

# Why Grip Matters & How It's Measured



## The Importance of Grip FOR PPE GLOVES

**When it comes to workplace safety, grip is one of the most crucial factors in ensuring that workers can perform their tasks efficiently and safely. However, despite its significance, grip performance is not currently covered by a widely adopted, universally applicable standard for PPE gloves.**

Here, we'll explore why grip matters, why there is no global standard for grip performance, and how manufacturers are addressing the challenges around measuring and improving grip in PPE gloves and how you should go about specifying the grip properties for your environment.

### Ensuring Safety and Control

Hand grip is an essential factor in safety. Without it, workers face serious risks, including cuts, drops, and accidents. Whether a worker is handling sharp materials, using heavy equipment, or operating in wet or oily conditions, a secure grip ensures they can maintain control and reduce the risk of injury.

### Boosting Efficiency

A good grip allows workers to perform tasks with precision, speed, and confidence. Take the food processing industry, for example. Workers often operate in wet or slippery environments, handling tools or packaged products. The ability to maintain a firm grip on equipment and materials reduces the likelihood of errors and improves efficiency.

### Reducing Hand Fatigue

Grip also plays a critical role in comfort. If workers are constantly fighting to maintain control of their tools or equipment due to poor hand/glove grip, hand fatigue can set in quickly. Gloves that offer the right level of grip reduce strain on the hands, leading to greater comfort and productivity over longer shifts.

## The lack of A UNIVERSAL STANDARD

While PPE glove standards like EN 388 (mechanical risks) and EN 374 (chemical and microbiological protection) as well as the ANSI counterparts are widely recognised and help assess gloves for abrasion, cut resistance, and punctures, they do not measure grip performance. This is because grip is a subjective characteristic that varies significantly based on the task, surface, and individual worker.

## Focus on Protection OR GRIP?

Current standards primarily focus on a glove's protective capabilities, such as its resistance to mechanical risks (abrasion, cuts, tears) and chemicals. These standards provide important safety information but do not consider a glove's grip capabilities. Unfortunately, without a standardised test method for grip, it's very difficult to evaluate and accurately compare gloves' performance across different conditions and industries.

## The Subjectivity OF GRIP

Grip is highly subjective. Factors like the type of surface (wet, dry, oily), the material of the glove, and even individual characteristics like hand size, an individual's hand strength, and grip ability all influence grip performance. A glove that provides great grip in one scenario might not work well in another. For example, a glove that excels in wet conditions may not perform as well in oily environments.

This variability makes it difficult to create a universal testing method for grip. While researchers and manufacturers are working to develop standardised tests, the subjective nature of grip remains an impossible challenge.  
tions and industries.

## Lack of standardised TESTING

At present, there isn't a widely accepted global standard for grip testing. Unlike other aspects of glove performance, such as cut resistance or abrasion resistance, grip cannot be easily quantified using a single, universally applicable test. Manufacturers may use in-house tests to evaluate grip under specific conditions, but these tests are not standardised across the industry, meaning results can vary depending on the brand or the specific testing environment..

# Balancing Protection AND DEXTERITY

Manufacturers face a delicate balance when designing gloves: protection must be prioritised, but dexterity and grip cannot be overlooked. Some gloves designed for heavy-duty tasks may prioritise protection, using thicker, more rigid materials, which can reduce flexibility and grip. On the other hand, gloves designed for tasks requiring dexterity, such as medical or precision work, may compromise on protection to maintain a high level of grip and flexibility.

**The ideal glove design depends on the industry and the specific task at hand, as well as the environmental conditions in which the glove will be used.**

## How Grip IS MEASURED AND TESTED

Since there is no universally accepted test for grip, manufacturers often rely on a mix of customised tests and real-world evaluations. Here are a few ways that grip is commonly assessed:

**Real-World Testing:** Manufacturers may simulate various working conditions, including wet, dry, and oily environments, to test how a glove performs. This testing helps determine how well a glove grips under typical workplace conditions.

**Coefficient of Friction:** This is a measure of how much friction is generated between the glove and an object (such as a tool or surface). The higher the coefficient of friction, the better the grip. This measurement can be tested using a variety of materials, such as smooth, textured, or greasy surfaces.

**Industry-Specific Evaluations:** Some industries have their own internal tests to evaluate grip based on specific needs. For instance, the construction industry may focus on grip in dry and oily environments, while the medical industry may test gloves for grip in sterile, wet environments.





## The Importance of FIT AND MATERIAL

The material used in the glove's construction and the fit of the glove are also critical to grip performance. For example, gloves made from latex, nitrile, or rubber tend to offer good grip properties, but the material must be carefully chosen for the specific task. Latex gloves, for instance, offer a high level of grip but may not be suitable for those with latex allergies.

A good fit is equally important. If a glove is too loose or too tight, it can interfere with a worker's ability to maintain a secure grip. Gloves that fit well allow workers to retain maximum dexterity and precision while handling tools, reducing the risk of accidents.

## INDUSTRY SPECIFIC Grip Needs

Grip requirements vary across industries. For example:

**Construction Workers:** These workers need gloves with exceptional grip for handling heavy tools and materials, often in wet or oily conditions.

**Healthcare Professionals:** Medical workers need gloves that offer both dexterity and grip for handling delicate instruments or performing surgical procedures.

**Food Processing:** Workers in this industry need gloves that maintain grip even in wet conditions, preventing tools from slipping and maintaining control over potentially hazardous materials.

Each industry has its own unique requirements for grip, so choosing the right gloves depends on a careful analysis of both the work environment and the tasks being performed.



# Ongoing research AND DEVELOPMENT

As the importance of grip continues to be recognised, some manufacturers are conducting research and development to improve grip performance and develop standardised grip testing methods. Ongoing innovation in glove design, material science, and testing procedures will likely lead to more advanced and reliable grip evaluations in the future.

## User Selection AND PERSONAL CHOICE

Ultimately, the selection of the right PPE glove for a specific task involves a balance between protection, grip, and comfort. When choosing gloves, workers should consider the nature of the tasks they will be performing, the environmental conditions they will be working in, and their personal needs (such as fit and dexterity). With proper selection, workers can enjoy both safety and comfort, improving their overall performance and reducing the risk of injury.

While the lack of a standardised global certification for grip remains a challenge, it's clear that grip is one of the most important aspects of PPE glove performance. By considering the specific task requirements, environmental factors, and fit of gloves, workers can choose the right gloves for the job. Manufacturers are continuing to improve grip technologies, and with ongoing research, we can expect to see more standardised methods for testing grip in the future.



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