

HEAVY DUTY POLY COTTON ESD SMOCKS Testing and Maintenance



Figure 1. ESD Systems Heavy Duty Poly Cotton ESD Smocks

Description

ESD Systems Heavy Duty Poly Cotton ESD Smocks is a Groundable Static Control Garment with RTG <1 x10E9 ohms meeting the required limits of ANSI/ESD S20.20 when tested per ANSI/ESD STM2.1 or ESD TR53.

“Garments are intended to attenuate electrostatic fields that may be present on personnel clothing. ... While a person may be grounded using a wrist strap or other grounding methods, that does not mean that insulative clothing fabrics can dissipate a charge to that person’s skin and then to ground. Personnel clothing usually is electrically separate or isolated from the body.” (ESD TR20.20-2008 section 5.3.13.1)

Outfitting a work force in Heavy Duty Poly Cotton ESD Smocks is the single most powerful step to demonstrate a company’s commitment to their ESD control program.

Garments can also be very important in field work, as the area may be an uncontrolled environment which can be very dry.

ESD Systems Heavy Duty Poly Cotton ESD Smocks are designed to be antistatic, low tribocharging and offer protection to ESD sensitive items from electrostatic fields generated by clothing on the user’s body.

The Heavy Duty Poly Cotton ESD Smocks create a Faraday Cage around the torso of the wearer that shield ESD susceptible items from static charges generated on the wearers’ clothing.

The Heavy Duty Poly Cotton ESD Smocks are constructed of a medium weight poly/cotton blend with a minimum of 1% conductive fiber providing continuous and consistent charge dissipation. All of the seams in the garment are designed to maintain electrical continuity from panel to panel and from sleeve to sleeve in accordance with the ESD Association Garment Standard, ANSI/ESD STM2.1.

Heavy Duty Poly Cotton ESD Smocks are available in the following sizes:

Item#	Size	Chest	Sleeve
16620	Small	34”-36”	34”
16621	Medium	38”-40”	34-3/8”
16622	Large	42”-44”	35”
16623	X Large	46”-48”	35 1/2”
16624	2X Large	50”-52”	35 1/2”

Instructions for use

Follow these directions for proper installation and grounding of the Heavy Duty Poly Cotton ESD Smocks:

Put on the garment, fastening all the press studs on the front of the smock; ensure no clothing is exposed outside of the smock. Note: EN 61340-5-1 paragraph 5.2.5 Garments “Coats, jackets, smocks and overalls shall completely cover all clothing in the area of the arms and torso.

4mm snap socket on inside of a sleeve is to be attached to a wristband stud snap. The wristband is to be worn snugly on the wrist. If the person is grounded via a wrist strap or flooring/footwear system, then the garment will also be attached to ground.

“Garments that become worn or damaged should be repaired or replaced by a qualified source to ensure the electrical integrity of the seams. Once the repair is made, the periodic test...should be conducted to validate the repair.” (ESD TR20.20-2008 section 5.3.13.4.1 Repairs)

“For personnel safety, static control garments should not be worn in situations where there is exposure to high voltage. Regular laundering of static control garments according to the manufacturer’s recommendation is suggested to make sure conductive fibers do not become contaminated and rendered insulative. After laundering, thorough rinsing of the garment will help eliminate the possible buildup of chemicals on the conductive fibers, which can cause them to become insulative. Drying garments at high temperatures may degrade conductive fibers in fabrics used to manufacture garments.” (ESD TR20.20-2008 section 5.3.13.6 Other Considerations)

Specifications

Fabric Weight

5 ounces/sq yard

Fabric Content

Texturized polyester (80%), cotton (19%) and a minimum of 1% conductive fibers.

Surface Resistance of Fabric

RTG <1 x 10E9 ohms per ANSI/ESD STM2.1

Static Decay Rate

5000 volts to 500 volts in less than 0.1 seconds, per FTMS-101C

Compliance Verification Testing

Panel to panel conductivity is essential and easy to test using our Surface Resistance Test Kit Item #[41290](#), by placing 5 pound electrodes on different panels. For additional information, refer to ANSI/ESD S20.20, ESD TR20.20, the ESD Association Garment Standard, ANSI/ESD STM2.1, and Compliance Verification ESD TR53.

Maintenance

For proper operation, ESD garments must be laundered periodically. Woolite works well. Liquid detergents are better than dry in that there is less caking and frictional wear. Launder garment in cool or warm water, tumble dry with low heat or hang dry. In terms of laundering the smocks by hand or with a washing machine, most prefer using a washing machine. This works well if using a standard house machine on gentle cycle. Industrial machines are fine if "Pony" (typically under 200 pound loads) machines are used. It is not recommended to launder these garments in heavy industrial laundry machines as it will lead to premature wear. Garments should be tumbled dry using low heat. DO NOT BLEACH.

The conductive fibers are sensitive to heat and should not be exposed to laundering heat in excess of 120°F. Use only non-ionic softeners and detergents when laundering. Under normal wearing and recommended washing conditions, Our Heavy Duty Poly Cotton ESD Smocks will maintain their usefulness and effectiveness for a minimum of 50 washings.

Limited Warranty

ESD Systems.com expressly warrants that for a period of one (1) year from the date of purchase, our Heavy Duty Poly Cotton ESD Smocks will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a unit will be tested, repaired or replaced at our option, free of charge. Call Customer Service at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Any unit under warranty should be shipped prepaid to the ESD Systems.com factory. Warranty repairs will take approximately two weeks.

If your unit is out of warranty, ESD Systems.com will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. Ship you unit freight prepaid.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability

In no event will ESD Systems.com or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.