

3M

Static Control Anti-Fatigue Mat 9900 Series

Instructions



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Safety Information

Read, understand, and follow all safety information contained in these instructions prior to installation and use of the 3M™ Static Control Anti-Fatigue Mat 9900 Series. Retain these instructions for future reference.

Intended Use

The 3M Static Control Anti-Fatigue Mats are intended for use in electronic/electrical assembly facilities requiring conductive floor matting for control of static electricity. They are intended for use in an indoor environment and not intended for use where insulating matting is required. They have not been evaluated for other uses or locations.

Explanation of Signal Word Consequences	
⚠ WARNING:	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
CAUTION:	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage. Indicates a potentially damaging situation, which, if not avoided, may result in damage to the mat.

Explanation of Product Safety Label Symbols	
	Lifting hazard

⚠ WARNING
<p>To reduce the risk associated with hazardous voltage due to 3M™ 9900 Series Mats being used in areas requiring insulating type matting:</p> <ul style="list-style-type: none"> 9900 Series Mats are electrically conductive -- do not use these mats in areas with possible exposure to high voltage.
<p>To reduce the risk associated with hazardous voltage due to 9900 Series Mats being installed with an incorrect grounding lead:</p> <ul style="list-style-type: none"> Do not use 3M 9900 Series Mats without correct grounding cord, 3M™ Ground Cord 3040.
<p>To reduce the risk associated with hazardous voltage due to 9900 Series Mats being grounded through an alternate ground path:</p> <ul style="list-style-type: none"> Grounded equipment or objects should not contact the mat. This could bypass the 1.0 MΩ resistor in the ground cord.
<p>To reduce the risk associated with back strain due to the heavy weight of the mats:</p> <ul style="list-style-type: none"> Follow safe lifting procedures during installation or moving.
<p>To reduce the risk associated with foot slip hazards due to improper maintenance:</p> <ul style="list-style-type: none"> Follow proper cleaning procedures as outlined in this instruction manual. Do not use paste wax or vinyl cleaners such as Armor All®. Do not treat the mat surface with any protective films or floor finishes.

CAUTION:

To reduce the risks associated with improper cleaning of the mats, which, if not avoided may result in electrostatic overstress damage to static sensitive electronic components:

- Follow proper cleaning procedure outlined in this instruction manual.
- Do not use hydrocarbon solvents such as paint thinner.
- Do not use oil-based cleaning solutions such as Murphy® Oil Soap or Pine-Sol®

To reduce the risks associated with improper cleaning of the mats, which, if not avoided may result in physical damage to the mats:

- Follow proper cleaning procedure outlined in this instruction manual.
- Do not use hydrocarbon solvents such as paint thinner.
- Do not use oil-based cleaning solutions such as Murphy® Oil Soap or Pine-Sol®

1.0 Installation of 3M™ Static Control Anti-Fatigue Mats 9900 and 9920

⚠ WARNING

To reduce the risk associated with hazardous voltage due to 9900 Series Mats being used in areas requiring insulating type matting:

- 3M 9900 Series Mats are electrically conductive -- do not use this matting in areas with possible exposure to high voltage.

To reduce the risk associated with hazardous voltage due to 9900 Series Mats being installed with an incorrect grounding lead:

- Do not use 3M 9900 Series Mats without correct grounding cord, 3M™ Ground Cord 3040.

To reduce the risk associated with hazardous voltage due to 9900 Series Mats being grounded through an alternate ground path:

- Grounded equipment or objects should not contact the mat. This could bypass the 1.0 MΩ resistor in the ground cord.

To reduce the risk associated with back strain due to the heavy weight of the mats:

- Follow safe lifting procedures during installation or moving.

1. Pre-clean the floor area where the mat is to be installed.
2. Place mat into desired location.
3. Attach the supplied ground cord (3M Ground Cord 3040) to the female snap on the mat.
4. Route ground cord to ground point and connect the ring terminal on the other end of the ground cord to an approved ESD ground.

Note: If the mat is being placed on an ESD conductive/dissipative tile or epoxy flooring it may not be necessary to connect a ground cord to the mat. The ESD flooring may be able to provide a sufficient ESD ground path for the mat. Verify the surface to ground resistance following measurement method outlined in ESD Standard ANSI/ESD S7.1. This can be done using the 3M™ Test Kit 701, which includes a megohmmeter and electrodes (see Optional Accessories section) or an equivalent measurement system.

