

# Statguard® Static Dissipative Floor Finish Application Instructions & MSDS



Figure 1. Statguard® Floor Finish  
Item 46000, 2.5 gallon bag-in-box  
Item 46001, 5 gallon bag-in-box  
Item 46002, 5 gallon LH bag-in-box  
Item 46003, 55 gallon drum  
Item 46004, 275 gallon tote

## Description

Statguard® Static Dissipative Cross-Linked Floor Finish is used to dissipate static charges as well as prevent triboelectric (static charge generation) charges while providing a clear, high gloss finish that resists wear. Statguard® Static Dissipative Floor Finish is a free flowing liquid emulsion, which can be applied on any hard surface or sealed floor including vinyl, vinyl asbestos, linoleum, rubber, asphalt, sealed or painted wood, terrazzo and concrete. Statguard® technology eliminates the need for static control tile or floor mats. Statguard® dries in one hour and is ideal for clean room and electronic manufacturing, assembly, and test areas. For use in environments with relative humidity of 30-65%; for low humidity environments use Statguard®-LH.

## SAFE WALKING SURFACE

**UL Classified as to slip resistance only.** Statguard® provides superior electrical properties along with a safe walking surface. Underwriters Laboratory has evaluated Statguard® and tested it to their slip resistance standards. To ensure employee safety and to mitigate user's liability

exposure, it is important to use floor finish that has been successfully tested for slip resistance, and is properly installed and maintained.

## General Guidelines

Statguard® and Statguard®-LH both eliminate triboelectric generated charges before costly damage can occur from personnel who approach static sensitive parts and products. Statguard® also drains static charges from personnel who forget to reattach their wrist straps minimizing the damage that could occur from handling. Even when using conductive tiles, a triboelectric charge is generated. When Statguard® or Statguard®-LH are applied over conductive tiles, the enhanced floor tile eliminates charge generation due to walking across the floor.

Generally accepted industrial stripping and floor finish application procedures are to be followed as outlined on pages 2 and 3 in this technical bulletin.

**NOTE:** Statguard® Static Dissipative Floor Care products do not have a set life span. The chemicals are not known to degrade over time when stored at the proper temperature conditions as stated in the Material Safety Data Sheet. We also recommend that these products be stored in their original containers and be sealed when not in use.

## GROUNDING

Conventional grounding practices like electrically connecting Statguard® Static Dissipative Floor Finish to earth ground or internal building ground are required for applications of static dissipative floor finish that are less than 50 square feet. For applications that are greater than 50 square feet, the capacitance of Statguard® Floor Finish is MANY, MANY times greater than the capacitance of the human body model. The difference in capacitance

is so great that the Statguard® treated floor acts as a theoretical reservoir or natural ground. The capacitance and surface resistance of the Statguard® treated floor will decay a 5000v charge to zero in .05 sec. per FTMS 101B, Method 4046. Statguard® has substantially less than the maximum static decay time of 0.1 seconds.

Foot grounders should be used in conjunction with any properly grounded conductive or static dissipative flooring. It is recommended to wear foot grounders on both feet.

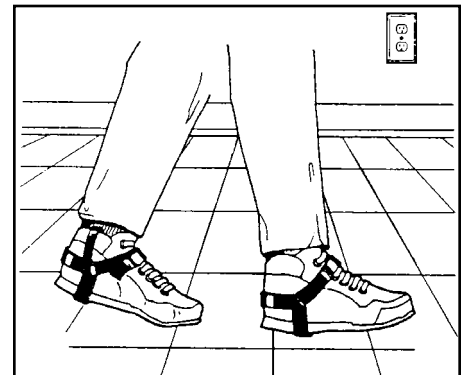


Figure 2. Foot grounders should be used on ESD protective flooring.

## CONCRETE

Two measures are used to determine a good concrete surface for Statguard® Floor Finish:

1. The surface should be dry or sealed.
2. The surface should be cleaned of all contaminants.

## SURFACE

Surface to be finished should be clean, dry, and smooth. Heavy dirt or grease build up should be removed with a stripper or degreaser. DO NOT use Statguard® on surfaces colder than 45° F.

*Statguard Dissipative Floor Finish contains zinc.*

## SEALING

Surface preparation is absolutely critical for porous materials such as concrete. Proper preparation simplifies application, increases durability, and is essential for proper adhesion of the coating of the substrate. Industrial grade polyurethane, vinyl, or acrylic base sealers are recommended to seal high porosity floors before applying the Statguard® Floor Finish. Enamel can be used for bare wood, and enamel undercoat with rust inhibitor for metal.

