



DISPOSABLE GLOVES: ARE YOU SURE?

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Not all disposable gloves are made the same – or to the same performance standard. Though at first glance the price of a pair of disposable gloves doesn't seem impactful, the fact is that making quality disposable gloves is inherently expensive because they are wasteful, limited in use and cannot be easily re-donned once taken off.

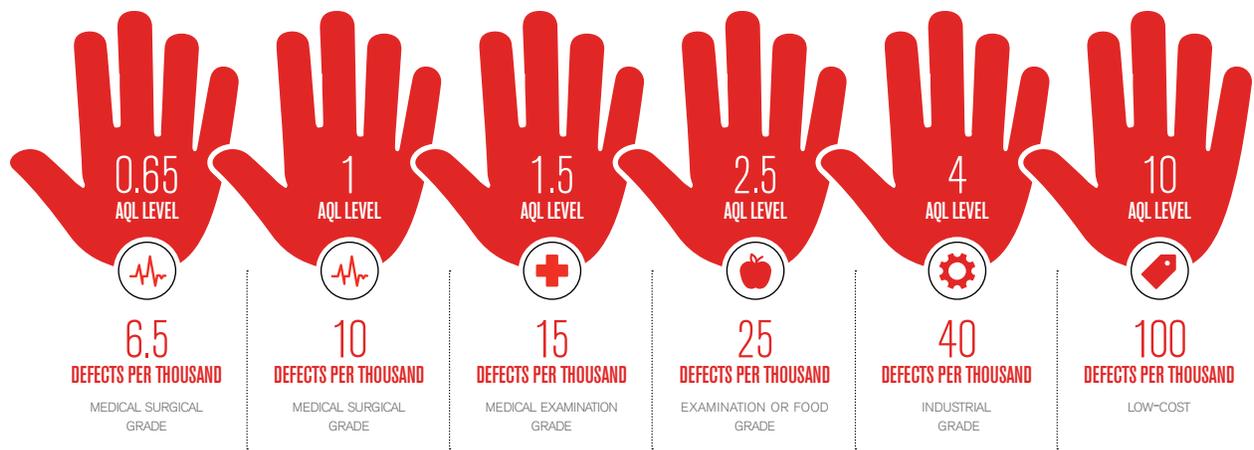
MEDICAL PERFORMANCE

When dealing with bacteria and even smaller viruses, medical and frontline professionals need the highest level of barrier protection. For this reason, the EN 455 Standard clearly outlines performance specifications for Medical Examination gloves. This includes sampling, control level and AQL, physical properties, dimensions, glove resistance, labeling and shelf life.



WHAT IS AQL?

AQL stands for “Acceptable Quality Level” and refers to an internationally used quality standard for measuring the percentage of defect in various mass-produced items. For disposable gloves, a batch of gloves is randomly selected to be tested. Simply put, the representative lot is filled with 1000 ml (1 liter) of water and hung upside down for two minutes checking for leaks (pinholes).



Let's begin with what is globally recognized as the highest level of protection:

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Medical Surgical Grade Gloves – which meet rated AQLs of 0.65 (natural rubber latex) or 1.0 (non-latex). Aside from surgical applications, these gloves are often specified for areas such as chemotherapy clinics and microbiology labs.
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 European Standard EN455 states that **Medical Examination Gloves** shall meet an AQL score of 1.5. These are most commonly used in medical clinics and even hospitals. While Medical Surgical grade gloves would provide more protection, Medical Examination grade gloves have been found to be more suitable for general clinical, emergency, first aid and frontline use.
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 Some industries will accept disposable gloves with an AQL of up to 2.5 – also referred to as **Examination or Food Grade Gloves**. These are typically between 4 to 5 mil in thickness and preferred by the Food Industry as barrier gloves when there is direct food contact. Of course, that assumes that they are made of materials that meet the 21-CFR standards.
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 Gloves with an AQL of up to 4 are typically referred to as **Industrial Grade gloves** and will have a mil thickness of 4 to 5 on average. They are named "Industrial" because they are not recommended for use in any medical or food applications. In industrial plants, disposables are sometimes used as temporary gloves when coming into contact with unavoidable greases, oils, paints or other contaminants.
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Low-cost disposable gloves sold over the internet or by random importers can have AQL levels of up to 10. They are typically 2.5 to 3 mil, use lower grade materials and have very limited use or resistance in any environment.



IS AQL IMPORTANT?

Consider this: Human skin is a rich environment for microbes that can harbor anywhere from two million to ten million microorganisms. It is also true that surfaces harbor microorganisms. These microorganisms can become resident colonizers on hands and by way of glove holes or punctures, they can also be a bridge of microbial contamination that can flow to-and-from contact surfaces or even the food that we ingest. Altogether, we can see how AQL is very critical in providing a trusted contact barrier in medical and food applications – especially in an environment with fluids present.



