to noise or the length of time they are exposed to noise. Some administrative controls include identifying hearing protection zones and clearly sign-posting noisy areas, organising schedules so that noisy tasks are performed when as few people as possible are present, limiting the time workers must spend in noisy areas and providing sufficient information and training to workers for the proper use of equipment.

Hearing protection is then the final option in the hierarchy of noise controls and should be used as a last resort after all efforts to eliminate or reduce noise levels have been exhausted. While hearing protection is the least effective intervention in reducing the risk of noise exposure, it is the most critical because it is the last line of defence.

The most common reasons that hearing protection fails are cited as: the interference it causes to communication, to hearing speech and warning signals; its effect on job performance was; incorrect use with other safety equipment; deterioration of the protection; and discomfort when wearing.

Hearing protection must be capable of reducing the noise reaching the wearer's cochlea to a sufficiently safe level. However, it is when workers are over-protected that communication becomes difficult and individuals can find themselves working in isolation. Active or level-dependent hearing protection is therefore required to ensure the right level of protection is provided at all times.

From this point, how do you measure if your interventions have been effective?

Measuring and reporting the benefits of your noise control

To report the effectiveness of your noise control initiatives, you should gather data to answer the questions:

- How has the control measure changed the level of noise present?

- How has the control measure affected hearing protection wear-rates?
- How has the control measure affected an individual's noise exposure dose? (100% dose is equivalent to 85dBA for 8 hours)?

Historically it would be near impossible to answer these questions with any level of accuracy, which means that managing noise has typically been seen as too difficult to do well. Today, however, there are digital technologies that can be used to quickly and simply provide accurate answers, enabling industry-wide reduction in exposure to noise. Ear defenders with built-in noise monitoring capabilities, such as the FocusLite from Eave, can measure each individual's dose of noise, taking employers from guessing exposure levels to accurate knowledge of risks.

Being able to pinpoint who is being exposed above a specific dose allows occupational health professionals to focus on those people most at risk, rather than a blanket approach of screening the entire workforce. Combining the personal noise exposure data with noise mapping software, such as Peak from Eave, which visualises and analyses the data based on geographical location, provides the fastest, most accurate and cost-effective way to evaluate noise exposure levels. This process makes reporting the benefits of the noise controls you have put in place simple and accurate. The key here is that accurate knowledge of noise exposure is vital in order to address it and data from the source is critical to measure and report the benefits. Once understood, the necessary controls can be implemented without difficulty and continually improved.



7 things to know if you work with Silica Dust...

Respirable Crystalline Silica (RCS) is one of the most common naturally occurring elements on the planet. Found in the earth's crust, crystalline silica is a key component of sand, granite and other naturally occurring minerals.

According to the Health & Safety Executive (HSE), respirable crystalline silica is the second biggest risk to construction workers.

George Elliott, senior application engineer for the Personal Safety Division at 3M, the science-based technology company, takes us through the dangers of RCS, how employers can reduce exposure and types of respiratory protective equipment (RPE) to consider for protection from silica dust.

There are three main types of crystalline silica; quartz is the most common, followed by cristobalite and tridymite. Crystalline silica can be encountered in a number of industries including road construction, mining, quarrying, stonework, tunneling, glass and ceramic manufacturing and foundries. Any abrasive activities that cut, chip, drill or grind can result in dangerous RCS dust being expelled in the working environment.

Exposure to silica dust can cause many health implications including a range of respiratory diseases including silicosis, chronic obstructive pulmonary disease (COPD), lung cancer, bronchitis and emphysema.

Seven things you should know if you work with silica dust

1. Respirable crystalline silica is present in materials that road construction workers work with. Cutting, sanding and sweeping makes crystalline silica airborne, creating deadly RCS.
2. Exposure to large amounts of RCS can be life threatening in a short period of time as a result of acute silicosis.
3. Exposure to RCS over a prolonged period of time can cause deadly fibrosis of the lung tissue, lung cancer and COPD.
4. What you can't see can hurt you.



Written by:

George Elliott
Senior Application Engineer
Personal Safety Division, 3M

In most light RCS particles are too fine to be seen by the naked eye.

5. It doesn't take much dust to do damage. Even small amounts of RCS can do damage, particularly over prolonged periods of exposure. As a result the HSE's workplace exposure limit is 0.1mg.m3 over eight hours. As

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* Exhalation breathing resistance of 3M™ 4000+ reduced by >30% for 120 lpm peak exhalation flow and >35% for 160 lpm compared to 3M™ 4000 Series. Results measured by 3M in 2017 under laboratory conditions.