New concrete should cure for 60 days before sealing. Not all concrete surfaces are created equal. They vary widely in physical and chemical qualities due to the way the concrete was originally formulated, poured or finished.

Concrete surfaces are very porous and should be properly sealed prior to the application of Statguard® Floor Finish. There are several methods to prepare problem concrete. Each method depends on the condition of the concrete. Cleaning methods range from: sweeping, vacuuming, wire brush, air-blasting, water jet, steam cleaning, or stripping. Adhesion properties for the concrete sealer can be increased by profiling or roughing surface through acid etching, rotary drum sanding, scarifying, or mechanically scratching the surface. The concrete sealer will reduce the porosity of the concrete and provide a smooth and level surface for the finish. The sealer also provides a barrier to prevent any water migrating up through the concrete.

**No Sealer Application:** Sealing is recommended for increasing coverage and correcting problem concrete surfaces that are not dry or free from grease, oil, etc. If the subfloor surface is dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other foreign materials it may be suitable to applying Statguard® finish directly onto the concrete.

## COVERAGE

Statguard® Floor Finish covers approximately 2000 square feet per gallon per coat on smooth surfaces. Coverage is less on coarse or textured surfaces. With 18% solids, Statguard® Floor Finish is easier to apply with significantly better productivity than competing brands.

## DRY TIME

It is recommended that Statguard® be allowed to dry at room temperature in excess of 70°F for 1 hour or until dry. At high relative humidity levels, a longer drying time may be necessary. Wait 6 hours before any light traffic, 12 hours before regular traffic, 48 hours before any wet maintenance, and 72 hours before heavy equipment and floor truck traffic.

**CLOSE CONTAINER AFTER EACH USE. KEEP FROM FREEZING. DO NOT TAKE INTERNALLY.**

## Optional Base Coat

Statguard® Conductive Latex Paint can be used as a base coat to enhance the electrical properties where conductive applications are needed. Statguard® Static Dissipative Floor Finish will seal out dirt, debris and protect the conductive surface allowing for ease of maintenance and enhanced shine. Statguard® is a polymer base floor finish/sealer that can be used as a top coat on the Conductive Latex Paint. Two coats are recommended, three coats will enhance electrical properties, durability and reduce frequency of maintenance. Ask your Statguard Flooring Representative for Technical Bulletin TB-5006 for more information on Statguard® Conductive Latex Paint.

## Floor Preparation - Stripping

Always use in a well ventilated area.

Stripping the floor is recommended for first time application of any finish. New tiles are supplied with a protective factory finish that protects during installation but should be stripped away prior to any floor finish application. Properly maintained floors should be stripped two to four times annually, depending on traffic and buildup of contaminated finish.

Statguard® Floor Stripper is recommended to strip multiple layers of floor finish.

### Equipment needed:

- Push broom
  - Single pad 175 rpm swing floor machine (with a black or brown stripping pad)
  - Mops
  - Buckets
  - Statguard® Floor Stripper
  - Wet vacuum
1. Sweep away all loose dirt and trash.
  2. Mix Statguard® Floor Stripper 3:1 three (3) parts HOT water to one (1) part stripper.
  3. Apply stripper liberally to around 200 square foot area in need of stripping. Using a cotton string mop, uniformly distribute the solution. Let the solution stand for 5-15 minutes. Do not let it dry.

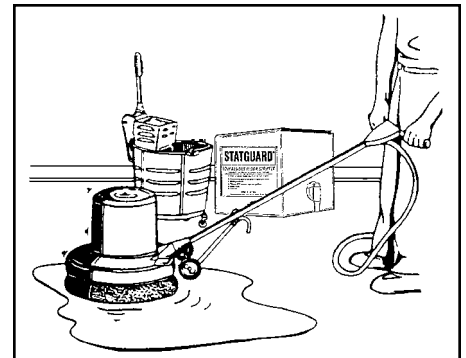


Figure 3. Stripping the floor

4. Scrub the floor with the floor machine at 175 rpm (using a stripping pad soaked in stripping solution). Work methodically, with at least two passes over each area of the floor.
5. After scrubbing, pick up the solution with a wet vac or mop.
6. Flood rinse the floor with clean, clear water.
7. Pick up the rinse water with a wet vac or mop.
8. Repeat steps 5 and 6. Entire floor should be rinsed twice.
9. Damp mop the floor at least twice with clean mop and clean water (change rinse water frequently to ensure that all stripper solution residue is removed), and let dry.

