Ansell

SELECTING APPROPRIATE HAND PROTECTION

SAFETY BRIEFING

THE IMPORTANCE OF GLOVE SELECTION

There are many hand protection solutions available to safety managers. Determining the most appropriate choice for each member of the workforce and the tasks undertaken is shaped by a range of influences including potential risks, productivity impact and budget.

Selecting appropriate hand protection for the workforce is a balancing act, as safety managers and professionals need to consider disparate – and sometimes contradictory – factors to determine the best choice. Gloves must allow the wearer to perform tasks as required, while still providing adequate protection against the potential hazards that each type of work presents. The situation is made more complex when there are multiple tasks being undertaken in a single work area or jobsite, with each presenting different protection requirements. This creates a significant risk, as purchasers may opt for a single product that meets some, but not all, protective criteria for each task.

> **“Selecting appropriate hand protection for the workforce is a balancing act”**

UNDERSTAND THE AIM

While safety managers continually strive to identify potential workplace hazards and minimise the risk of accident and injury, selection of improper hand protection can prove more dangerous than the identified hazard itself.

The problem is that the root cause of a hand injury is not always the most obvious one. A cut injury, for example, could be attributed to inadequate cut protection when the true underlying cause is poor grip or hand fatigue arising from provision of an inappropriate glove.

While adequate safety is the overall aim, so too is optimum productivity. The nature of the task will determine the type of hand protection required to ensure efficiency – for example, highly dextrous tasks require a thin and flexible glove that permits movement, whereas handling rough or heavy objects calls for hand protection fabricated from thick materials to eliminate risk of abrasion and cushion the hands.

Under Article 5 of the Personal Protective Equipment Directive (PPE 89/656/EEC), employers are required to audit hazards and assess risks, define the physical properties necessary for protection, ensure that all gloves used conform to the PPE Directive, compare the merits of the various types of protection available and keep full records of assessments and the reason for selection. If risks change, the assessment and selection process must be repeated.

The best defence for any safety professional is appropriate identification and utilisation of hand protection that is truly fit for purpose. It sounds simple enough, but there are many determinants that influence the ultimate choice.

While adequate safety is the overall aim, so too is optimum productivity. The nature of the task will determine the type of hand protection required.

> “It sounds simple enough, but there are many determinants”

Improper hand protection can prove more dangerous than the identified hazard itself

ASCERTAIN THE APPLICATION

> "Each workplace presents a different set of environmental conditions and hazards"

The first and most obvious influence on hand protection selection is industry sector, because it informs overall the type of tasks being undertaken and the environment in which workers are expected to operate.

A business will often regard its' own particular set of challenges, complexities and working conditions as 'unique', making it seem more difficult to determine the most appropriate glove choice from the vast range of available options, many of which are specifically designed with a particular industry sector or occupation in mind. Construction workers, for example, are exposed to a range of hazards that differ significantly from those encountered in food handling, pharmaceutical manufacturing or the oil and gas industry and protective glove options reflect this disparity.

Additionally, each workplace presents a different set of environmental conditions and hazards including temperature extremes, weather conditions, ambient light levels, impact risk and exposure to chemicals or oils. It pays to look for a solution that has been designed for a specific industry sector or occupation, as it will offer better protection against the known hazards and risks associated specifically with that undertaking.

Equally important, it is advisable to work with a glove manufacturer that can offer a global perspective across a broad range of industries. The 'unique' circumstances of a business are often found in other working environments and industry sectors. By partnering with an experienced vendor, you will have access to valuable industry insights which can be effectively leveraged during the glove selection process.

Additionally, it is common for workers to carry out a range of functions that expose them to different risks, which can necessitate provision of several hand protection solutions to ensure adequate safety is provided relative to the hazard exposure resulting from each task.

Look for a solution that has been designed for a specific industry sector or occupation

IDENTIFY THE RISKS

Hand injury is among the most common type reported in the workplace. Hand injuries can range from cuts and abrasions to impact and crush, strain, fatigue and chemical or thermal injuries.

Hand injuries can be particularly debilitating and often require long periods of rehabilitation, so a thorough understanding the risks posed to workers' hands and how to mitigate them with appropriate hand protection is a critical step in the selection.

DETERMINE THE ALTERNATIVES

The application, environmental conditions and the potential risks will all help determine the most appropriate hand protection choice from the many available alternatives.

The following table outlines some typical tasks, the hazards these present, the most suitable glove for the application, some typical features of each and the benefits they provide.

