

---

## TABLE OF CONTENTS

<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 FUNCTIONS OF STATIC PROTECTIVE FLOOR MATERIALS .....	1
1.2 RELATIONSHIP BETWEEN FLOORS AND FOOTWEAR.....	2
1.3 BENEFITS OF FLOOR MATERIALS .....	2
1.4 LIMITATIONS OF FLOOR MATERIALS .....	2
1.5 APPLICATIONS FOR FLOOR MATERIALS .....	3
1.6 TYPES OF FLOOR MATERIALS .....	3
1.6.1 Permanent Floor Materials.....	3
1.6.2 Tile and Sheet (Rubber and Vinyl).....	3
1.6.3 Epoxy and Polymeric Overlays.....	3
1.6.4 High-Pressure Laminates .....	3
1.6.5 Carpeting.....	4
1.6.6 Semi-Permanent or Non-Permanent Materials.....	4
1.6.7 Floor Mats .....	4
1.6.8 Floor Finishes.....	4
1.6.9 Topical Antistats.....	4
1.6.10 Paints and Coatings.....	4
1.6.11 Raised Access Panels .....	4
<b>2.0 CONSIDERATIONS .....</b>	<b>7</b>
2.1 INSTALLATION AND MAINTENANCE CONSIDERATIONS .....	7
2.2 MAINTENANCE .....	7
2.3 SLIP RESISTANCE .....	7
2.4 CHEMICAL AND SOLDER RESISTANCE .....	7
2.5 ABRASION RESISTANCE AND DURABILITY .....	7
2.6 HUMIDITY DEPENDENCE .....	7
2.7 APPLICATION AND FACILITY CONSIDERATIONS .....	7
2.8 COST CONSIDERATIONS .....	8
2.9 PERFORMANCE MONITORING.....	8
2.10 CLEANROOM CONSIDERATIONS .....	8
<b>3.0 INSTALLATION ISSUES .....</b>	<b>8</b>
3.1 SUB-FLOOR PREPARATION.....	8
3.2 MOISTURE.....	9
3.3 ADHESIVES.....	10
<b>4.0 GROUNDING .....</b>	<b>10</b>
<b>5.0 TEST METHODS .....</b>	<b>13</b>
5.1 ELECTRICAL RESISTANCE.....	13
5.2 RESISTANCE MEASUREMENT IN COMBINATION WITH A PERSON.....	14
5.3 RESISTIVITY.....	14

---

5.4 VOLTAGE MEASUREMENT IN COMBINATION WITH A PERSON.....	14
5.5 STATIC DECAY.....	14
<b>6.0 TEST METHOD COMPARISONS .....</b>	<b>14</b>
6.1 TEST METHODS: ELECTRICAL RESISTANCE .....	14
6.1.1 NFPA 99.....	14
6.1.2 ANSI/ESD STM7.1.....	15
6.1.3 ASTM F-150.....	15
6.1.4 ANSI/ESD STM97.1.....	15
6.1.5 ANSI/ESD STM97.2.....	15
<b>7.0 BIBLIOGRAPHY .....</b>	<b>16</b>

## TABLES

Table 1: Flooring Materials Comparison.....	6
---	---

## FIGURES

Figure 1: Footwear/Flooring System Resistance vs. Body Voltage Generation .....	1
Figure 2: Commonly Accepted ESD Tile System Grounding Methods.....	11
Figure 3: Floor Electrical Bonding Detail.....	12
Figure 4: Bonding Strap Installation Detail.....	13