

**Note:**

Two heel straps are recommended for reliable grounding and ESD protection, providing ground when one foot is off the floor.

Operator is grounded when foot is in contact with grounded dissipative or conductive flooring.

Desco recommends the use of foot ground tester item No. 19252 or 19253.

For additional information on the use and maintenance of foot grounders please ask for Technical Bulletins TB-2020 and TB-2040.

Items 17200 and 17202 are UL listed.

**Description:**

The 17200, 17202, and 17210 Foot Grounders provide a continuous path between an operator and a properly grounded ESD protection system. These foot grounders are designed for use on standard shoes and are easily adjusted to fit most individuals. Desco's foot grounders have carbon marks on shoes. Foot grounder models 17200 and 17202 have a resistor built into the contact strip. Model 17200 has a one megohm resistor and Model 17202 has a two megohm resistor. The product has been tested to ESD C101 Materials and Footwear Voltage Measurement in Combination with a Suitable ESD footwear component in Flooring - Footwear System as a primary grounding method (<math>3.5 \times 10^7</math> ohms per ESD STM 97-02) and Footwear-Resistance Measurement in Combination with a Properly Grounded ESD Footwear Component.

**Components:**

- A. 0.060" thick, two-layer laminated rubber sole. Inner layer is conductive neoprene. Outer layer is black rubber. Tear resistant nylon scrim layer prevents the rubber from tearing.
- B. 3/8" wide, 30" long blue nylon ribbon contains 8 electrically conductive fibers, reversible, may be positioned on either side of the sole.
- C. 3/4" wide blue non-elastic hook material.
- D. 3/4" wide blue stretch loop material, for quick and easy attachment.

UL listed for safety and date coded.

**Tab to cup resistance:**

$10^6 - 10^7$  Ohms @ 100 volts

ITEM #	DESCRIPTION
17200	Foot Ground, Heel, 1 megohm resistor, RTG: $10^6 - 10^7$ Ohms
17202	Foot Ground, Heel, 2 megohm resistor, RTG: $10^6 - 10^7$ Ohms
17210	Foot Ground, Heel, no resistor, RTG: $10^5 - 10^6$ Ohms

Our UL listed foot grounders are rated at 250 VAC. It is not recommended to use on line voltages above 250 VAC is possible. **Caution:** The foot grounders are designed to reduce or increase your risk of receiving electric shock when using on standard shoes.

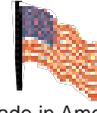
**FOOT GROUND, HEEL**

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**DESCO**

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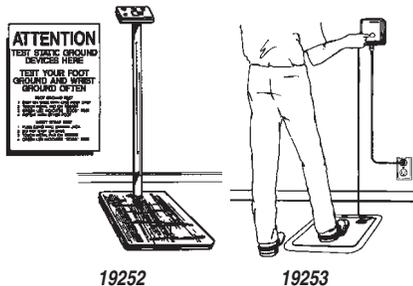
# Foot Grounders - Grounding, Testing, and Maintenance

## Description

Desco's complete line of foot grounders has been created to provide a continuous ground path between the operator and a properly grounded ESD protected flooring. Foot grounders are designed for use in applications where user mobility is required, such as wave solder, kitting, and quality control. Per ANSI/ESD S20.20 Paragraph 6.2.2.2, "ESD protective flooring used with approved footwear, may be used as an alternative to the wrist strap system for standing operations." Foot grounders quickly and effectively drain the static charges which collect on personnel during normal, everyday activities.

## General Guidelines

1. It is recommended that foot grounders be worn on both feet, in order to assure that a continuous ground is maintained.
2. Grounding tabs should be tucked inside the shoe with as much contact area as possible to the bottom of the stockinged foot. Foot grounders rely upon the perspiration in the shoe to sustain electrical contact between the conductive grounding tab and the body.
3. Foot grounders should be used in conjunction with floor surfaces which have a surface resistance of less than  $1 \times 10^9$  ohms.
4. A current limiting one or two megohm resistor in series with the grounding tab is recommended.



## Testing Your Foot Grounders

The best test of your foot grounder is one that includes all three components: the individual foot grounder, the grounding tab and the interface between the grounding tab and the wearer's sweatlayer.

Desco has testers designed to properly test foot grounders. For more detailed information on these testers, ask for technical bulletins TB-2040 (19252, 19253).

If you obtain a fail reading from the tester you should stop working and clean the foot ground and grounding tab. Retest after cleaning. If the unit still fails, replace the foot grounder. Retest the system before beginning work.

## Cleaning

Foot grounders are to ground static charges, while dirt generally provides an insulative layer adversely affecting reliability. For proper operation, the Foot Grounder and its conductive strip must be kept clean.