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a comparison, general respirable dusts have a workplace exposure limit of 4mg.m³ over the same time frame.

6. Control silica dust at its source. Choose tools with adequate and suitable dust extraction and/or water suppression.
7. Even with other control measures the HSE would expect wearers to have respiratory protection to a minimum of an Assigned Protection Factor (APF) 20. In certain circumstances an APF of 40 may be required.

What are the risks of being exposed to silica dust?

Awareness of the dangers posed by breathing in RCS is increasing but still many workers do not fully understand health risks of RCS exposure. Respirable crystalline silica can cause irreversible fibro-cardiovascular diseases such as silicosis, cancer and even pulmonary tuberculosis. Silicosis in particular is incurable so workers who are exposed to silica are at risk.

Symptoms:

Often symptoms of silicosis can take up-to 15 years to occur so it is important that workers are aware of what these may be so they know what to look out for:

- Debilitating shortness of breath
- Loud cough
- Feeling of weakness
- Weight loss
- Chest pains
- Night sweats

How employers can reduce exposure to silica dust

In accordance with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), it is mandatory for all employers to assess and implement measures to protect workers against the exposure of RCS. Following a thorough risk assessment, if RCS is detected employers should find out how much silica workers are exposed to and arrange for the appropriate control measures to reduce the risk to their health.

If the silica hazard cannot be eliminated completely other

preventative/control methods should be considered before work starts. Substituting silica containing materials for less hazardous (non silica containing) materials may be a consideration, however this substitution may not always be possible.

If Silica containing materials are used, then engineering controls should be considered and implemented to reduce the dust getting into the air. Typical methods include water suppression and on tool extraction. Further information on these control measures can be found via the HSE and the Construction Dust Partnership.

Administration controls should also be considered. This could include setting up barriers to prevent workers not actively participating in the activity from coming into contact with the RCS being produced.

Even with all of the aforementioned control measures, the HSE still require respiratory protection to be worn when the respiratory hazard is RCS. A minimum APF of 20 is required and in certain circumstances an APF of 40 may be required.

Selecting the right respiratory protective equipment

Respiratory protection provided must not only be adequate in terms of protection but also suitable for the wearer, task, working environment and compatible with other items of protective equipment.

A variety of respiratory protective equipment can provide an APF of 20. Filtering face pieces with a rating of FFP3 can provide this level of protection. These respirators can come in a variety of shapes and sizes and can be convenient for the highways industry as they are disposed of at the end of the activity/shift - avoiding any storage, cleaning or maintenance.

Reusable half mask respirators with P3 filters can also provide an APF of 20. The mask itself can be cleaned after use and reused, with the filters being the replaceable, consumable element. Reusable respirators often come in a range of sizes and can also accommodate gas and vapour filters as well as particulate filters.

Such filtering face pieces and reusable respirators should only be worn by those with a clean-shaven face underneath the seal as facial hair will negatively influence the fit of the respirator. In addition, these types of tight-fitting respirators need to be face fit tested to validate that the product fits the wearer.

If tasks require a higher level of protection (APF40) then powered air systems may be suitable to consider. These are coupled with headtops of various types but generally it is loose fitting headtops which are considered.

Loose fitting headtops are also beneficial as they do not require a face fit test, can be worn by those with degrees of facial hair and can combine other items in PPE into one for greater compatibility. For example, the Versaflo M-306 headtop by 3M can provide combined respiratory, head, face and hearing protection in an all in one solution. The Versaflo M-306 is often paired with the Versaflo Powered Air Turbo TR-300+ by 3M and together an APF of 40 can be achieved.

Education is key

Awareness of the dangers posed by breathing in RCS is increasing but still many workers do not fully understand health risks of RCS exposure. Employers and employees must fully understand the impact that even the most miniscule amount of silica dust can have on health and take the appropriate steps to protect staff and themselves with the correct protective equipment.





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A community safety centred approach

Specialist road markings are our business and the well-being of the communities in which we work, are our responsibility. We aim to 'think exceptional' about safety and ensure that best practice is a fundamental part of our 'community safety centred approach'.