2.0 Installation and Assembly of 3M™ Static Control Anti-Fatigue Mat Runner 9910

⚠ WARNING

To reduce the risk associated with hazardous voltage due to 3M™ Anti-Fatigue Mats 9900 Series being used in areas requiring insulating type matting:

- 3M 9900 Series Mats are electrically conductive -- do not use this matting in areas with possible exposure to high voltage.

To reduce the risk associated with hazardous voltage due to 9900 Series Mats being installed with an incorrect grounding lead:

- Do not use 3M 9900 Series Mats without correct grounding cord, 3M™ Ground Cord 3040.

To reduce the risk associated with hazardous voltage due to 9900 Series Mats being grounded through an alternate ground path:

- Grounded equipment or objects should not contact the mat. This could bypass the 1.0 MΩ resistor in the ground cord.

To reduce the risk associated with back strain due to the heavy weight of the mats:

- Follow safe lifting procedures during installation or moving.

1. Pre-clean the floor area where the mat runner is to be installed.
2. Before assembling the runner, lay out each mat section in the appropriate sequence. Sequence numbers can be found on the back of each section along the molded rubber edge. Match the numbers so the number on one section is next to the same number on the next section. (Figures 1 - 3)

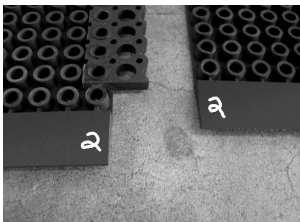


Fig.1

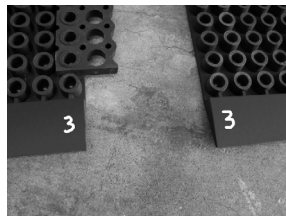


Fig. 2

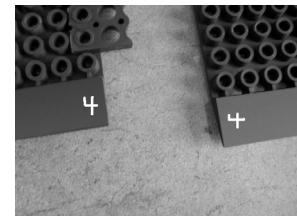


Fig. 3

3. Move the end section of the runner with connector tabs into the desired position with the tubular cells against the floor surface. Place the next runner section in position according to its sequence number. Proceed in like manner placing each runner section in position according to the numbering sequence until the whole runner is laid out unconnected on the floor. (Figure 4)

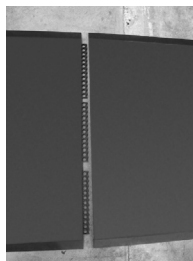


Fig.4

4. Kneel or squat on the first runner section with the connector tabs in front of you and pull the next runner section towards you until its edges align with the edge of the first runner section. (Figure 5)

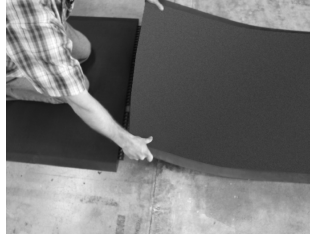


Fig.5

5. Drop it in place so the tubular cells of the second section fit into the connector holes on the tabs of the first section. Use a repeated 'patting' motion with the palms of your hands to seat the cells into the connector holes until the adjacent section surfaces are flush with each other. Repeat this process proceeding down the runner length until the entire runner is connected. (Figures 6 & 7)



Fig 6

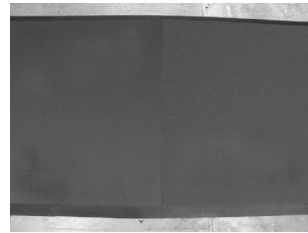


Fig. 7

Note: You may remove individual sections as needed for cleaning and replace them without disturbing other sections of the runner, or you may roll-up the connected sections from one end, clean, and then roll it out again. Minor repositioning of the runner and connections may be required from time to time.

6. Attach the supplied ground cord to the snap on the mat.
7. Connect the terminal on the other end of the ground cord to an approved ESD ground.

Note: If the mat is being placed on an ESD conductive/dissipative tile or epoxy flooring it may not be necessary to connect a ground cord to the mat. The ESD flooring may be able to provide a sufficient ESD ground path for the mat. Verify the surface to ground resistance following measurement method outlined in ESD Standard ANSI/ESD S7.1. This can be done using the 3M™ Test Kit 701, which includes a megohmmeter and electrodes (see Optional Accessories section) or an equivalent measurement system.

