



*Member of the FM Global Group*

# **Examination Standard for Electrostatic Finishing Equipment**

**Class Number 7260**

**January 2022**

---

# Foreword

This standard is intended to verify that the products and services described will meet stated conditions of performance, safety, and quality useful to the ends of property conservation. The purpose of this standard is to present the criteria for examination of various types of products and services.

Examination in accordance with this standard shall demonstrate compliance and verify that quality control in manufacturing shall ensure a consistent and reliable product.

---

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION.....</b>	<b>1</b>
1.1	Purpose.....	1
1.2	Scope.....	1
1.3	Applicability of Other Standards .....	1
1.4	Basis for Certification .....	1
1.5	Basis for Continued Certification.....	2
1.6	Basis for Requirements.....	2
1.7	Effective Date .....	2
1.8	System of Units.....	2
1.9	Terms and Definitions.....	3
1.10	Normative References .....	4
<b>2</b>	<b>GENERAL REQUIREMENTS .....</b>	<b>5</b>
2.1	Marking.....	5
2.2	Instruction Manual and Other Marking.....	6
2.3	Required Documentation.....	6
<b>3</b>	<b>PERFORMANCE AND CONSTRUCTION REQUIREMENTS.....</b>	<b>8</b>
3.1	Spray Applicator .....	8
3.2	Metal and Conductive Parts.....	8
3.3	Parts Secured by Hand.....	8
3.4	Connection Cable.....	8
3.5	Spray Applicator Switches.....	8
3.6	Examination .....	8
3.7	Adjustable Parts .....	9
3.8	Grounded Fluid Supply and Column.....	9
3.9	Arc Carbonizing.....	9
3.10	Handheld Spray Applicator Operating at High Pressure.....	9
3.11	Waterborne Systems .....	9
<b>4</b>	<b>PERFORMANCE TESTS AND EVALUATION OF HANDHELD OR AUTOMATIC ELECTROSTATIC FINISHING EQUIPMENT (NONINCENDIVE, TYPE N-I).....</b>	<b>10</b>
4.1	Spark Ignition Apparatus and Test.....	10
4.2	Material Compatibility.....	11
4.3	Arc Carbonizing Test.....	12
4.4	High Voltage Dielectric Tests .....	12
4.5	Drop Test.....	13
4.6	Pressure Test .....	13
4.7	Cable Pull Test.....	14
4.8	Temperature Test – Automatic Applicators .....	14
4.9	Impact Test.....	14
4.10	Current Limiting Elements .....	14
<b>5</b>	<b>PERFORMANCE TESTS AND EVALUATION OF AUTOMATIC ELECTROSTATIC FINISHING EQUIPMENT (INCENDIVE SYSTEMS, TYPE I).....</b>	<b>15</b>
5.1	Test Apparatus .....	15

5.2	Automatic Spray Applicator .....	15
5.3	Tests .....	16
5.4	Multiple Automatic Spray Applicator Systems .....	18
<b>6</b>	<b>OPERATIONS REQUIREMENTS .....</b>	<b>19</b>
6.1	Demonstrated Quality Control Program .....	19
6.2	Surveillance Audit .....	19
6.3	Installation Inspections .....	20
6.4	Manufacturer's Responsibilities .....	20
<b>7</b>	<b>BIBLIOGRAPHY .....</b>	<b>21</b>
<b>APPENDIX A.....</b>		<b>22</b>
	Information Related To Specific Paragraphs In This Standard .....	22

**Notice:** The Asterisk (\*) following the subsection number signifies that explanatory material on that paragraph appears in the Appendix.

## 1 INTRODUCTION

### 1.1 Purpose

This standard states testing and certification requirements for electrostatic finishing equipment.

### 1.2 Scope

**1.2.1** \* This standard contains the basic requirements for the construction and testing of electrostatic finishing equipment. This standard does not include powder applicators that function using the principles of triboelectric charging of the powder particles.

**1.2.2** The requirements of this standard apply to the following equipment types whereby the spray material originates from applicators of the automatic (reciprocator or robot) and manual (hand-held) type. This equipment is used for the application of ignitable liquid-based spray material or dry powders using grounded spray material supply systems, or waterborne systems.

**1.2.3** Electrostatic finishing equipment for use with waterborne spray materials using ungrounded spray material columns is also addressed by this standard. However, any reference to spark ignition testing is not applicable for these types of systems, as waterborne spray material is not considered to be an ignition hazard. Waterborne systems covered by this standard are examined for affording protection against electric shock, fire and injury where the spraying area is not a hazardous (classified) location. See definitions. Where it cannot be confirmed that the waterborne spray material is non-ignitable, it should be treated as an ignitable liquid-based spray material and the waterborne manual applicator shall be tested as “Nonincendive” to Section 4, and the waterborne automatic applicator as “Incendive” to Section 5 or “Nonincendive” to Section 4.

**1.2.4** This standard anticipates the submittal of electrostatic finishing equipment for use in an ambient temperature range of 0°C to 40°C (32°F to 104°F). Systems with operating parameters outside this temperature range will be the subject of special investigation.

### 1.3 Applicability of Other Standards

**1.3.1** Except where modified by the requirements of this standard, electrostatic finishing equipment shall comply with the applicable requirements for ordinary locations, in accordance with FM Approvals Examination Standard 3810 - Electrical and Electronic Test, Measuring and Process Control Equipment.

**1.3.2** Associated apparatus and circuits shall conform to the requirements for the location in which they are installed.

### 1.4 Basis for Certification

Certification is contingent upon satisfactory results of analysis of the product (compliance with this standard) and the manufacture of the product in the following major areas:

**1.4.1** Products for which an examination standard for product performance exists, shall also be examined in accordance with that examination standard. These standards typically include requirements for the following:

- the suitability of the product;
- the proper operation and performance of the product as specified by the manufacturer and required by the certification agency and, as far as practical;