WJ operate over 200 specialist road marking vehicles. As a Construction Logistics and Community Safety (CLOCS) and Driving for Better Business (DfBB) champion, we are committed to excellence in driver behaviour.

Comprehensive training and good management of Work Related Road Risk (WRRR) are key factors for embedment of our community safety ethos, helping us to deliver a safe operation with added social value.





A clear perspective...

Uvex provides guidance on how to select the most suitable safety eyewear for the wearer

WORKPLACE RISK is an acknowledged reality but the implementation of a well thought through safety policy will significantly reduce such risk. Our eyesight is precious and demands the selection and provision of high-quality safety eyewear which not only 'protects' but which enhances wearer compliance due to excellent comfort and fit features.

It's clear that high quality personal protective equipment (PPE) can significantly reduce the high real cost of personal injury (productivity, litigation and income) while enabling more people to return to their families safe and sound.

Eye injuries sustained in the workplace can be caused by a multitude of factors including the ingress of airborne materials, chemical splash, direct impact from any number of materials and from the environment, namely ultraviolet light and glare.

Types of eyewear

Safety eyewear is primarily classified as either spectacles or goggles and for a very good reason – it is predominantly about the level of impact protection each provides. Safety prescription eyewear is available in both spectacles and goggles. Laser protection eyewear is available from selected manufacturers.

Safety spectacles certified to the core EN166 standard, provide protection

against low energy impact, specifically up to 45 metres per second. Safety goggles properly certified to EN166 provide medium energy impact protection, specifically up to 120 metres per second and should be regarded as the mandatory option for those using high power tools such as nail guns or angle grinders. In contrast, safety spectacles are not recommended for use for such applications.

Choosing the right safety eyewear

So, how do you choose the right eyewear? Employers have a duty of care to ensure that workers are provided with appropriate PPE wherever the risk assessment defines that as necessary. There are several areas for consideration when selecting eyewear for your workers.

The first and most vital thing to remember is that one size does not fit all. Head and facial shapes all differ requiring a range of eyewear from which employees can select. Involvement in this process not only ensures a proper fit, crucial for the wearer's safety, it also increases the likelihood that eyewear stays worn throughout the working day. A good fit also takes into consideration the 'wearability' of safety eyewear.

Eyewear should deliver a low-pressure, lightweight fit with even weight distribution. Injection-moulded hard and soft components around the brow, nose and on side arms not

only increases comfort but ensures eyewear stays put.

Lens optical quality reduces eye strain, fatigue and headaches (optical class 1). Lenses with excellent optical quality are free of aberrations and imperfections – allowing the wearer to see using as close to natural vision as possible. Low-quality safety eyewear can result in poor optical clarity, one of the biggest factors in eye fatigue due to tiny distortions in the lens.

Let's talk about fogging

Due to the way that safety glasses or goggles should fit, close to the head keeping dirt and debris out, it can cause moisture build up, especially if the wearer is doing a physical job which can result in the lens fogging. How you choose which coating you need depends on the environment and the application being performed. Some coatings offer anti-fog performance on the inside, where it is most needed, and a scratch-resistant hard coat on the exterior of the lens. Others are anti-fog and scratch resistant on both sides making them suitable for environments with high humidity.

When 'wearability' is designed into safety eyewear, employees are more likely to keep it where it should be, on their face and in front of their eyes. It is possible for employees to have high-performing, comfortable, properly fitted specs or goggles that keeps dust and debris out.

For more information, visit www.uvex-safety.co.uk



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Head Protection

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Hearing Protection

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Designed to dovetail with uvex safety eyewear the range comprises FFP1, 2 and 3 cup, fold flat, valved, non-valved and carbon respirators.



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A comprehensive range that provides reliable protection for most industry sectors. Outstanding shock absorption, low weight, width fitting options and climate control technology delivers first-class comfort.





Our perception of industrial gloves needs to change...

The hands can be very much taken for granted yet are one of the most complex and exposed parts of the body. How often do you think “do my hands need protection?” before starting a task at home or in the workplace? Or is it the case that you begin the task and discover your hands blister or suffer a cut or puncture wound and THEN consider wearing hand protection?

The hand is the most commonly injured body part, more than twice as likely to be injured than an arm, shoulder, or wrist. Why is this? Our hands and fingers are first to be used when carrying out a physical task and are more often in close proximity to a risk of injury.

While a hand injury can cause physical injuries, it also can inflict serious psychological damage. In addition to chronic pain and scarring, workers also might experience depression, anxiety and other psychological symptoms.