3.0 Optional Permanent Bonding of Runner Sections with Adhesive

⚠ WARNING

To reduce the risk associated with back strain due to the heavy weight of the mats:

- Follow safe lifting procedures during installation or moving.

Note: Permanent adhering of the runner sections together with an adhesive may create a continuous runner that is very heavy and difficult to move or reposition. Trying to move a heavy runner may cause the rubber or the seams to tear, so use caution when deciding to permanently adhere runner seams together.

1. Proceed through step 5 as described above in the Runner Assembly Instructions, connecting the first section of the runner to the second section of the runner as illustrated. After the first two sections are connected, push the second section away from you to produce a gap/opening in the seam. (Figures 1 & 2)



Fig. 1

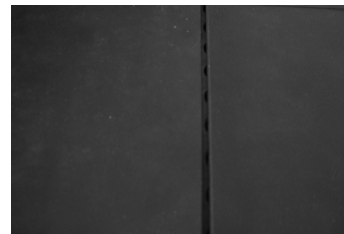


Fig. 2

2. Insert the tip of the supplied adhesive bottle into the seam, applying a small bead of adhesive along the edge of the top surface of the mat section facing you. (Figure 3)

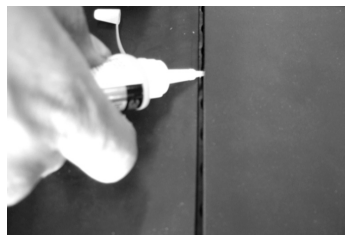


Fig. 3

3. Using the palms of your hands again, move quickly to pull the runner section together, pulling and patting the runner towards you to get the seam to close. (Figures 4 & 5)



Fig. 4



Fig. 5

4. As necessary, apply localized pressure to close the adhered seam. It may be necessary to hold pressure for 10-15 seconds until the adhesive bonds the two pieces. (Figures 6 & 7)



Fig.6

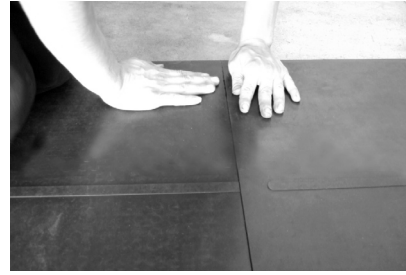


Fig.7

5. The beveled edges of the seam are adhered separately. Pull the beveled edge up to expose its edge and apply adhesive then push the two beveled edges of the adhered sections together. (Figures 8 & 9)



Fig. 8

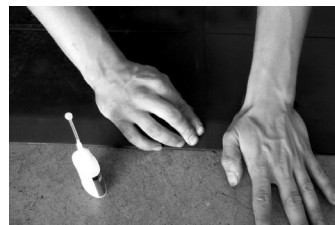


Fig 9

6. Adhere subsequent runner seams in the same fashion, proceeding down the length of the runner.

4.0 Cleaning Guidelines

⚠ WARNING

To reduce the risk associated with back strain due to the heavy weight of the mats:

- Follow safe lifting procedures during installation or moving.

To reduce the risk associated with foot slip hazards due to improper maintenance:

- Follow proper cleaning procedures as outlined in this instruction manual.
- Do not use paste wax or vinyl cleaners such as Armor All®.
- Do not treat the mat surface with any protective films or floor finishes.

CAUTION:

To reduce the risks associated with improper cleaning of the mats, which, if not avoided may result in electrostatic overstress damage to static sensitive electronic components:

- Follow proper cleaning procedure outlined in this instruction manual.
- Do not use hydrocarbon solvents such as paint thinner.
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To reduce the risks associated with improper cleaning of the mats, which, if not avoided may result in physical damage to the mats:

- Follow proper cleaning procedure outlined in this instruction manual.
- Do not use hydrocarbon solvents such as paint thinner.
- Do not use oil-based cleaning solutions such as Murphy® Oil Soap or Pine-Sol®

Note: 3M™ Static Control Anti-Fatigue Mats 9900 Series are constructed of durable SBR rubber that can be easily cleaned with readily available cleaners and techniques. Clean mats as needed. The following recommendations are provided to prolong the life of your mat product:

1. Remove loose debris from the surface.
 - Vacuum with air suction or sweep with a stiff broom.

Note: Use of a vacuum with rotating brushes is not recommended. A rotating brush can leave permanent marks on the mat surface and burn in an image.


