

APPENDIX: LAUNDRY REQUIREMENTS

Part Numbers: VTEPCVRL, VTEPHOOD and VTEPBTCV

Cleanroom Coverall, Hood and Boot washing and drying requirements per **IEST-RP-CC003.4, section 6.1.10** (Laundering Procedures).

Washing Requirements:*

- **Water Quality:** Use deionized (DI) water with a resistivity of at least 18 megaohms (MΩ) to prevent contamination and ensure thorough cleaning. Water should be filtrated to at least 0.2-microm (μm).
- **Detergent:** Use a mild, non-ionic, low-suds, and non-residue foaming detergent to avoid leaving residues that could interfere with the cleanroom environment. Improper detergent may lead to contamination and fabric degradation.
- **Load Capacity:** Do not exceed 80% of the washing machine's load capacity. Overloading can lead to inadequate cleaning and increased wear on the garments. Washing at a capacity of 30% to 50% reduces physical stress on the fabric and extends its lifespan.
- **Washing Temperature:** Maintain water temperature between 30°C and 60°C (90°F to 140°F). This range effectively removes contaminants while protecting the integrity of the garment fabric.
- **Washing Cycle Duration:** Ensure that each wash cycle includes sufficient rinsing stages to remove all traces of detergent and contaminants. The exact duration may vary based on garment type and contamination level, but a typical wash cycle should last at least 20 minutes and include multiple rinsing stages.

*all garments require initial laundry before first use

Drying Requirements:

- **Drying Temperature:** Dry garments at a temperature below 60°C (140°F) to prevent fabric damage and maintain the integrity of ESD properties. A heat control module must be used to ensure temperatures do not exceed this limit. Depending on the heat source (steam, gas, or electric), effective heat control is essential to avoid premature fabric degradation.
- **Drying Method:** Use a cleanroom-compatible dryer to prevent the reintroduction of contaminants during the drying process. The dryer should be equipped with HEPA filters to capture particles effectively.
- **Drying Duration:** The drying duration should be adequate to remove all moisture from the garments without overheating. This will vary based on the fabric type, thickness, and load size. After tumble drying at a moderate temperature, the cycle should gradually cool to prevent fabric shock.

General Requirements:

- **Inspection:** After washing and drying, inspect garments for signs of damage, wear, or residual contamination. Packaging should occur in a controlled environment that meets cleanroom facility requirements.
- **Documentation:** Maintain detailed records of the washing and drying cycles, including parameters such as water quality, detergent type, temperature settings, and duration. This ensures traceability and compliance with the necessary cleanroom class standards.

By adhering to these requirements, cleanroom operators can ensure that garments effectively control contamination, ESD, and protect cleanroom environments for up to 100 wash cycles. Failure to follow these guidelines may result in premature material degradation and a significantly reduced lifecycle.



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