With greater awareness and risk assessments in industry many organisations now mandate hand protection for their workforce.

The continual challenge in the

workplace though is to overcome the stereotype that gloves are not required for hard wearing hands and that any hand protection will be cumbersome and will slow the task down.

Experience has shown that most hand injuries occur when a safety glove has been removed to carry out intricate work. Also 70% of hand injuries are caused by workers not wearing the correct safety gloves.

With ever increasing improvements in composite yarn, fibre and coating technology industrial gloves are becoming thinner and thus offer far greater tactility so there is more choice of gloves to suit every application. The tighter the weave the higher the gauge/the thinner

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Andrew Faulkner

Business Development Manager
Tilsatec

the glove. No longer is it the case that two or three different gloves are required to address such risks as cut whilst allowing the operative to use mobile phones and tablets which are now more commonplace in today's world of work.

With thinner lighter gauge gloves comes the perception of reduced protection so training and education is important to convey the latest advances in glove design which provide cut and liquid/oil protection whilst ensuring comfort, grip and abrasion resistance.

The most common glove coatings are PU (Polyurethane), foam nitrile, flat nitrile and natural rubber latex. Each coating gives a certain characteristic and can be combined with a



No Compromise. No Limits.

For high level cut protection without compromising on comfort, see the cut resistance specialists.





thickness of glove to improve wear and/or dexterity.

It is also true to say that as an item of workwear, style still plays a part in glove design. Nobody wants to wear clothing or PPE that is not modern or stylish!

Most glove suppliers/manufacturers will offer a site survey to ensure the correct gloves are being used for the various applications and it is good practice to conduct at least one survey per year to keep up to date with glove technology and changes in applications or work practices.

Whilst knowledge of hand protection is increasing there is still a view that gloves are a commodity product to be purchased at little cost without consideration for user comfort or cost in use (number of gloves used per shift or per week before replacement).

Questions to ask are;

- Does the glove meet latest standards?
- Is the glove comfortable for continuous wear?
- Is the glove coating suitable for the application?
- Is the workforce sufficiently trained as to why a particular glove has been chosen for a task?
- Do the workforce understand the importance of hand care and cleanliness?
- Is the glove manufacturer part of BSIF (British Safety Industry Federation)?
- Is the glove supplier part of the Registered Safety Supplier Scheme (RSSS)

The Registered Safety Supplier Scheme (RSSS) is the British Safety Industry Federations initiative to combat non approved product being sold in the UK. Companies displaying the schemes logo have signed a binding declaration that the safety equipment they offer meets the appropriate standards, fully complies with the PPE regulations and is appropriately CE marked.

A key challenge for manufacturers and suppliers is to provide correct levels of hand protection support, training and education to back up a hand protection policy which the workforce buy in to.

However, in reality, the responsibility for both provision and participation in training falls to all in the PPE supply chain from manufacturer, through distribution to the wearer.



uvex

uvex megasonic

visionary technologies at a glance

The uvex megasonic features a revolutionary frameless lens design delivering edge-to-edge, crystal clear clarity in every direction. The panoramic lens is approximately 20% larger than similar goggles giving wearers as close to natural vision as possible, eliminating the need to take safety eyewear off when walking or moving between workstations.



uvex i-5

technology - performance - style

The uvex i-5 proves that contemporary design and functionality are by no means mutually exclusive: Adaptive and packed full of sophisticated technology, these safety glasses deliver high levels of protection and superior wearer comfort.



MADE IN GERMANY 



Protecting people

is our mission and our exclusive trial programme is the first step towards this.

Our programme allows safety professionals to work directly with uvex solutions specialists to identify PPE that delivers high levels of protection and wearability. The end goal? To work together to reduce injuries and lower costs.

[Find out more at uvex-safety.co.uk/trial](https://uvex-safety.co.uk/trial)

protecting people

uvex-safety.co.uk



Are your workforce wearing the correct work boots?



Written by:

Ben Turner
Managing Director
V12

One sure thing is there is no shortage of safety boots out there, a quick internet search proves this point- there are literally thousands of options so how do I know that I am selecting the right workboots for the job?

