

## TEST REPORT

EN 1149-5 : 2018

### Protective Clothing Electrostatic properties Material performance and design requirements

**Client:** ESTILO MODA TEKSTİL TARIM HAYVANCILIK İNŞAAT İÇ  
DİŞ TİC. VE SAN. LTD. ŞTİ.

**Address:** Gazi Osman Paşa Mah. Kolej Sok. No:2/A  
Turhal/TOKAT/TÜRKİYE

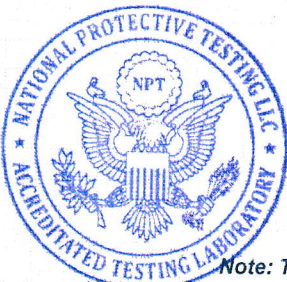
**Sample:** ES6124 Model (White coverall with hood, frontal zipper  
covered by flap and adhesive tape in full length, elasticated cuff,  
hood, ankle, Fabric: 100% PP laminated with PE in size S, M, L,  
XL, XXL, XXL


**Sample received on:** April 20, 2020

**Report Number:** NPT/20042012659/5

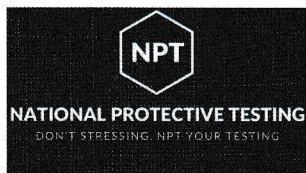
**Elaborated by:** Ashley Madison

**Place and date of issue:** Sheridan, WY May 05, 2020



  
Dr. Joseph Andrew, Ph.D.  
Head of Testing Laboratory

*Note: The results given in this Test Report apply only to the sample tested by our laboratory!  
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# NATIONAL PROTECTIVE TESTING LLC



**Test Standard:** EN 1149-5:2018 / EN 1149-1:2006  
**Name of tests:** Electric Surface Resistance  
**Sample condition:** Min. 24hr, temperature of  $(23 \pm 1) ^\circ\text{C}$  and a relative humidity of air of  $(25 \pm 5) \%$ .  
**Test equipment:** Ohmmeter  
**Test condition:**  $(23 \pm 1) ^\circ\text{C}$  ,  $(25 \pm 5) \%RH$   
**Electrodes:** Type A  
**Voltage:**  $(100 \pm 5) \text{ V}$

**Test procedure:**

The sample is placed on an insulating base plate, then placed the group of electrodes on the sample, apply a continuous stream and measure the resistance of the sample  
Requirements: the surface resistivity must be less than  $5 \times 10^{10} \Omega$   
The inhomogeneous material must have a conductive yarn net and the maximum distance between the conductive threads must be of 10 mm.

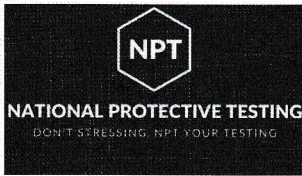
**Test results:**

The test results obtained are given in the tables as follows

Electric Surface Resistance		
No. of sample	Surface Resistance (Ohm)	Surface Resistivity (Ohm)
1.sample	$< 5 \times 10^4$	$< 1 \times 10^6$
2.sample	$< 5 \times 10^4$	$< 1 \times 10^6$
3.sample	$< 5 \times 10^4$	$< 1 \times 10^6$
4.sample	$< 5 \times 10^4$	$< 1 \times 10^6$
5.sample	$< 5 \times 10^4$	$< 1 \times 10^6$
Average	$< 5 \times 10^4$	$< 1 \times 10^6$

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# NATIONAL PROTECTIVE TESTING LLC



**Test Standard:** EN 1149-3:2004 Met.2 / EN 1149-5:2018  
**Name of tests:** Charge Decay  
**Sample condition:** Min. 24hr, temperature of  $(23 \pm 1) ^\circ\text{C}$  and a relative humidity of air of  $(25 \pm 5) \%$ .  
**Test equipment:** Electric Charge Meter  
**Test condition:**  $(23 \pm 1) ^\circ\text{C}$  ,  $(25 \pm 5) \%RH$

**Test procedure:**

The test methods are applicable to all materials, including homogeneous materials and heterogeneous forms of fiber materials with conducting surface and / or conductive fibers with conductive fiber core.

Charging by induction: The burden of the test sample is performed by inductive effect. Immediately below the test sample, which remains horizontal and no contact with it, an electrode is placed in the field. The field electrode is subjected to high voltage abruptly. If the sample is conductive or contain conductive elements is induced on it a charge opposite to the field electrode.

Electrode field incident on the conductive elements does not cross the sample and the resulting field is reduced in a manner that is characteristic of the material tested. This effect is measured and recorded by behind of the sample with a probe of appropriate action. The resulting field measured by the probe-mediated decreases the load induced on the sample size increases. This reduction of field is used to determine the time of semi-dissipation and protection coefficient.

**Test results:**

The test results obtained are given in the tables as follows

EN 1149-3:2004 Charge Decay					
Sample	Results			Requirements	
Tested Sample	Shielding factor (S)			Average	Shielding factor $\geq 0,2$ and/or
	0,22	0,18	0,29	0,230	
	Half decay time t50			Average	Half decay time $\leq 4s$
	1,75	1,86	1,73	1,780	

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**Test Standard:** EN 1149-5:2018, clause 5  
**Name of tests:** Control of specific design requirements  
**Size** L

**Test results:**  
The test results obtained are given in the tables as follows

Requirement	Result
Electrostatic dissipative protective clothing shall be able to permanently cover all non-complying materials during normal use (inclusive bending and movements)	Pass
Electrostatic dissipative protective clothing shall allow full body movement with closures fastened	Pass
Thin non-dissipative attachments, such as labels, reflective stripes, shall be permanently attached	Pass
Conductive parts (zippers, buttons etc.) are permitted provided they are fully covered by the outermost material when in use	Pass

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