10. Inspect floor to be sure all stripper and old polish has been removed.

It is recommended to test the stripped surfaces after the second rinse to ensure that high pH residues are rinsed away. Some high pH strippers will leave a residue behind even after several rinses. A high pH can affect the floor finish curing time as well as other properties of the finish. To test for high pH residue, test either the rinse water or the floor using either a pH measuring instrument or a piece of pH indicating litmus paper. A safe pH will be between 7.0 (neutral) and 9.0 (mildly alkaline). Two sources for litmus paper are Micro Essential Laboratory, Brooklyn, NY 11210 or Fisher Scientific, Fair Lawn, New Jersey 07410.

### Statguard® Application

It is recommended that you apply two coats of Statguard® Floor Finish. After stripping the factory finish, new tile will have an initial high porosity and will require three coats on first application. For known high traffic applications, three coats are recommended for extended life.

- If Statguard® freezes, allow it to thaw to 70° F before application.



Figure 4. Applying floor finish.

### Equipment needed:

- Clean rayon (or cotton blend) mop, dedicated to Statguard® use only
  - Bucket dedicated to Statguard® use only.
1. Pour Statguard® Floor Finish into a clean mop bucket and apply with a clean rayon (or cotton blend) mop using a figure 8 motion.
  2. Let the first coat dry at least 60 minutes, then apply a second coat.
  3. Let second coat dry for at least 60 minutes to yield a bright gloss. Repeat application to attain higher gloss and higher conductivity (two coats will provide acceptable antistatic performance on most floors). Keep traffic from floor for at least one hour after the last coat is applied. See dry time recommendations on page 2 in this technical bulletin.
  4. One or preferably two additional coats of floor finish should be applied if the floor is to be maintained by dry burnishing or spray buffing.
  5. Maintain the polish following the Dust Mop, Damp Mop, Floor Cleaner, Dry Burnish, or Spray Buff maintenance procedure below.

### Statguard® Maintenance

#### DUST MOP PROGRAM

1. Keep the floor surface clean. Use an untreated dust mop or push broom nightly or as needed to remove accumulated dirt and insulative contaminant.

#### DAMP MOP PROGRAM

1. Keep the floor surface clean. Use an untreated dust mop or push broom nightly or as needed to remove accumulated dirt and insulative contaminant.
2. To damp mop, use a 1 to 3 dilution of Statguard® in water (1 part Statguard® to 3 parts water). Let dry thoroughly. The mop and bucket should be dedicated to Statguard® use only.

### FLOOR CLEANER PROGRAM

Statguard® Floor Cleaner will clean surface stains and heel marks. As a cleaner it will reduce the gloss of the floor.

#### Heavy-Moderate Traffic:

Clean once a week, or as dictated by floor appearance.

#### Low Traffic Floors:

Clean floors as dictated by floor appearance.

1. Dust mop with untreated mop.
2. Dilute Statguard® Dissipative Floor Cleaner 10 parts clean water to 1 part Floor Cleaner. For example, use five (5) gallons of clean water to two (2) quarts of floor cleaner.
3. Damp mop floor with cleaner solution and let dry thoroughly. The mop and bucket should be dedicated to Statguard® use only.

### DRY BURNISH PROGRAM

#### Heavy-Moderate Traffic:

A dry burnish program will increase gloss and remove surface imperfections.

Dry burnish once a week or as dictated by floor appearance.

#### Low Traffic Floors:

Dry burnish as dictated by floor appearance.

1. Dust mop with an untreated mop.
2. Dry burnish at 1000-2000 rpm.
3. After dry burnish, dry mop the area with an untreated dry mop if necessary.

### SPRAY BUFF PROGRAM

A spray buff program will repair scratches, marks, and other imperfections as well as gloss.

#### Heavy-Moderate Traffic:

Spray buff once a week or as dictated by appearance.

#### Low Traffic Floors:

Spray buff as dictated by floor appearance.

### Equipment needed:

- Untreated dust mop
- Spray bottle
- 175-1500 rpm buffing machine with appropriate pad

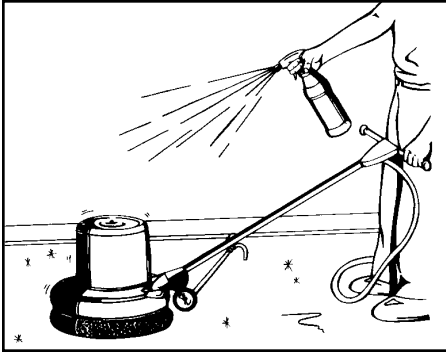


Figure 5. Applying Spray Buff.