This article walks you through the process to help you select the right workboots. An audit or risk assessment is a great place to begin. This will help guide you towards the correct boots which are safe, comfortable and fit for purpose. HSE give very clear guidance on their website stating: "Appropriate footwear should be selected for the risks identified" they also say:

- Never allow exemptions from wearing PPE for those jobs that only take a few minutes'
- Check with your supplier on what PPE is appropriate - explain the job to them
- If in doubt seek further advice from a specialist adviser

So begin with identifying the risks and hazards? These can be myriad, some of the most common include: slippery,

wet, or cold conditions, ladder or pole climbing work, risk of cuts or punctures, falling objects, metal or chemical splash, electrostatic build up, ladder work, excess heat and many more. Once the assessment has been carried out you will have a good idea of what risks and hazards you must protect the wearer from. So let's focus on some of the common requirements:

Why is the sole arguably the most important consideration?

The sole of the boot is your only contact with the ground and slip issues are some of the most common hazards in the workplace. Slips, trips and falls cause of half of all major workplace accidents and are responsible for 31 % of all non-fatal injuries in the UK. After doing everything practically possible to remove hazards, selecting the correct

footwear can have a significant effect on reducing accidents. Slips often occur when moving from one surface to another, and most workplaces or outdoor locations have many different surfaces with varying levels of risk. Often SRC is requested as being the highest level of slip resistance; this is not always the best solution. For example, if you are working on a muddy embankment an SRA rated open tread sole may outperform a close tread pattern found on many SRC rated boots. Contamination can quickly turn a fine tread sole to a slick surface. It is possible now to get multi-tread soles with a variety of tread patterns that provide good grip across multiple surfaces. So if you are unsure, ask an expert.

Watch your step, the importance of underfoot protection.

Then what about underfoot protection? How many persons still work in construction or waste disposal day in day out wearing boots without midsole protection, presuming that wearing safety boots is a solution for all risks without selecting the correct level of protection? Puncture injury is surprisingly common and very painful; it is highly likely that you, or someone you know, has had the misfortune to step on a nail or piece of broken glass. It's not just on building sites or at recycling dumps these risks occur, sharps come in many forms including nails, broken glass, steel shards and discarded needles which can turn up in the most unexpected places. So ensure you specify a midsole which will provide effective underfoot protection from such risks.

Safety toecaps, saving toes.

A toe cap is good protection from many falling objects but if working with larger items such as quarry stone, cylinders and even beer barrels a boot with additional metatarsal protection may provide a larger area

of protection. It is now possible to specify boots with weight saving composite toe caps which can offer advantages over steel.

Other considerations

Consider working with hot items such as molten metal, welding or hot tar which may require specialist boots and higher levels of heat resistance. For those exposed to prolonged wet conditions, an efficient breathable membrane will help to keep feet dry avoiding wet and cold feet. Some work situations, such as baggage handling, require metal free products whilst working with explosives or even flour dust may require special anti-static or ESD footwear. Do you understand the difference many persons don't? Ask a specialist.

Here is another great tip from HSE: Choose equipment that suits the user - consider the size, fit and weight of the PPE. If the users help choose it, they will be more likely to use it.

Buy in from the wearers is massively important. Think around weight, someone order picking in a warehouse is likely to want a lightweight boot that will not feel like a pair of diver's boots half way through 12,000+ step shift. Selecting lightweight footwear, where appropriate can reduce the weight carried over a typical 12,000 step 8 hour shift by 650kg (about the same weight as a polar bear!). If someone is driving is the footwear suitable to operate pedals easily, for example a metatarsal boot can be hard to flex and deaden the sensitivity needed to drive.

Underfoot comfort is another factor whether standing on a concrete floor or Kennedy grating for 8 hours or working on rail ballast, sore feet can be alleviated by suitable underfoot cushioning.

Is there a risk of ankle twisting? If so a lace boot with an ankle support is likely to provide more stable support, perhaps a higher leg boot will give

added stability. If boots are being removed multiple times a zip side can make for greater convenience for quick on/off.

Then there are practical considerations such as durability - would an anti-scutt toe help to prolong the life of the boot, how durable will the soles be and do they need to be resistant to extreme cold, heat or chemical? Manufacturers can advise on these points.

Once suitable products are identified, engaging the wearer in a trial will vastly increase buy in and co-operation from the workforce, by giving them "a voice" in the process. In fact the HSE recommends that "you consider asking your supplier to provide trial pairs to help you make the right choice and not to select footwear on the basis of brochure descriptions or laboratory test results alone".