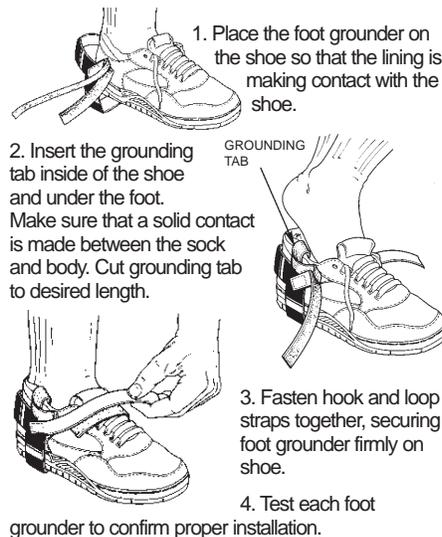
The rubber portion of the Foot Grounder should be cleaned using Desco's Reztore™ Antistatic Surface & Mat Cleaner or "Static-Wipes" wipers. An alternative would be to clean using isopropyl alcohol. The Desco cleaning products are specially formulated for cleaning ESD control components and are silicone free. This is critical as silicone is an insulator. Desco ESD cleaners should not be used to clean the nylon polyester grounding tab.

Foot Grounders can be safely hand or machine washed on gentle cycle. Mild detergents, such as Woolite® or a liquid dish washing product and warm water are recommended. However, care must be taken to ensure that these detergents are silicone free.

## Installation

### HOOK & LOOP AND MARR RESISTANT HEEL GROUNDERS

Desco model 07560, 17200, 17202, 17250, 17252, and 17260 heel grounders are designed for use on standard shoes. All Desco foot grounders can be easily adjusted to fit the individual wearer. Desco heel grounders have a dissipative lining that will not mar white or light colored shoes. Models 07560, 17200, 17202, and 17252 have a current limiting one or two megohm resistor in series with the grounding tab. Models 17250 and have no resistor.



### D-RING HEEL GROUNDERS

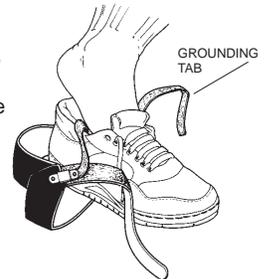
Desco model 07590 heel grounders are equipped with an elastic D-ring fastening system which provides snug cinching of the ankle strap and allows "flex" during walking. They are designed for use on most types of shoes and boots. The light blue lining prevents marring on white or light colored shoes.



These foot grounders include a molded external resistor and a permanently attached grounding tab.

1. Place foot grounder on the shoe so that the blue lining is making contact with the shoe.

2. Insert the grounding tab inside of the shoe and under the foot. Make sure that a solid contact is made between the sock and body. Cut grounding tab to desired length.



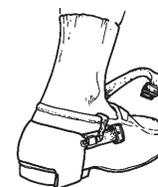
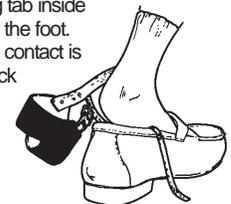
3. Pull the strap through the D-ring and cinch down for a snug, comfortable fit.

4. Test each foot grounder to confirm proper installation.

### HEEL GROUNDER WITH SNAP-LOC FASTENING SYSTEM

The Desco model 07515 heel grounders are equipped with a Snap-Loc quick release fastening system. The model 07515 has a cup and lining that will not mar shoes or floors. The 07515 has a molded exterior 2 megohm resistor.

1. Insert the grounding tab inside of the shoe and under the foot. Make sure that a solid contact is made between the sock and body. Cut grounding tab to desired length.

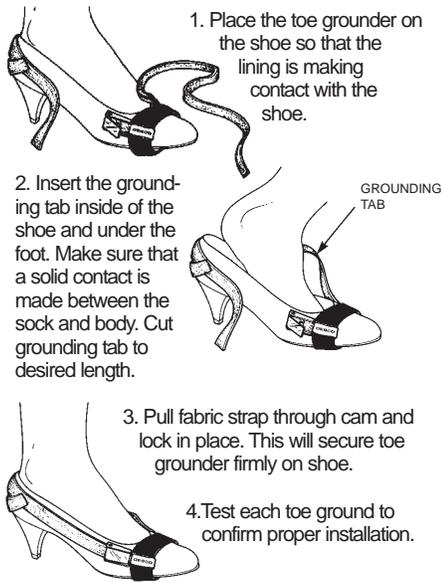


2. Fit the heel cup snugly to shoe and connect the Snap-Loc fastener together. Adjust elastic strap for comfortable fit. Tuck excess elastic strap behind itself.

3. Test each heel grounder to confirm proper installation.

### HOOK & LOOP TOE GROUNDERS

Desco model 17222 toe grounders are designed for use on heeled shoes. Desco toe grounders have a lining that prevents marring on white or light colored shoes. Model 17222 has a current limiting one megohm resistor in series with the grounding tab.

