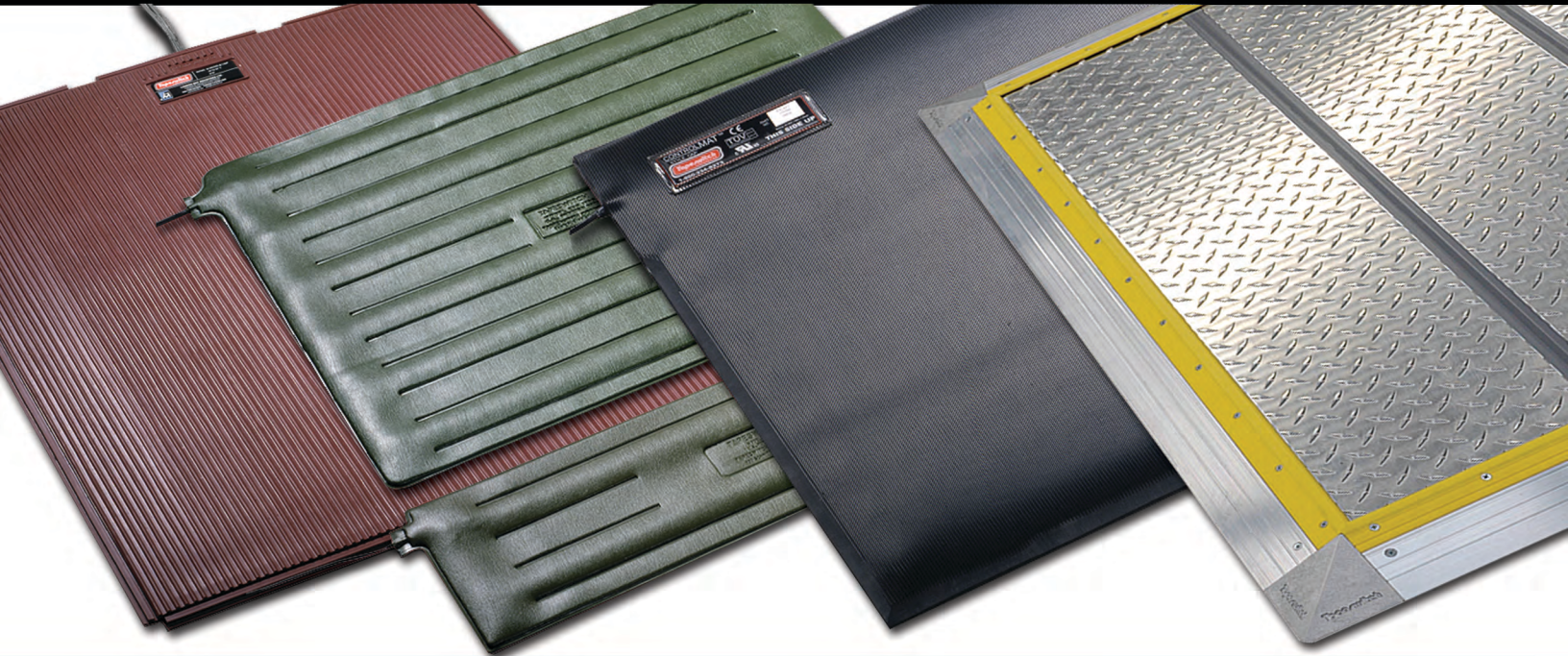




A full spectrum of sensing and signaling products for protection, detection, and safety