How do I know if the boots I am already using are fit for purpose?

You cannot easily tell whether a boot has a midsole or toecap or is anti-static or indeed meets the required standard. One quick way of checking is to examine the label on the back of the tongue of safety boots, providing you with some detailed information on its performance.

Confidence and peace of mind.

So using a simple process to ensure that you are selecting the correct workboots for the job will reduce accident levels and increase wearer acceptance. That's why using a specialised Safety Distributor or Manufacturer, rather than just clicking on a nice looking pair of boots online will pay dividends for your Health and Safety. It is also important to document your decision process for the selection of safety footwear; in the event of an HSE inspection there is supporting documents to show due diligence in the footwear selection.





PPE fit for women...

With an increasing number of women now entering traditionally male dominated industries, the PPE and protective clothing market has been broadening its offering to ensure women are offered female-fit PPE. Georgina Bisby talks to some of the people making a difference in this space.

Michaela Cox, key account manager at Arco is a pioneer in female-fit workwear having inspired Arco to invest in this area after identifying a gap in the market in 2012. Michaela believes the right workwear can help employees to feel acknowledged and valued.

Back in 2012 when I was Arco's technical sales specialist for Hazardwear I identified a huge gap in the market, which led me to undertake an extensive piece of customer research which exposed that there were no female sized protective hazardwear garments in the industry at all.

Women workers found it extremely difficult to source hi-viz protective clothing that fitted properly as their only options were from ranges designed for men with unisex size

classifications (i.e. small, medium, large etc). That wasn't acceptable!

The results of my research enabled me to present Arco with a solid and compelling business case to invest in the design and development of a new hazardwear range specifically for female workers.

In association with our expert in-house hazardwear garment design team, we launched a range, designed specifically for woman, tested and approved to meet EN ISO 20471 for high visibility clothing and RIS-3279-TOM for rail.

For PPE to protect you and feel comfortable to wear, it must be properly fitted.

Incorrect fitting workwear for female workers is unacceptable. It's uncomfortable, distracting which of

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Rachel Brent

Editor, Safer Highways Top to Toe Protection Review

course is dangerous when working in hazardous environments.

Poorly fitting PPE and workwear can also potentially lead to the PPE being modified or not actually been worn, which increases the risks for a potential accident.

"It's crucial that employers offer all their workers compliant clothing, workwear and PPE to not only keep them safe, but also feel that they're acknowledged and valued.

"To help us clearly identify the hazardwear issues experienced by female workers, I consulted with a range of industry stalwarts including Costain, Serco, Sodexo, Stagecoach and ARUP to identify the products they were using and understand the changes that would support their female work force.

“This collaborative approach ensured we developed a range of Women’s Hi Vis Hazardwear that exceeded expectations in fit, comfort and quality.

“Our research enabled us to deliver an ultimate level of comfort and safety for women in hazardous working environments through features including:

Standard UK women’s sizes, (i.e. 8, 10, 12, 14), as opposed to the traditional unisex S, M, L); reflective tapes positioned away from the chest area; Four-way stretch retro-reflective tape that sits close to the skin for added comfort; Fully or partly elasticated waistbands; Zip access at the bottom of trouser legs allowing wearers to put on over boots while maintaining a comfortable, straight fit around the ankle and trousers have shaped rather than straight legs, removing the discomfort presented by the unisex straight wide fit (at hips and waist).

Case Study – Associated British Ports

Benedicta Moxon ABP compliance business manager, Associated British Ports (ABP) and Tina Raleigh, ABP quality and environment systems

manager have worked with Anchor Safety to help the Associated British Ports (ABP) become the first UK port operator to provide employees with an exclusive range of women’s personal protective equipment (PPE).

The rollout of the new PPE range follows an extensive employee consultation process and successful trials. It is also part of ABP’s wider commitment to Maritime UK’s Women in Maritime Charter, an initiative which ABP helped launch in September 2018 to promote the role of women in the maritime sector.

This new range of specially-designed protective clothing, which also includes maternity focused products, is lightweight and further improves safety, whilst also promoting greater inclusivity across the business and encouraging more women to consider a career in maritime.

Benedicta Moxon, says: “It has been fantastic to be part of a project that will make a tangible difference to how comfortable and safe women feel at work. At ABP we are committed to creating a workplace which makes everyone feel valued and empowered to thrive. This enhanced range of PPE will achieve these goals.