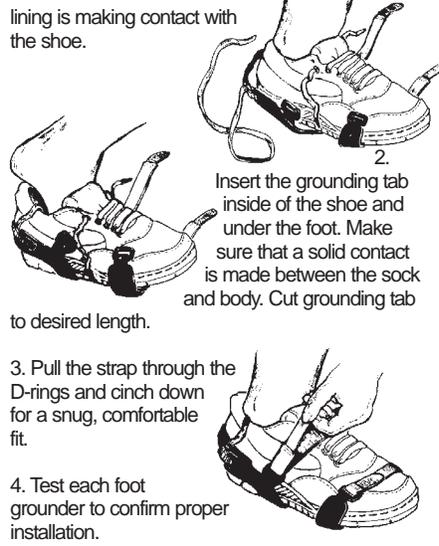


1. Place the toe grounder on the shoe so that the lining is making contact with the shoe.

2. Insert the grounding tab inside of the shoe and under the foot. Make sure that a solid contact is made between the sock and body. Cut grounding tab to desired length.

3. Pull fabric strap through cam and lock in place. This will secure toe grounder firmly on shoe.

4. Test each toe ground to confirm proper installation.



lining is making contact with the shoe.

2. Insert the grounding tab inside of the shoe and under the foot. Make sure that a solid contact is made between the sock and body. Cut grounding tab to desired length.

3. Pull the strap through the D-rings and cinch down for a snug, comfortable fit.

4. Test each foot grounder to confirm proper installation.

into the shoe.  
4. Test each foot grounder on an ESD footwear tester to confirm proper installation.



### DISPOSABLE FOOT GROUNTERS

**ATTENTION:** This product is not recommended for use on equipment with operating voltage exceeding 250 VAC.

**CAUTION:** The ESD Series is for electrostatic control. It will not reduce or increase your risk of receiving electric shock when using or working on electrical equipment. Follow the same precautions you would use without wrist straps, including:

- Make certain that equipment having a grounding type plug is properly grounded.
- Make certain that you are not in contact with grounded objects other than through the ESD Series.

### D-RING TOE GROUNTERS

Desco model 07595 toe grounders with the elastic D-ring fastening system are designed for use on heeled shoes. Desco toe grounders have a blue lining that will prevent marring on white or light colored shoes. These toe grounders include a molded external 2 megohm resistor and a permanently attached grounding tab.

1. Insert the grounding tab inside of the shoe and under the foot. Make sure that a solid contact is made between the sock and body. Cut grounding tab to desired length.

2. Place rubber toe material under toe area of shoe sole. Pull velcro strap over top of shoe and cinch down until snug. Install so that the lined surface is making contact with the shoe.

3. Pull elastic strap around the back of the heel. Adjust D-ring plastic loop for a comfortable fit.

4. Test each toe grounder to confirm proper installation.

### SOLE GROUNTERS

Desco model 07501, 07502, and 07503 sole grounders are designed for use on standard shoes. Desco sole grounders are available in three sizes and can be easily adjusted to fit the individual wearer. Sole grounders have a lining that prevents marring on white or light colored shoes. Models 07507, 07508, and 07509 also have a non-marring exterior to prevent marks on floors. Sole grounders have a molded exterior 2 megohm resistor.

1. Place the sole grounder on the shoe so that the

### FULL COVERAGE GROUNTERS

Desco model 17290, 17291, and 17292 full coverage grounders are designed for use on standard shoes. They can be easily adjusted to fit the individual wearer. They have a lining that will not mar most footwear. These foot grounders have a discrete one megohm resistor built into the grounding tab.

1. Place the full coverage grounder on the shoe so that the lining is making contact with the shoe.

2. Insert the grounding tab inside of the shoe and under the foot. Make sure that solid contact is made between the stockings foot and grounding tab. Cut grounding tab to desired length.

3. Connect the snaploc fastener together. Adjust elastic strap for comfortable fit. Tuck excess elastic strap behind itself.

4. Test each full coverage grounder to confirm proper installation.

### FULL COVERAGE NON-MARRING GROUNTERS

1. Insert the conductive grounding tab inside the shoe and under the foot.  
2. Pull front and side extension tabs securing Full Coverage Foot Grounder around the periphery of shoe positioning straps near heel and ball of foot.  
3. Then, tuck excess conductive grounding tab



### Limited Warranty

Desco expressly warrants that for a period of one (1) year from the date of purchase, Desco foot grounders will be free of defects in material (parts) and workmanship (labor). Within the warranty period, the product will be tested, repaired, or replaced at Desco's option, free of charge. Call our Customer Service Department at 909-627-8178 (Chino, CA) or 781-821-8370 (Canton, MA) for a Return Material Authorization (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of purchase date. Any unit under warranty should be shipped prepaid to the Desco factory. Warranty repairs will take approximately two weeks.

If your unit is out of warranty call Customer Service at 909-627-8178 (Chino, CA) or 781-821-8370 (Canton, MA) for a Return Material Authorization (RMA) and proper shipping instructions and address. Ship your unit freight prepaid. Desco will quote repair charges necessary to bring your unit up to factory standards.

### 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 Desco 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.