**SWITCH PRODUCTS**

**SAFETY & SIGNAL MATS**

**SENSING EDGES**

**SENSING BUMPERS**

**SAFETY INTERFACE MODULES**

**LIGHT CURTAINS & LASER SCANNER**

**CUSTOM DESIGNS**

**SAFETY INTERLOCKS**

## Pressure-Sensitive Safety Mats

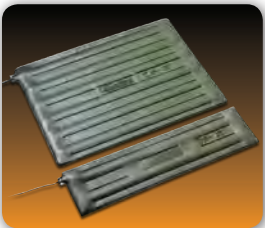


- pg. 2 **The Fail-Safe Principle**  
How to apply safety mats properly
- pg. 3 **ControlMat™ Industrial-Duty Safety Mats**  
Heavy-duty and abrasion-resistant  
Long life in factory settings
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Internal impact-resistant, penetration-resistant barrier
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Anti-fatigue surface with pressure-sensitive switching  
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Pressure-sensitive signal mats for control, signaling or counting in non-safety applications
- pg. 14 **CVP Sensing Mats**  
Commercial duty signal and control  
Concealable under carpeting or matting
- pg. 15 **Matex® Treadle Switch Mats**  
Used in transit applications for signaling, door opening and counting  
Typically custom-designed for each application
- pg. 16 **Wheelchair Lift Sensing Mats**  
For bus or van-mounted lifts  
Typically custom-designed for each application



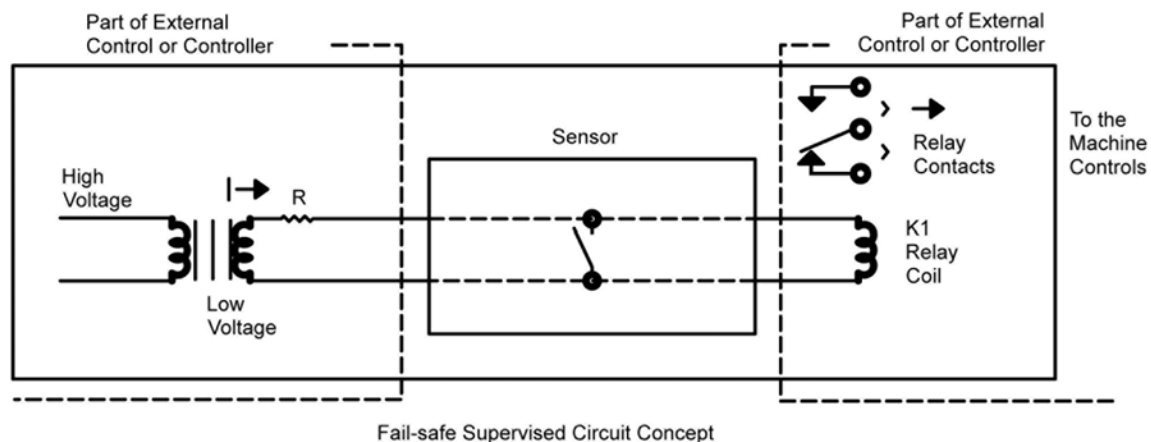
## How to apply safety mats properly

Tapeswitch safety mats often provide first-line of protection for personnel and equipment. They are highly sensitive and feature press-at-any-point actuation. Properly installed and connected, they continuously monitor the protected area. However, to properly function as safety devices, mats must be installed with a fail-safe monitoring circuit as shown below or with an equivalent fail-safe methodology. Tapeswitch offers controllers that employ the fail-safe Concept.

### Understanding and Implementing the 4 conductor Fail-Safe Concept

#### Principle of Safety

The fail-safe concept monitors the sensor status at all times. In the event of a failure, the fail-safe concept will simulate a protected position. The “protected” position is when the sensor is activated (closed) and the “normal” or “run” position is when the sensor is not activated (open).



- Normal Conditions – constant current flow (I) holding relay coil (K1) energized
- Loss of Power – no current flow (I) and relay coil (K1) is de-energized
- Actuation of Sensor – relay coil (K1) is shorted and de-energized
- Failure of Sensor in the closed position – relay coil (K1) is shorted and de-energized
- Failure of Sensor in the open position – (broken wire, severed switch or conductor) leaves no path for current flow (I) and relay coil (K1) is de-energized
- Resistor R – limits current flow through the sensor when actuated

#### Fail-Safe (4 conductor)

Fail-safe is a shorthand term used to mean Fail to a Safe condition. In machinery with known hazards, the system is fail-safe when any failure leaves the machinery in a safe condition. The 4 conductor fail-safe concept is illustrated in the figure above. A small current is constantly flowing through the sensor at all times, holding the relay coil energized at all times. The machine controls, interrupt, or stop circuitry is connected to the contacts of this relay. If the sensor is actuated, the relay coil will be shorted, causing the relay to deenergize. A resistor in series provides current limiting from overdrawing the power supply and limits the current through the sensor in the actuated position. If the sensor fails in the closed position the relay will be shorted and cannot be energized until the failure is corrected. If the sensor fails in the open position, the current path for the relay coil no longer exists and the relay coil cannot be energized until the current path is restored and the failure corrected.