“This project was born out of the realisation that the UK market did not offer a suitable PPE solution to our specialist requirements as the UK’s leading ports operator with an expansive workforce comprising all genders.

“That is why we went through a thorough consultation process, which involved female colleagues across our regions trialling different prototypes and providing useful feedback. At the end, we decided to team up with Anchor Safety, a British designer and supplier of PPE, local to us in Ipswich, to pave the way for the maritime industry as a whole.

Anchor Safety – head of garment design, adds:

“There are a range of design considerations needed to encompass the wider aspect of female fit and comfort in protective clothing. Based on the vast range of human body shapes and sizes, the project focussed on how a garment sat on the female body, specifically shoulder width and upper arm fit which allows the garment to drape correctly. With arm length and waist shape taken from associated anthropometric data, a better fit is achieved overall.”





WOMEN'S RANGE

V12FOOTWEAR.COM/WOMEN

DEVELOPED BY WOMEN FOR WOMEN

Women's feet are different to men's, so why are they expected to wear smaller sized men's footwear?

Back in 2014, we were approached by Eleshia Turnbull at Transport for London. With an increasing female workforce, she was having real problems sourcing PPE that was designed with women in mind. Especially safety footwear. The footwear available was either smaller sized men's footwear, which didn't fit her team's feet well at all; or overtly feminine pastel-coloured footwear, when her staff wanted smart, professional shoes.

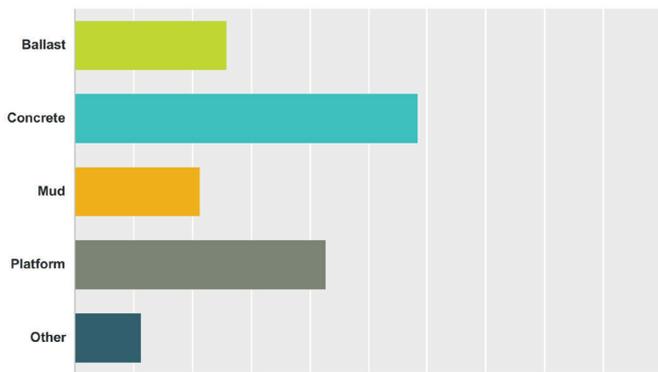


Alongside Eleshia and her 100 strong female workforce, we carried out a collaborative research programme to understand the key issues they faced with their current footwear. We also strived to understand the environments and conditions they were working in, the activities they carried out, and their preferred footwear style, fit and colours.

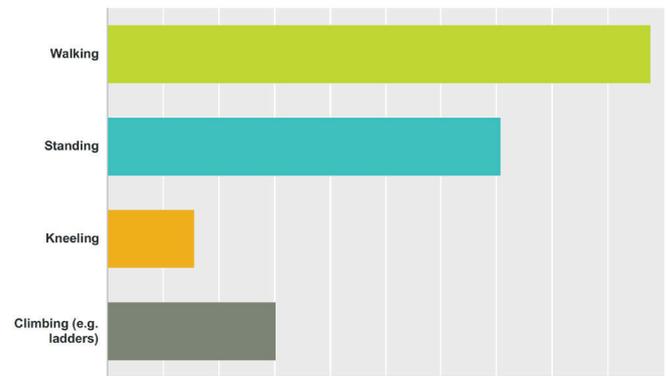
This provided us with an incredible insight and data which we have used over the last two years to create a comfortable, safe and stylish range of footwear that specifically meets their needs and the needs of other women in engineering.

WHAT THEY SAID, WHAT WE DID

The results from the survey we carried out with the staff at TfL directly influenced our designs. Here's how:



Women surveyed were generally working on smooth, man-made surfaces, so we gave the range the high performing IGS sole



Women were spending all day on their feet, so we provided additional arch support and the shock absorbing Energyse insole to reduce impact.

“The width is excessive and they aren't tight enough at the ankle”

We've used a bespoke women's last which is narrower overall; and provided a close fitting, high collar to keep the ankle firmly in place.

“They are very heavy and tiring”

We've used a composite toecap and midsole to make the range lightweight, reducing fatigue.

“I would NEVER wear pink laces...”

We've gone for a neutral black. Women don't want to be differentiated from men with feminine colour palettes.

“There is only one type available in size 4 and they hurt my feet.”

Our range is available from a size 2 to a size 8, providing a choice when previously there was none.

