Working safely during Ebola risks:

how to choose the right disposable coverall
for high-risk environments



Whitepaper

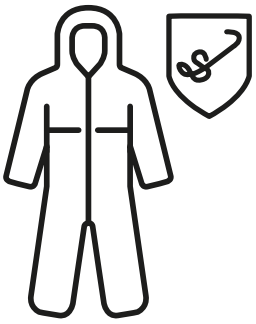
Working safely during Ebola risks



Recent Ebola outbreaks and increased attention from global health organisations such as the World Health Organization (WHO) have highlighted the importance of effective personal protective equipment (PPE) in high-risk biological environments. Ebola is a severe viral disease that spreads through direct contact with infected bodily fluids. In outbreak response situations, healthcare settings and decontamination work, PPE is essential to reduce the risk of exposure.

While respiratory protection is critical in airborne environments, disposable protective clothing plays an equally important role in Ebola PPE systems. Coveralls act as a physical barrier against contaminated fluids, surfaces and materials. Within professional PPE portfolios such as those from RSG Safety disposable coveralls, these garments are designed to be integrated into complete protection systems.

However, not all disposable coveralls provide the same level of protection. Selection depends on exposure risk, working conditions and relevant performance standards such as EN 14126.



The role of disposable coveralls in Ebola protection

Disposable coveralls are designed to protect the body from contamination in environments where exposure to infectious agents may occur. In Ebola-related situations, this includes contact with blood, bodily fluids, contaminated surfaces and droplets generated during treatment or decontamination activities.

It is important to understand that coveralls are never used in isolation. They are part of a complete PPE system that typically includes respiratory protection, gloves, eye protection and protective footwear. The effectiveness of the overall system depends on how well these components work together. A weak point in one element can reduce the total level of protection.

What EN 14126 means for biological protection

One of the key standards for protective clothing in biological hazard environments is EN 14126. This standard indicates that the material had been tested for resistance to infective agents and contaminated liquids. It evaluates performance against risks such as synthetic blood, penetration, viral penetration under pressure, bacterial wet penetration and contaminated aerosols.

EN 14126 provides an important benchmark for Ebola protective clothing, but it does not guarantee full protection in every situation. It must always be interpreted within a broader risk assessment that considers exposure level, task type and duration of use.



Choosing disposable coveralls based on risk level

Not every Ebola-related task carries the same exposure risk. Protective clothing should therefore always be selected based on the specific working environment.

In high-risk clinical settings such as treatment units or laboratories, workers may be in direct contact with infected patients or materials. Here, the risk of exposure to bodily fluids is high and unpredictable. Disposable coveralls must provide strong barrier protection and are typically used together with full PPE systems.

Decontamination teams and waste handlers face prolonged exposure to contaminated environments and materials. Their risk comes from both direct contact and extended working time in high-risk zones. In these cases, protective clothing must balance high protection levels with durability and usability under physical demanding conditions.

Support staff such as logistics or transport workers generally operate in lower-risk environments. However, their exposure risk can increase depending on the situation. For these roles, lighter protective clothing may be sufficient if it aligns with the risk assessment and is used correctly.

Comfort and wearability in high-risk PPE

Protection level is essential, but comfort plays a critical role in real-world safety. Disposable coveralls are often worn for long periods in demanding conditions. If PPE is too hot, restrictive or uncomfortable, users may unintentionally compromise safety by adjusting or removing it during work.

Heat stress, fatigue and reduced mobility can therefore affect compliance and overall protection effectiveness. In practice, the most protective garment is not always the most effective if it is not word correctly.

PPE must match the real risk

A key principle in PPE selection is that protective equipment should always match the actual exposure risk, not the perceived danger.

Over-specifying PPE can reduce usability and compliance, while under-specifying increases exposure risk. A structured risk assessment is therefore essential to ensure the right balance between protection, comfort and practicality.



Conclusion

Ebola and other high-risk biological hazards require a structured approach to PPE selection. Disposable coveralls play a key role in protecting workers from contaminated fluids and environments, but their effectiveness depends on correct selection and proper use.

Standards such as EN 14126 provide valuable guidance on material performance, but real-world protection depends on aligning PPE with the specific task, exposure conditions and working environment.
By combining risk-based selection with properly integrated PPE systems, organisations can ensure that workers are protected not only in theory, but in real working conditions.