TASK	HAZARD	GLOVE TYPE	TYPICAL FEATURES
Metal fabrication	Cuts	Cut protection	• High cut resistance • Nitrile coating to improve grip • Seamless knit fabrication to improve comfort
Screwing & unscrewing	Abrasions & minor cuts	General purpose	• Nitrile foam coating for abrasion protection • Snug, second-skin liner for improved comfort and dexterity • Breathable coating for cooler, drier hands
Scaffolding	Impact	Impact protection	• Rubberised bumper to provide impact protection • High-vis fabric to increase awareness of hand location
Chemical handling	Chemical burns	Chemical protection – Immersion: Reusable glove Chemical protection – Splash: Disposable glove	• Thin, double-wall nitrile shell and seamless liner providing improved tactility and flexibility • Minimal heat retention to reduce perspiration • Superior safety cuff design to prevent snagging and reduce itching • Three-layer design for superior protection against harsh chemicals including acids, solvents and bases • Thin mil construction for enhanced tactility and dexterity • Extra soft material and ergonomic design for outstanding fit, feel and flexibility for longer wear time
Welding	Burns	Thermal – heat	• Flame resistance • High cut protection • Soft foam coating to ensure greater flexibility and a secure grip
Refrigeration	Frostbite	Thermal – cold	• Thermal terry loop acrylic liner with a naturally insulating latex coating, ensuring insulation against cold • High visibility in poor or low light conditions

GET ACROSS THE STANDARDS

Understanding the EN standards can be useful to purchasers, as it helps understand why some options are more suitable than others, relative to the hazards presented.

EN standards continue to evolve and are often reissued with updated applicable testing procedures, so ensuring you have access to the latest version is important. The following overview provides key information on some of the applicable hand protection standards.

EN388
Mechanical

EN388 incorporates performance level ratings on four key categories: Abrasion Resistance, Blade Cut Resistance, Tear Resistance and Puncture Resistance. A letter in the fifth position corresponds to an ISO Cut Resistance level. A letter "P" in the sixth position is for gloves certified to provide impact protection.

EN ISO 374
Dangerous chemicals and micro-organisms

EN374 relates to required testing of gloves for permeation, degradation and protection against dangerous chemicals and micro-organisms including bacteria, fungi and virus. Each test result is given a performance level rating which provides an indication of suitability for each hazard present in a workplace.

EN407
Heat

EN407 governs the protection provided against a range of heat hazards including; burning behaviour, contact heat, convective heat, radiant heat, small drops of molten metal and large quantities of molten metal. Again, the results indicate suitability for a task via a performance level grade.

EN511
Cold

Another thermal standard, EN511 determines performance level against cold conditions including both convective and contact cold. It also delivers a pass or fail result on water penetration testing.

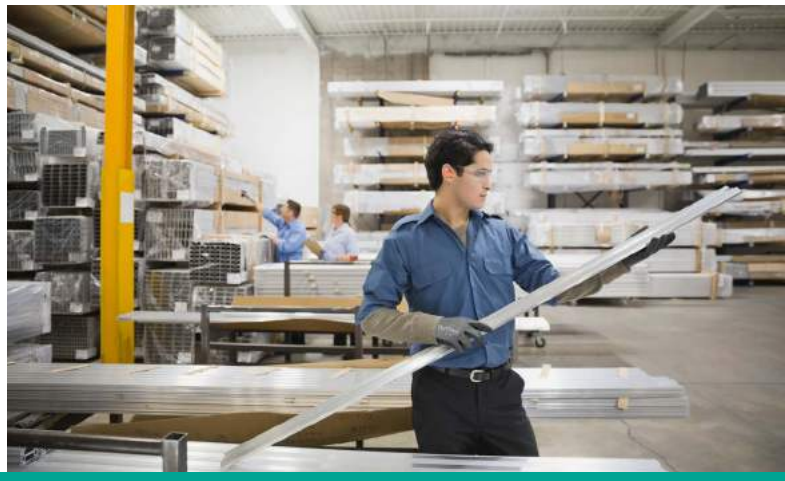
EN421
Radioactive contamination and ionizing radiation

EN421 determines suitability of hand protection in two categories; protection from direct contact with radioactive substances and; protection from direct contact with X-ray, alpha-, beta- or neutron radiation.