1. Dust mop with an untreated mop or push broom.
2. At 175-300 rpm, use a red pad. At 1000-1500 rpm use a white or beige pad.
3. Spray a small area with a mixture of one part Statguard® and two parts water. Spray lightly.
4. Buff the sprayed area until clean and glossy. All black marks and scuffs should be removed.
5. After high speed spray buffing, dry mop the area, if needed, with an untreated mop.

## Physical Properties

**Base:** Acrylic Polymer

### Description:

Aqueous Acrylic Emulsion, Non-hazardous material as defined in (29 CFR 1915.4)

### Abrasion Resistance:

Exc. Crockmeter at 50% R.H.

**Color:** Off White Opaque

**Density:** 8.42 lbs/gal

### Freeze/Thaw Stability:

Exc. 3 Cycles at -10°C

**pH:** 8.8

**Slip Resistance:** UL Approved\*

**Solids:** 18%

**Solvent:** Water

### Thermal Stability:

Exc. 50°C/1 month

**Viscosity:** 3.3 cps

### Working Humidity:

Range 30-60% RH

## ELECTRICAL PROPERTIES

Meets or exceeds ANSI/ESD S20.20 minimum recommended technical requirements as an ESD protective floor or as a primary grounding method based on Low charging.

### Surface Resistance:

$10^7$  -  $10^9$  Ohms per ANSI/ESD S7.1

### Low Charging:

<50 volts per ESD STM 97.2

### Personal Resistance:

<35 megohm per ESD STM 97.1

### Charge Decay:

5000v to 0 in 0.01 sec per FTMS 101C 4046

\*Underwriters Laboratory (UL) tested for slip resistance only. Authorization and Registration Number SA6524.

## CLEAN ROOM CHARACTERISTICS

Contaminant	Dried Film	Liquid (Outgassing)
Sodium	Zero	Zero
Fluoride	Zero	Zero
Chloride	Zero	Zero
Bromide	Zero	Zero
Iodide	Zero	Zero

- Dried film testing was completed to simulate particulating.\*\*
- Liquid analysis completed using GLC (gas-liquid chromatography)\*\*

\*\* Analysis conducted at Armstrong Corporate Research Center, Lancaster, PA.

## Testing

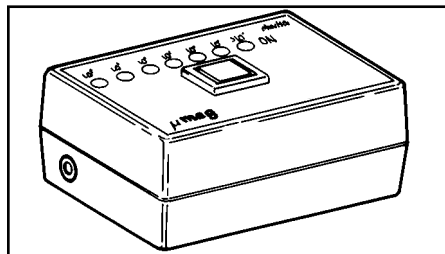


Figure 6. µMeg Pocket Megohmmeter

It is recommended to test the surface resistance periodically to ensure that insulative contaminants such as dirt and grime are not building up on the surface. The surface should be kept clean. Testing either point to point resistance (RTT)

or resistance to ground (RTG) will indicate if the floor finish needs surface maintenance. If the surface is clean, with high resistance readings this indicates that the floor finish is becoming thin and in need of replenishing its solids. These solids are worn away over time due to floor traffic. Hence, the high floor traffic areas will need more frequent maintenance than low traffic areas.

For quick and easy verification of surface resistance Statguard Flooring recommends the use of our µMeg Pocket Ohmmeter.

## Limited Warranty

Statguard Flooring expressly warrants that for a period of one (1) year from the date of purchase, Statguard® Floor Finish will be free of defects in material. Within the warranty period, the material will be tested and replaced at our option, free of charge. Call our Customer Service Department at 508-481-6849 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 material under warranty should be shipped prepaid to the Statguard Flooring factory. Warranty repairs will take approximately two weeks.

## 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 Statguard Flooring 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.

**StaticWorx**  
grounded solutions

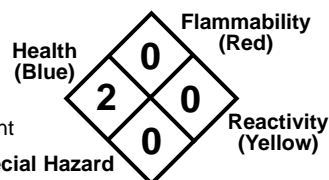
PO Box 590069  
newton center, ma 02459-0904  
p: 617-527-6299  
f: 617-527-6510  
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## Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200, Standard must be consulted for specific requirements.