2. Use 3M™ General Purpose Cleaner Ready-to-Use (Product No. 8, Twist ‘n Fill™ System) or comparable neutral cleaner. Follow label directions for proper cleaner dilution.
 - For small mat areas apply the cleaner with a trigger spray bottle. Scrub and remove excess liquid from the mat surface with a dampened sponge or lint-free cloth.
 - For larger mat areas apply the cleaner with a mop and bucket. To reduce film build-up change out the cleaning solution frequently.

Note: It is not necessary to rinse the mat surface.

5.0 Optional Accessories

3M™ Test Kit for Static Control Surfaces 701


A lightweight, user-friendly megohmmeter plus all of the components needed to make testing mats and other surfaces simple and accurate.

	<p>701 Test Kit for Static-Control Surfaces Kit contains: 1 Megohmmeter 12 Oz. (340 g); 1.8 x 3.3 x 4.6 in. (4,57 x 8,,38 x 11,68) 2 Test Weights 5 lbs. (2.27 kg) each 1 Insulated Bulldog Clip 1 Alligator Clip 1 Continuity Test Plate 2 Batteries (22.5V and 1.5V) 1 Operator's Manual 1 Molded Carrying case</p> <p>701-L Test Leads 701-M Megohmmeter only 701-W 5 lb. Test Weight</p>
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3M™ General Purpose Cleaner (Product No. 8, Twist 'n Fill™ System

	<p>High-performance, all-purpose cleaner. First choice for your every day cleaning needs. For floors, walls and other non-porous surfaces.</p> <p>Contact: 3M Commercial Care Division 1-800-852-9722 www.3M.com/commcare</p>
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3M™ Ground Cord 3040, 15 ft. with 10 mm Snap

	<p>Molded-in male snap fastener with integral 1-megohm resistor on one end, solderless terminal on other. Connects all 3M™ Static Control Mats and Runners to building ground.</p>
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6.0 Specifications

3M™ Static Control Anti-Fatigue Mats 9900 Series		
Product Number	Description	3M ID Number
9900	3 ft. x 5 ft. (0.9 m x 1.5 m) Static Control Anti-Fatigue Mat	98-0798-5635-1
9910	3 ft. by custom length Static Control Anti-Fatigue Runner	98-0798-5636-9
9920	22 in. (55.9 cm) Octagonal Shape Static Control Anti-Fatigue Mat	98-0798-5674-0

Property	Typical Value
Size	Standard: 3 ft. x 5 ft. (0.9 m x 1.5 m) and Octagonal 22 in. (55.9 cm) diameter Runners: 3 ft. x custom length
Thickness	0.625 in. (1.59 cm) with beveled edge
Durometer	42 Shore A
Weight	2 lbs. per square foot
Composition	SBR Rubber Polymers
Flammability	NFPA Rating (Scale 1 - 4) Fire: 1
Cleaning	Sweep, vacuum or damp mop according to 4.0 Cleaning Guidelines
Color	Black
Edges	Beveled solid molded rubber
*Resistance Surface to Ground Snap	<1 x 10 ⁶ Ω
Surface to Ground	<2 x 10 ⁶ Ω (When connected through 3M™ Ground Cord 3040)
Coefficient of Friction	>1.0 C.O.F.
Temperature Use Range	-40°F to 180°F (-40°C to 82°C)
Warranty	3 years limited warranty
Chemical Resistance	Water – Excellent Acids – Fair-Good Alkali – Fair Alcohols – Good Oil & Gasoline – Poor Aliphatic Hydrocarbons – Poor Aromatic Hydrocarbons – Poor

*Tested per ESD STMS7.1 at 72° F, 12% RH on 3 ft. x 5 ft. Mat

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Important Notice

All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product which are not contained in 3M's current publications, or any contrary statements contained on your purchase order shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.

Limited Warranty

This product will be free from defects in material and manufacture for a period of three (3) years from the date of manufacture. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the defective product. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Except to the extent prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether indirect, special, incidental, consequential or punitive regardless of the legal theory asserted.**

The above warranty shall be void and of no further force and effect if the product has been abused, mistreated or neglected. The warranty shall also be void if the product is damaged due to improper installation or as a result of the equipment or system with which the product is used. Any unauthorized repair or modification to the product shall also void the above warranty.



3M Electronics

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