EN60903
Electrical insulation gloves

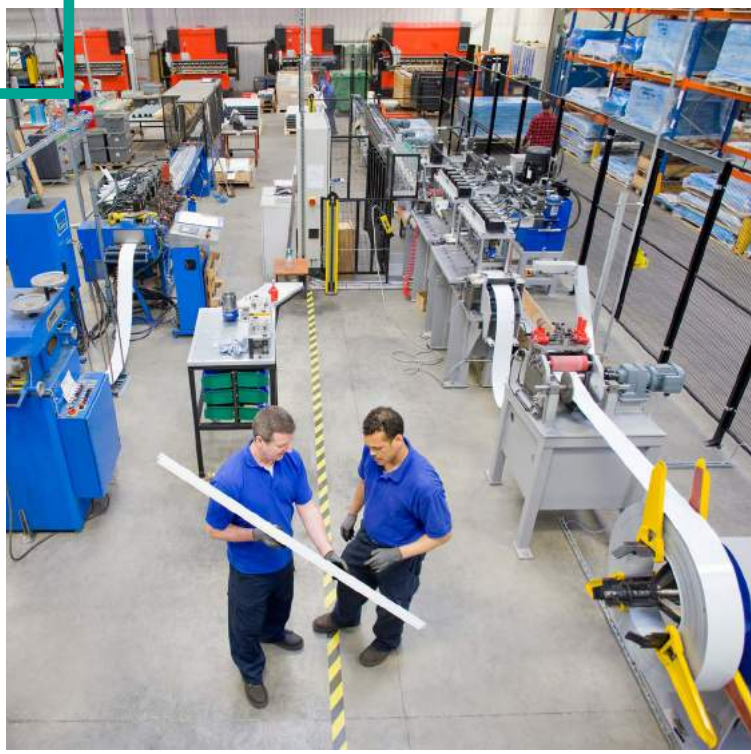
EN60903 is a specific standard to address protection from electrical voltage.

EN standards help purchasers understand why some options are more suitable than others



ASSESS THE OUTCOMES

> **“Lesser quality or cheaper gloves will often cost more in the long run”**



The quality of the chosen solution can have a profound impact on budget outcomes. Lesser quality or cheaper gloves — which may or may not deliver the required protection — will often cost more in the long run, as they need to be replaced more often.

Safety managers and professionals should elect to work with a vendor that can aid in the identification of appropriate hand protection and help rationalise both the number and type of gloves used on any work site. This not only helps reduce costs, but also improves overall safety outcomes.

One of the most important tools in determining the suitability of hand protection choices is feedback from the wearers themselves. Input should be sought post-introduction of any protective glove solution to ascertain if the selected product is truly fit for purpose. Ideally, this feedback process should be part of a larger program of analysis, benchmarking and continuous improvement.

This feedback process should be part of a larger program of analysis

UTILISE AVAILABLE RESOURCES

The selection of appropriate hand protection for any workforce requires more than flipping through a catalogue. Wide variations in industry, application, environmental conditions, tasks undertaken and potential hazards means that there is no one-size-fits-all hand protection solution, so it pays to ensure that a rigorous assessment of risks and potential alternatives are carried out prior to purchase.

For additional assistance, safety managers should consult specialist vendors who will often provide an assessment service incorporating site visits, evaluation of existing solutions and analyses of safety performance, productivity, cost and even worker satisfaction with the current solution. Opt for a supplier with global experience across a range of industries for ready access a wealth of knowledge on world's best practice, along with considerable insight into the short- and long-term costs associated with the choices made.

Ansell Guardian® is one such service. With our global presence and extensive industry expertise, Ansell has developed a unique suite of tools that help companies to increase safety whilst improving productivity and business performance.

Seeking professional guidance will help improve safety, increase compliance, rationalise inventory, lower procurement costs and reduce waste, so it makes good business sense.

For more information about Ansell Guardian, visit www.ansellguardian.com.

The industries, applications, environmental conditions, tasks undertaken and potential hazards mean that there is no one-size-fits-all hand protection solution.

> "Opt for a supplier with global experience"

Seeking professional guidance will help improve safety

Ansell Healthcare Products LLC
111 Wood Avenue, Suite 210
Iselin, NJ 08830 USA

Ansell Healthcare Europe NV
Riverside Business Park
Blvd International, 55,
1070 Brussels, Belgium

Ansell Limited
Level 3, 678 Victoria Street,
Richmond, Vic, 3121
Australia

Ansell Services (Asia) Sdn. Bhd.
Prima 6, Prima Avenue,
Block 3512, Jalan Teknokrat 6
63000 Cyberjaya, Malaysia