## NFPA Designation 704

Degree of Hazard  
4 = Extreme  
3 = High  
2 = Moderate  
1 = Slight  
0 = Insignificant



### IDENTITY (As Used on Label and List)

STATGUARD® & STATGUARD®-LH STATIC DISSIPATIVE FLOOR FINISH

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

### Section I

Manufacturer's Name Statguard Flooring	Emergency Telephone Number
Address (Number, Street, City, State, and Zip Code) 432 Northboro Road Central, Malboro, MA 01752	Telephone Number for Information (781) 821-8370
	Date Prepared 7-01-2005
	Signature of Preparer (Optional)

### Section II - Hazardous Ingredients/Identity Information

Statguard® Hazardous Components (Specific Chemical Identity)	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)	Statguard-LH® Ingredients	Weight	CAS-No.	TLV-value	R-Phrases
Dipropylene Glycol Monomethyl Ether (CAS #034590-94-8)		100 ppm	150 ppm	1-5	Ethylene Glycol*	1-5	107-21-1	100ppm	R22
Diethylene Glycol Methyl Ether (CAS #111-77-3)			30 ppm	1-5	Glycol Ethyl Ether*	1-5	111-90-0	50 ppm	R36
Ammonia (CAS #7664-41-7)	NE	25 ppm	25 ppm	.01 max	Ammonia Hydroxide*	1-5	1336-21-6	25 ppm	R36/R37/R38
Modified Acrylic Polymer (NonHaz)				30-60	Mod. Acrylic Polymer (NonHaz)	5-25			
Emulsified Waxes (NonHaz)				5-25	Emulsified Waxes (NonHaz)	5-25			
dH <sub>2</sub> O (NonHaz)				30-60	Alkylolamine Methosulfate	1-5			

This product contains NO toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR372.

\* These items are listed on the SARA Title III Section 313 Inventory.

HMIS RATING: Health: 1 Reactivity: 0  
Flammability: 0 Personal Protection: B

### Section III - Physical/Chemical Characteristics

Boiling Point	>200°F	Specific Gravity (H <sub>2</sub> O = 1)	>1.0
Vapor Pressure (mm hg.)	N/A	Melting Point	N/A
Vapor density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water Complete, pH 8-9			
Appearance and Odor Opaque, tan liquid with wax or ammoniacal odor			

### Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL	UEL
Extinguishing Media Foam, CO <sub>2</sub> , DC and water			
Special Fire Fighting Procedures None required			
Unusual Fire and Explosion Hazards None known			

**Section V - Reactivity Data**

Stability	Unstable		Conditions to Avoid Temperatures above 49°C/120°F Below: 1°C/34°F
	Stable	X	

Incompatibility (*Materials to Avoid*)

N/A

Hazardous Decomposition or Byproducts

None known.

Hazardous Polymerization	May occur		Conditions to Avoid N/A
	Will Not Occur	X	

**Section VI - Health Hazard Data**

Route(s) of Entry:	Inhalation? Minor Irritation	Skin? Minor Irritation	Ingestion? Dilute with water
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Health Hazards (*Acute and Chronic*):

None known

Carcinogenicity:	NTP? None	IARC Monographs? None	OSHA Regulated? None
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Signs and Symptoms of Exposure:

Inhalation: Minor irritation. Skin: Slight irritation. Eyes: Slight irritation. Ingestion: None known.

Medical Conditions

Generally Aggravated by Exposure Overexposure may aggravate Asthma.

Emergency and First Aid Procedures

Inhalation: Move subject to fresh air. Skin: Wash with soap and water. Ingestion: Drink several glasses of water (do not induce vomiting). Contact a physician. Eyes: flush 15 minutes with water.

**Section VII - Precautions for Safe Handling and Use**

Steps to Be Taken In Case Material is Released or Spilled

Keep spectators away. Dike and contain spill with inert material (e.g. sand, earth). Keep spills and cleaning runoffs out of municipal sewers and open bodies of water.

Waste Disposal Method

Coagulate the emulsion by the stepwise of Ferric Chloride and Lime. Remove the clear supernatant liquid and flush to a chemical sewer. Incinerate the solids and the contaminated diking material according to local, state, and federal regulations.

Precautions to be Taken in Handling and Storing

Storage temperature: Max. 49°C/120°F 1°C/34°F

Other Precautions

Keep from freezing - product may coagulate

**Section VIII - Control Measures**Respiratory Protection (*Specify Type*)

Wear MSHA/NIOSH-approved respirator where exposure limits are exceeded.

Ventilation	Local Exhaust	Special
	Mechanical at point of contamination release	None
	Mechanical (General)	Other

Protective Gloves

Impervious/Neoprene

Eye Protection

Chemical splash goggles (ANSI Z-87.1)

Other Protective Clothing or Equipment

Eyewash station

Work/Hygienic Practices

Wash hands before eating, smoking or using washroom facilities

N/A = Not Applicable; NE = None Established