However, attempting to replicate a medical barrier to the hands in an all-day industrial or construction setting is next to impossible when handling heavy parts, sharp items or tools. Changeouts would have to be perpetual and protection could never be guaranteed – especially when we consider that up to ninety percent of glove punctures are not even noticed. In this current pandemic crisis, Medical Exam grade disposable gloves are approaching \$12 per box of 100 or 50 pairs. And they are expected to reach \$18 per box by end of 2020. In an Industrial setting, it can represent a total average cost of \$4.80 to up to \$7.20 per employee per week if we assume just four changeouts per day. Even low-grade disposables that can be found on the internet for less would likely cost even more because changeout due to tearing would be double.



SO HOW DO WE PROTECT INDUSTRIAL AND CONSTRUCTION WORKERS?

Start with the obvious: Workers need gloves that protect them from occupational hazards and that starts with maximum grip. The risk for cuts or abrasions is mitigated when items or tools are held with a secure grip, allowing workers to apply less force when moving or carrying items. Cut resistant gloves help protect the skin from contact with sharp objects while their coating prevents direct contact with shared surfaces and items. When coated work gloves are used with a proper hand hygiene program – as outlined by the CDC – the spread of germs can be mitigated in work environments.

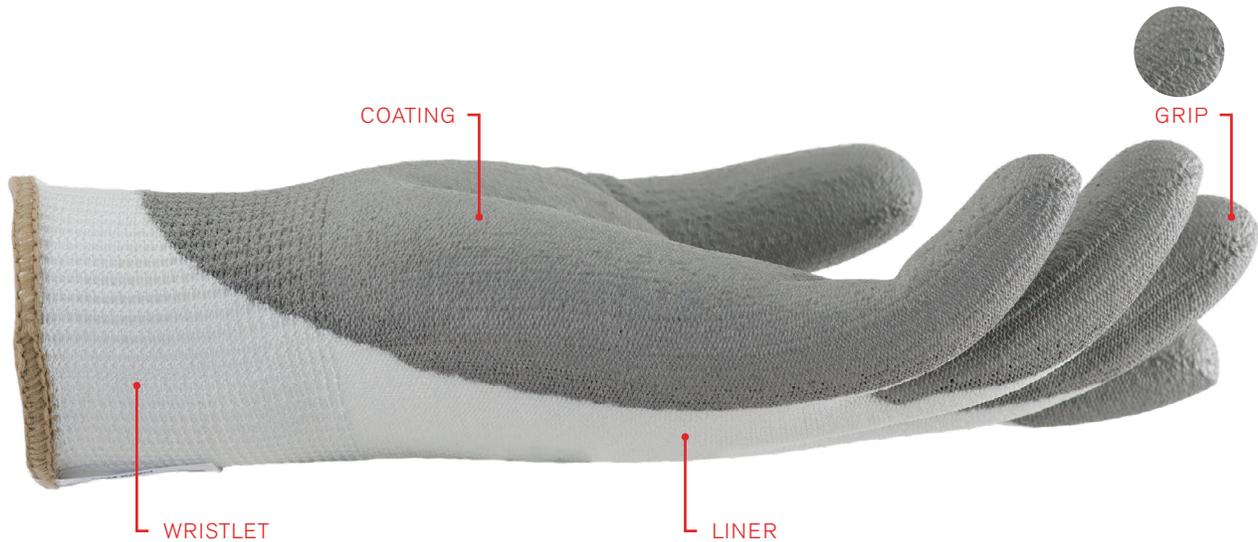


CAN DISPOSABLE GLOVES BE USED AS AN EXTRA BARRIER UNDER WORK GLOVES?

In some circumstances – specifically with looser, larger leather or fabric gloves, one can put disposables underneath. However, how comfortable will hands be after soaking in sweat all day? How hygienic can hands remain in a non-breathable barrier environment all day? Prolonged use of disposable gloves can lead to serious skin irritation, cuts and even contact dermatitis, which is one of the most commonly reported occupational diseases.

OSHA calculates that a single case of contact dermatitis can cost more than \$11,000 in employer-paid expenses.

Disposable gloves are not designed for all-day work in industrial or construction environments. While they do serve a purpose when temporarily handling contaminants, paints or greases, they offer no mechanical protection.



ARE COATED REUSABLE GLOVES AN ALTERNATIVE?

Coated seamless knit gloves are effective in protecting against many occupational hazards and the coating does help prevent direct contact with shared surfaces. However, again we stress that proper hand hygiene is the leading recommendation of the CDC in helping mitigate the spread of germs in the workplace.

Providing workers with the proper PPE to do their job effectively and securely is the key. In two recent case studies, both companies were able to quickly see the advantages of using reusable coated seamless knit gloves over their initial request for large volumes of disposable gloves. It was quickly proven that switching to reusable coated gloves offered mechanical protection, better comfort and productivity as well as elevated worker confidence when used with a proper hand hygiene program. View the case studies comparing disposable gloves to the [PIP® 33-115](#) and the [MaxiFlex® Ultimate™ 34-874](#).