DEVELOPED BY WOMEN FOR WOMEN

NO SUCH THING AS UNISEX FOOTWEAR

The bone structure of a typical woman's foot not only tends to be shorter but also narrower meaning that a smaller size men's boot is just not going to fit well. Studies have also proved the heel (Achilles) is also different to that of men and critical to get correct to avoid rubbing and blistering in wear.

We are proud to have been able to work with world renowned laboratories to gather 3D data of the female foot and create a proven fitted women's foot shape.

EMPOWERING EXCEPTIONAL WORK

Ill-fitting, uncomfortable and inappropriate PPE not only prevents women from doing their job, but also carries significant health and safety issues. Prevent injuries, unlock potential and boost productivity by providing women with footwear that fits.

WORKING ALONGSIDE INDUSTRY LEADERS

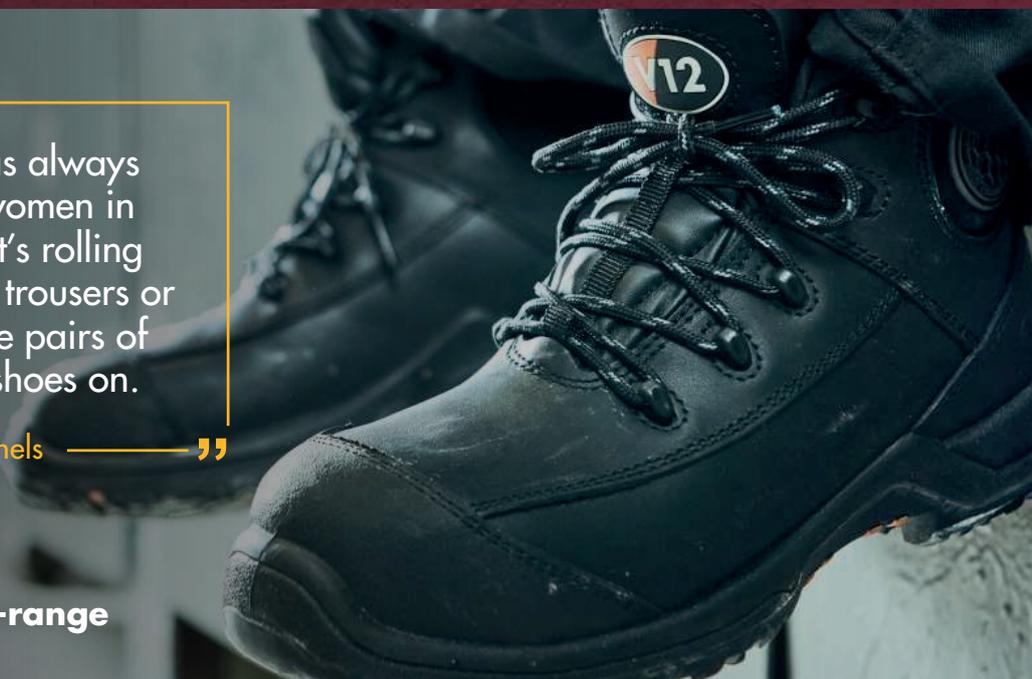
Transport for London (TfL) has launched its first range of safety clothing designed specifically for women, as part of its commitment to supporting an increasingly diverse workforce. The introduction of women's PPE forms part of Transport for London's 100 Years of Women in Transport campaign, which celebrates the role of women in the industry.

We are honoured to have been identified by TfL to be tasked with creating women's footwear and have worked very closely with them in identifying the needs and requirements and trialling the concepts along the two year journey.

W Women's Range

“ Finding PPE that fits has always been a challenge for women in engineering, whether it's rolling up sleeves, holding up trousers or having to wear multiple pairs of socks just to keep our shoes on.

Northern Line Extension Tunnels
and Shafts Project Manager.”



At Morgan Sindall Infrastructure we believe that 100% Safe is the key to success.



A safe and healthy environment for our workforce, road users and communities is at the heart of everything we do – from project concept to completion.

We provide:

Safe places which provide security and protection from harm

Safe by choice in that we choose to be safe and healthier from the outset

Safe relationships where we actively engage throughout the industry to share and improve

Safe by design from concept to completion seeking to consider all our stakeholders' needs

Safe lives to ensure the health and wellbeing of our people is a priority.

Everyone has the right to be

100% Safe