

ESD association technical report

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***for the Protection of
Electrostatic Discharge
Susceptible Items –***

ESD Glove and Finger Cots

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ESD Association Standard Technical Report for the Protection of Electrostatic Discharge Susceptible Items-ESD Glove and Finger Cots

1.0 Purpose

The purpose of this technical report is to review the existing known industry test methods for the qualification of ESD Protective Gloves and Finger Cots. The results of this study would be used to determine if ESD Association Standard Test Methods for ESD Protective Gloves and Finger Cots are necessary.

2.0 Scope

This technical report will include responses from industry on all known glove and finger cot test methods. These would include glove and finger cot resistance tests and charge accumulation testing. This document will give references to all known available ESD test methods. This review will not include data in connection with ordinance, flammables, explosive items or electrically initiated explosive devices.

Although glove and finger cot cleanliness is a crucial issue, it is not within the scope of this document to cover this area.

3.0 Introduction

Electrostatic discharge (ESD) protective gloves and finger cots are made of various materials. These materials may include textiles, such as cotton, with metallic fibers woven into the fabric, Nylon®, pink poly and many other types of synthetics such as vinyl and nitrile. They are used in many applications for the handling of ESD sensitive items where contamination is an important issue.

The oils and materials residing on human hands and fingers are very corrosive. You may have noticed that a partial fingerprint on a copper penny can last for many years. Often the acidic nature of residues on fingers will actually etch materials leaving signatures that are almost impossible to remove by normal cleaning procedures such as degreasing. Industry has recognized this problem and taken steps to protect contamination sensitive products from being adulterated by human hands and fingers. In many cases the materials chosen for gloves perform well in preventing contamination, but unfortunately are very good accumulators of static charge and maybe also very good static charge generators.

There is a need to have standardized ESD testing for gloves that industry can use to qualify glove and finger cots for their particular applications. In the following sections existing tests will be tabulated and reviewed.