Ansell

SELECTING APPROPRIATE IMPACT PROTECTION

SAFETY BRIEFING

LESSENING THE IMPACT

Impact injury risk is common in many industry sectors, with worker's hands most likely to suffer the effects of unwanted forcible contact with machinery, tools and other hazards.

Impact leading to crushing, pinching or cut penetration can subsequently result in a range of conditions from bruising to bone fracture, soft tissue or nerve damage and, in extreme cases, amputation. Hand injuries are particularly problematic for businesses, as they often require extended periods of recuperation and rehabilitation that render workers unfit for regular duties.

The likelihood of injury increases when workers are required to use their hands to manipulate or guide machinery into place, to operate in adverse weather conditions, or where the presence of lubricants, liquids and oils makes gripping tools and other equipment especially difficult. In any industry sector where there is a risk of crush or impact injury, safety and operations managers should consider the use of gloves that offer suitable impact protection for the tasks being carried out.

> **"How purpose-designed PPE provides the maximum defence against injury risk"**

THE BEST DEFENCE

There are 35 muscles in the human hand that provide movement in the forearm and arm, making optimal hand function a particularly complex process. That complexity means that a range of additional aspects will influence selection of the most suitable protective hand protection. Assessment should factor in the tactility, flexibility, mobility and comfort of the wearer, in addition to a glove's ability to withstand impact.

Attempting to control costs, many safety and operations managers opt for generic all-purpose leather gloves, believing that they offer a suitable degree of protection across a range of tasks. The reality is markedly different, with leather offering little or no impact protection and compromising on other factors, such as fit and comfort. Workers will remove uncomfortable gloves, leaving them susceptible to harm and negating any financial gains achieved in adopting a flawed 'one-size-fits-all' mentality.

Purpose-designed personal protective equipment (PPE) obviously provides the best defence against injury. Impact protection gloves offer significant benefit over generic leather alternatives; they are judged as more comfortable and offer superior dexterity; feature a better palm grip: offer whole-hand impact protection (including fingernails) without loss of dexterity; allow the wearer to perform necessary tasks including touch screen use and combine water resistance, impact and cut protection in one solution.

Hand protection designed to defend against impact injury is constructed with a durable outer shell that comprises raised segments of a solid rubber material across the back of the hand and fingers – the most common injury points. The segmented design allows the user to move freely, facilitating safe handling of tools, parts and machinery.

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Additionally – and just as importantly – employing equipment designed especially for prevalent environmental conditions means that workers are guaranteed the tactility, flexibility and range of movement required to effectively carry out the tasks demanded. A superior glove design acknowledges the equal importance of dexterity and impact protection, as restriction of sensation and movement can significantly impede the wearer’s ability to efficiently and effectively complete tasks.

Impact protection gloves should also incorporate a suitable coating on the palm surface to provide adequate grip levels, particularly in the presence of lubricants, liquids and oils. Decreased dexterity, flexibility or tactility will also compromise grip, with flow-on effects leading to a range of unwanted – and wide-ranging – outcomes.

- Inadequate grip puts workers at risk of dropping objects and potential harming themselves or others.
- It also contributes to productivity losses as processes are slowed down because workers are forced to compensate for a lack of grip.
- Cut risk is heightened because the wearer can easily lose as control over work.
- Hand fatigue and the likelihood of carpal tunnel syndrome are exacerbated by poor grip.

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THINGS TO LOOK FOR WHEN SELECTING IMPACT PROTECTION

As with most PPE, not all solutions are created equal. In the case of impact protection, the key difference lies in the construction material used to create the solid segmented backing of the glove. Typically fabricated using a form of thermoplastic rubber (TPR), the true level of protection offered by that backing varies wildly based on the underlying quality of the TPR itself and on its application.

When assessing options, safety managers and professionals should bear the following in mind;

COVERAGE

Carry out a visual inspection of the glove to ascertain TPR coverage. A solid choice will adequately cover the thumb, fingers, knuckles and top of the hand, offering suitable protection of all hand and finger bones including phalanges, metacarpals and carpals.

FINGERTIPS

Pay specific attention to TPR coverage of the fingertips. A common cost-cutting technique, failure to apply protection to the fingertip compromises whole-hand protection and renders workers susceptible to injury.

DEXTERITY

try the glove on to ensure it offers suitable dexterity for the thumb and fingers. Where possible, replicate typical tasks such as handling tools, manipulating materials or operating equipment to evaluate suitability.

MATERIAL

Ask your vendor if true TPR is used in construction of the glove. Some manufacturers will apply inferior materials, such as foam, or utilise TPR without consideration of the design and engineering principles that guide its proper use, lessening the impact protection qualities.

GRIP

Gloves should feature an enhanced oil grip which decreases fatigue and mitigates injury, offering increased control and lessening the force required to safely handle equipment.

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OTHER RISK FACTORS

Ascertain the complete environment and factor in any additional risks. Hand protection that offers adequate defence against impact injury ideally incorporates other features designed to meet the specific environmental conditions of each application. These may include;

- A double-dip nitrile foam coating which creates an oil permeable barrier to repel fluids or oils, keeping hands clean and improving comfort;
- The use of high visibility fabrics to increase awareness of hand location in low light conditions, keeping workers safe and seen and;
- High cut and puncture resistance levels that reflect the dynamic nature of the working environment and exposure to hazards.

When it comes to worker safety, there should be no compromise. To truly offer the best defence, safety managers and other professionals should conduct a thorough appraisal of alternatives and seek additional information from the manufacturer. While visual and tactile inspection offer some confirmation of product quality, be sure to consult material data sheets to ensure a product is fit for purpose and meets the relevant safety standards.

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