

EBOLA VIRUS

Lakeland Guide to Garment Selection



This guide is for healthcare workers to help choose specific garments for Ebola protection.

The risk to healthcare workers is high, the dependence on protective clothing primary, the probability of identifying product failure low, and the consequences of the failure grave. This combination of factors strongly indicates the need for increased safety margins in the garments selected. Standards and test methods exist to aid in the selection process of protective garments. Existing CE certification standards and ASTM test methods deal with the requirements extensively and provide a standard to the types and construction of garments required. Lakeland Fire + Safety presents this guide to help understand the protection that each standard offers, as well as inform users on fabric types, garment construction, and seams to **protect your people**.

Risk Assessment for Healthcare Workers

- The virus is transmitted via contact with bodily fluids, such as blood, vomit, and urine. While it is not classed as an airborne virus, it can be transmitted in airborne aerosols of body fluids such as coughs or sneezes, and patient contact is necessary throughout treatment. Worker training and the use of proper Personal Protective Equipment (PPE) are the primary protective mechanisms.
- The work environment can be hot and humid, and healthcare workers often wear their PPE for extended periods of time. As a consequence, heavy perspiration can occur inside of the garment, making detection of inward leakage of contaminated fluids challenging.
- Once contracted, the virus has been known to take anywhere from 2-21 days to incubate. An impacted individual may delay in showing symptoms, resulting in additional exposure before the infection is recognized.
- The mortality rate from the last Ebola outbreak from 2014-2016 was 50-55%.



Lakeland's Minimum Specifications for Protective Garments in Relation to Ebola-Response

The garment should have a primary fabric that has either:

- Been certified to EN 14126 and attained at least a Class 5 rating when tested per ISO 16604:2004 (included in EN 14126),

OR

- Has been tested against and passed ASTM F1671

The coveralls must be made of fabric compliant from one of the two options above, and:

- Seams sealed to be impervious to liquids,
- A storm flap that can be taped or sealed shut over the zipper,
- A hood with elastic around the opening,
- Elastic around the wrists and ankles

OR

- Have been tested according to EN 14605:2005 and met the requirements for Type 4 Certification (Protective Clothing Against Sprays and Splashes of Hazardous Liquids)

Follow this series to learn more about **Garment Fabric**, **Construction**, and **Seam Integrity**

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