

## Garment Audit Test Procedure

Using PROSTAT PGC-821 Garment Clips

### Overview

Generally, Garment evaluation and qualification testing is conducted under controlled conditions in accordance with ESD Association Standard Test Method **ESD STM2.1-1997 Garments**. While PROSTAT's PGC-821 Garment Clips are designed for evaluation and qualification testing in accordance with ESD STM2.1 (5.1.2 Clamps/Electrodes - Sleeve to Sleeve), they are also particularly useful for Garment Audit measurements in plant, laundry or in various field configurations.

There are several practical ways to perform Garment Audit resistance measurements:

1. Sleeve to sleeve with garment hanging from plastic (insulated) hanger to confirm electrical continuity across garment panels and sleeve components
2. Sleeve to sleeve, or sleeve to hem while being worn to confirm basic function while in field use
3. Sleeve or Hem to Ground while being worn to confirm groundability

The following recommends general procedures for using the PROSTAT PGC-821 Garment Clips in practical Audit applications. For detailed evaluation procedures please refer to ESD STM2.1-1997.

### Sleeve to Sleeve Audit Measurements

Option A: To conduct this measurement, hang the garment under test on a plastic insulated hanger.



1. Attach one PGC-821 Clip to each sleeve
2. Connect test leads via male banana plugs to the standard banana receptacle installed in each clip.
3. Connect each test lead to your resistance instrument
4. Confirm that sleeves and clips do not make contact with the garment's panels or other objects in the immediate vicinity.
5. Initiate the resistance measurement.

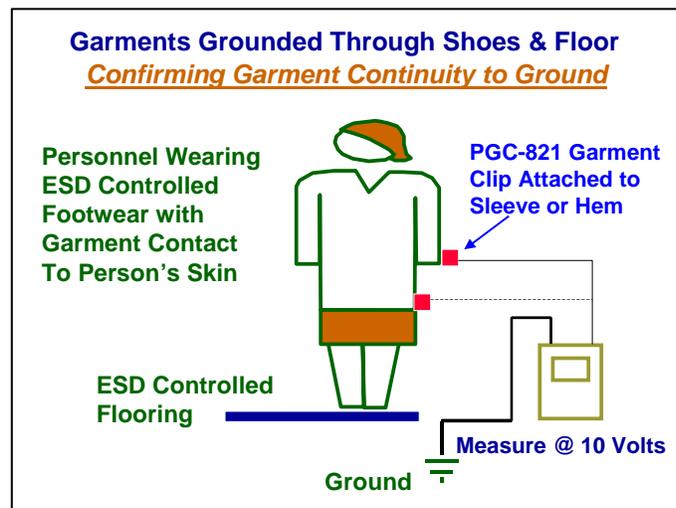
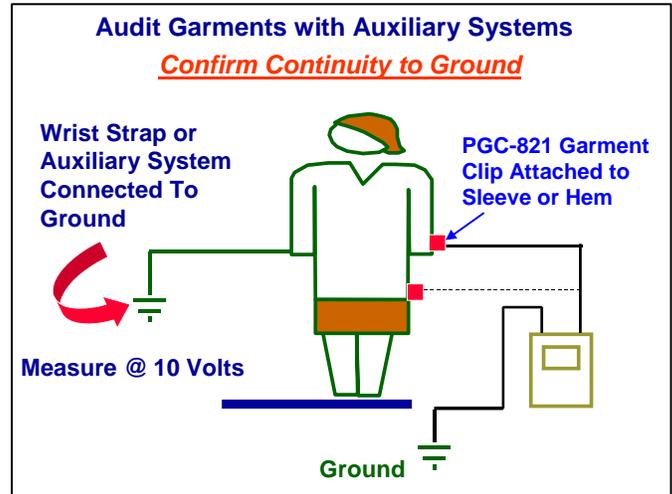
Note that *evaluation* measurements per STM 2.1 are made at 100 volts. Audit measurements may be made at 10 volts, or less depending on the measurement instrument. In cases where the garment exceeds upper resistance limits, retest the garment at 100 volts.

Option B: Mount the PGC-821 Garment Clips to a hanging assembly using “S” hooks installed through the clips’ insulated grommet, and perform Steps 1 – 5, above.

### Garment Resistance to Ground Measurements

All garments should be groundable in some manner. Today’s technology offers several ways to effectively ground garments:

1. Connection from the garment to the operator’s grounded wrist strap using a compatible snap assembly
2. An auxiliary grounding system installed by the garment manufacturer for grounding both the operator and the garment.
3. Garment contact to the operator’s skin with continuity through the operator’s controlled footwear and across the ESD controlled floor to ground.



Measuring garment continuity to ground using the PGC-821 Garment Clips is quite easy.

1. Confirm the operator is properly wearing the garment, and the grounding method is in place.
2. Attach **one** PGC-821 Garment Clip to either a garment sleeve, or to its hem.
3. Connect the resistance instrument’s positive (+) lead to the PGC-821 Clip.
4. Connect the instrument’s negative (-) sensing lead to a previously tested ESD Common Point Ground.

5. Initiate the resistance measurement following the instrument manufacturer’s instructions for measurements at 10 volts, or less.

Should a garment indicate an unacceptably high resistance, remove the garment from the operator and retest it using sleeve-to-sleeve measurement procedures at 100 volts as described above.

REF: Garment Test Instructions Rev: 8-01