Ansell

PROTECTION IN FOOD AND BEVERAGE PROCESSING

SAFETY BRIEFING

SELECTING APPROPRIATE SAFETY GLOVES FOR MULTIFACETED APPLICATION

Few industries exhibit the breadth of workplace hazards found within the food and beverage processing sector. Process workers perform a vast array of tasks, often in harsh environmental conditions, and are required to work with tools and machinery that threaten their safety if appropriate defences are not employed.

From a statistical standpoint, data relating to injury in food and beverage processing falls under the 'food, beverage and tobacco manufacturing' group. Australian studies find that — while most industries present a proportion of injuries that reflect the proportion of workers — this group is over-represented in terms of reported injuries, typically exhibiting a rate of around 25%[1] . In the EU, that figure is closer to 18%[2] .

Risk of injury through cut or other mechanical hazards, exposure to chemicals, thermal extremes and contact with bacteria, blood, grease and oil is common for food and beverage processing workers, making the utilisation of suitable personal protective equipment (PPE) imperative.

As many tasks require effective and efficient handling of materials, a suitable hand protection solution should be the first consideration for safety and operations managers looking to provide a defence against preventable injury.

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[1] Work Related Injury Experience (p8) – Safe Work Australia
[2] Causes and circumstances of accidents at work in the EU (p69) – European Commission

KNOW THE RISK AND REQUIREMENTS

The hazards are as varied as the tasks carried out by members of the food and beverage processing sector.

In addition to food handling, processing typically incorporates the use of machinery and tools which must be regularly maintained to ensure smooth operation, and it is equally important to ensure that maintenance workers are adequately protected.

So, how can safety managers easily determine which glove to use for each application within this multifaceted industry?
While the type of task and working conditions provide a useful guideline for the best choice, it is also commonplace to identify multiple hazards associated with each application. The following table provides an overview of the required hand protection properties for some common food and beverage processing and handling tasks.

APPLICATION	REQUIRED HAND PROTECTION PROPERTIES
Primary food processing Dairy processing | Defeathering, skinning and deboning| Fruit and vegetable processing | Poultry processing | Prepared meals | Primary cutting	• Cut protection • Liquid protection • Wet and oily grip
Additional food processing Slicing | Cutting | Chopping | Steaming | Frying | Roasting | Marinating	• Cut protection • Liquid protection • Thermal protection
Beverage production Mixing | Moulding | Filling | Filtration	• Cut protection • Liquid protection • Thermal protection
Packing Meat packing | Canning | Bottling	• Thermal protection • Liquid protection • Wet grip
Cold storage Packaged meat storage | Bottle and can storage | Raw materials storage	• Liquid protection • Thermal protection
Sanitation and maintenance Caustic cleaning | Storing and transportation | Equipment maintenance and repair | Plant disinfection and sanitisation	• Cut protection • Chemical protection • Wet grip
Logistics and Warehousing Non-food handling applications | Shipping, receiving, stocking (raw materials or final packed products)	• High Abrasion protection • Grip • Cut protection • Fit, Dexterity, Comfort

Table 1 - Common food and beverage processing applications, tasks and required hand protection properties

MAKING AN INFORMED DECISION

There are many available hand protection options, some more suitable than others, so it's worth considering a few additional factors when assessing alternatives.

Cut and mechanical protection

Hand and arm cut injuries are among the most common type in food and beverage processing operations, ranging from a simple nick through to more serious harm, depending on the task and tools used. This makes a cut protective glove a common industry choice.

Using knives, blades and cutting tools presents obvious risk, but other factors have an impact — such as the weight of the tool or material being handled, a worker's grip and the angle at which a sharp object is held — so it's important to opt for a solution that delivers comfort, dexterity and the appropriate grip as well as cut protection.

Cut resistant gloves should be constructed from a fabric that is resistant to wear and abrasion. Engineering advances continue to deliver improvements in this area, making it possible to knit cut resistant fibres and yarns into thinner, more lightweight and durable fabrics. The result is a glove that offers superior cut protection, is resistant to wear and offers no compromise on comfort, fit and dexterity.

In the food and beverage processing industry, where food safety is a consideration, make sure you select a glove manufactured from fabrics that meet the standards governing materials used in contact with food. These fabrics are typically constructed from yarns that incorporate high molecular weight polyethylene fibres and feature additional characteristics, such as antimicrobial properties.

For non-food handling applications, such as machinery repair and maintenance, you'll need to consider additional issues — including the presence of oil or other liquids that can reduce the wearer's ability to grip. Look for a solution that offers protection from cut injury, while providing adequate grip to carry out tasks as needed.

Thermal protection

Determining suitable thermal protection in food and beverage processing requires a complete understanding of the variables in each application; the ambient temperature, the tasks being performed, the length of contact or exposure to either extreme cold or heat and the presence of other hazards, including chemicals, bacteria or handling wet materials, will all inform the most appropriate choice.

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MAKING AN INFORMED DECISION

Hygiene and contamination

Hygiene and contamination is a significant concern in safe food and beverage handling and processing. Workers should exchange (or dispose of) gloves after any event which would normally call for hand washing. This could include; handling raw food, using the toilet, coughing, sneezing or using a tissue, touching the hair, scalp or body. Gloves should always be replaced if they are torn or otherwise structurally compromised.

Laundering

To prevent workers from prematurely disposing of used safety gloves and other apparel, many companies elect to implement a PPE laundering program. An effective way to maintain glove hygiene and ensure products are utilised for the intended term of useful life, laundering also removes substances which may cause skin irritation including bacteria and residue from oils and chemicals.

However, the laundering process may also lead to decreased performance in the areas of grip, tactility and dexterity — which are governed by yarn size and glove design. High washing and drying temperatures can adversely affect both glove shape and size, subsequently reducing suitability for required tasks. Grip can also suffer during laundering.

To ensure the intended life of hand protection solutions is realised, always follow the manufacturer's laundering instructions. This is even more important in the case of gloves and apparel that feature specific performance characteristics, such as anti-microbial or flame-resistant properties.

Protective clothing

Injury risk in the food processing sector is not limited to hands, so consider other types of protective clothing and apparel for workers as part of an extensive integrated safety program.

To ensure the intended life of hand protection solutions is realised, always follow the manufacturers laundering instructions.

A HELPING HAND

Given the extreme range of tasks and associated hazards, determining the optimum hand protection solution for the food and beverage processing sector can be difficult. The situation is complicated even further by the presence of multiple risks, so it's important to not only assess and identify all hazards, but also to acknowledge other contributing influences.

To facilitate the best possible outcome, consider utilising a program like Ansell's Guardian to determine the most appropriate hand protection choice. Guardian utilises best practice and comprehensive risk assessment, based on a customised analysis your specific workplace conditions, to deliver expert recommendations that guarantee the best defence against hand injury.

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