



RITZ SAFETY

# Learning Guide:

## Choosing the Right Gloves for Automotive Manufacturing and Aftermarket Environments



In the fast-paced world of automotive manufacturing and aftermarket services, hands are the most valuable tools. Whether assembling intricate vehicle components on production lines, performing maintenance and repairs in bustling workshops or handling high-temperature metal in metal stamping operations, workers face an array of hazards that demand specialized protection. Sharp metal edges, chemical exposure, impact risks and extreme heat are daily challenges that require gloves designed to provide the right balance of grip, durability and comfort.

Choosing the right gloves for specific automotive tasks is essential to ensuring worker safety and optimizing performance. Different roles, from assembly to metal stamping, present unique hazards, and gloves need to meet those specific demands for maximum protection and efficiency.



# Application #1: Assembly & Production Lines

Assembly line workers must maintain speed and precision while frequently handling small, sharp components and operating vibrating power tools. Prolonged tool use can lead to Hand-Arm Vibration Syndrome (HAVS), a debilitating condition that causes numbness and weakness. Additionally, exposure to sharp fasteners, clips, and panels increases the risk of cuts and punctures, while chemical adhesives and lubricants pose skin irritation and absorption risks.

## Key Hazards:

- Frequent use of power tools causes vibration injuries, leading to hand-arm vibration syndrome (HAVS) or other long-term musculoskeletal disorders.
- Handling sharp components like fasteners, clips, and panels increases the risk of cuts, punctures, and abrasions to the hands and fingers.
- Exposure to chemical adhesives, lubricants and solvents, can cause skin irritation, burns, or absorption of harmful substances through the skin, leading to health complications.

## Recommended Solutions:

- Anti-vibration gloves with ergonomic padding and vibration-dampening technology help reduce the risk of vibration-related injuries, minimizing discomfort and preventing long-term hand-arm vibration syndrome (HAVS).
- Nitrile-coated cut-resistant gloves designed to balance dexterity and protection, providing a high level of resistance to cuts and punctures while maintaining flexibility for fine motor tasks and ensuring safety without compromising mobility.
- Chemical-resistant gloves, made from materials like nitrile or neoprene, protect hands from skin irritation and prevent the absorption of harmful chemicals, ensuring safety when handling solvents, adhesives and lubricants.

# Application #2: Metal Stamping & Fabrication (Press Shops)

Metal stamping and fabrication environments present some of the most severe risks to workers' hands. Stamped metal edges are razor-sharp, making deep lacerations a common injury, while high-pressure presses introduce crushing hazards that can lead to severe trauma. Slippery, oily surfaces further exacerbate risks, increasing the chances of accidental slips and pinch-point injuries. Without proper hand protection, a momentary lapse in grip or awareness can result in long-term consequences.

## Key Hazards:

- Sharp edges from stamped metal create a significant risk of deep lacerations, cuts and abrasions to workers handling or processing metal components, which may lead to serious injuries requiring medical attention.
- High-pressure presses used in manufacturing processes pose a risk of crush injuries, especially when workers are in proximity to moving parts or improperly safeguarded equipment, which can result in fractures or severe soft tissue damage.
- Oily surfaces in work areas increase the likelihood of slips, falls and the risk of getting caught in pinch points, especially when handling heavy or sharp materials, leading to possible fractures, strains or crushing injuries.

## Recommended Solutions:

- Cut-resistant gloves designed with advanced materials such as high-performance fibers or steel mesh, to effectively protect hands from deep lacerations and cuts when handling sharp-edged materials like stamped metal.
- Impact-resistant gloves with reinforced padding in key areas like the palms and fingers, designed to absorb impact and mitigate the risk of crush injuries when operating or working near high-pressure presses, ensuring maximum protection against blunt force trauma.
- Grip-enhancing coatings on gloves to improve traction and handling of oily, slippery parts, reducing the risk of slippage and minimizing the potential for accidents in environments prone to oils, lubricants or other slippery substances.

# Application #3: Maintenance & Repair (Aftermarkets)

Mechanics and repair technicians work in dynamic, high-risk environments that expose them to extreme temperatures, hazardous fluids and sharp surfaces. Handling hot engine components can lead to severe burns, while greasy and oily parts make it difficult to maintain a secure grip, increasing accident risks. Additionally, exposure to brake fluids, oils and coolants can cause skin irritation and chemical burns. Selecting the right glove ensures that workers can safely handle tools, fluids and components while maintaining precision and comfort.

## Key Hazards:

- Handling hot engine parts, such as exhaust manifolds or engine blocks, leads to thermal burns from prolonged or direct contact with high-temperature surfaces, posing a risk of serious skin damage.
- Contact with oily and greasy components, including engine parts or mechanical tools, can cause loss of grip, increasing the risk of accidents, dropped tools or injury from handling slippery components.
- Risk of abrasions and cuts when working with sharp edges on engine parts, metal panels or tools, can result in minor to severe injuries, leading to pain, infection or time off work.
- Chemical exposure from brake fluids, oils and coolants, can irritate the skin, cause chemical burns, or result in the absorption of hazardous substances, posing long-term health risks.

## Recommended Solutions:

- Oil-resistant, high-dexterity gloves designed to provide excellent grip on oily or greasy components, ensuring better control and reducing the likelihood of slips, drops, and accidents, while allowing for the necessary dexterity to handle small parts or tools.
- Heat-resistant gloves, made from materials such as Kevlar or aluminized fabric, to offer protection against thermal burns when handling hot engine parts, ensuring safety from high temperatures commonly encountered in automotive and industrial settings.
- Chemical-resistant gloves, constructed from materials like nitrile or neoprene, designed to protect against exposure to hazardous fluids such as brake fluids, oils, and coolants, preventing skin absorption and chemical burns in environments with frequent chemical contact.

# Safeguarding Hands, Securing Productivity

The right gloves are a critical component of workplace safety in the automotive industry. Each role presents distinct hazards that require tailored protection, whether its anti-vibration gloves for assembly line workers, cut-resistant gloves for metal stampers or chemical-resistant gloves for repair technicians. By investing in high-quality task-specific hand protection, employers can significantly reduce workplace injuries, enhance overall productivity and ensure the well-being of their workforce.

A proactive approach to hand safety is not just a regulatory necessity, it's an operational advantage that drives efficiency and safety across all automotive manufacturing sectors.