#### In addition to the safety aspects achieved with fail-safe, it also provides:

- Isolation of the machine controls and sensor(s)
- Isolation of high amperage and high voltage machine switching from the low voltage sensors
- Conversion of a normally open switch to required normally closed machine controls

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# CONTROLMAT™ INDUSTRIAL-DUTY SAFETY MATS

## Heavy-duty and abrasion-resistant



Controlmat™ Industrial-Duty Safety Mats are designed for personnel sensing around dangerous machinery and in hazardous locations. They are highly sensitive and feature press-at-any-point actuation.

Many standard sizes are in stock, but custom sizes and shapes are easily manufactured to order with short lead times. Mats can also be made with cutouts, radius and multiple sensing zones to exactly fit specific applications.

### Features & Benefits

- Industrial-duty, pressure-sensitive mat for personnel safety sensing applications
- Moisture, chemical, and abrasion resistant for long life in factory settings
- Easy installation – no special floor preparation or add-on metal edging required
- Switching elements rated for several million cycles ensures long life
- 6 foot 4 conductor fail-safe wiring is standard
- Custom lead exit
- Mat edge come ramped (standard), squared or with optional aluminum edging

Field tested for more than fifty years, the Controlmat surface is both moisture and abrasion resistant. Ribbing on the top and bottom surfaces prevent water or oil buildup. The fully-protected switching elements are extremely rugged and reliable, with an operating life of several million cycles.

Controlmat sensing mats are available with square or ramped edges. They are easy to install and require no special floor preparation or add-on metal edges, although they are available to meet OSHA Requirements. All mats are supplied with 6 foot 4-lead fail-safe wiring, and are compatible with Tapeswitch Safety Interface Controllers.

### Applications

- Machine operation control
- Automated assembly line guarding
- Robot area guarding
- Automatic door operation
- Process cycle control
- General hazardous area guarding

### General Specifications

Actuation Force	22 lbs. (100 N) nominal with 2 in. (80 mm) diameter disc
Recommended Voltage & Current	24 VAC or VDC at 1 amp max
Environment	NEMA 4 & IP65 rated, 32 to 122°F (0 to 50°C)
Colors	Black (standard), yellow, & blue (optional)
Maximum Size	Up to 48 x 144 in. single-piece construction
Wire	18-Gauge, 4 Conductor & 6 ft. long

### Standard Sizes

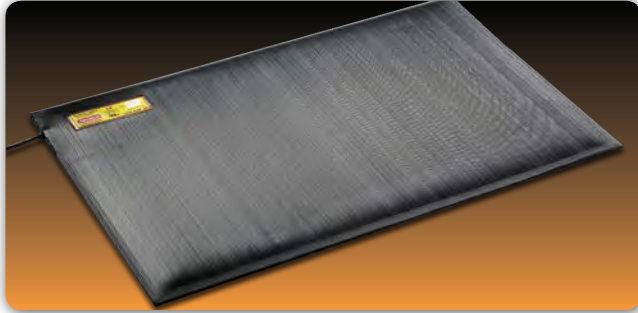
24 in. x 24 in. (610 mm x 610 mm)	36 in. x 36 in. (910 mm x 910 mm)
24 in. x 36 in. (610 mm x 910 mm)	36 in. x 48 in. (910 mm x 1220 mm)
24 in. x 48 in. (610 mm x 1220 mm)	36 in. x 60 in. (910 mm x 1520 mm)
24 in. x 60 in. (610 mm x 1520 mm)	36 in. x 72 in. (910 mm x 1830 mm)
24 in. x 72 in. (610 mm x 1830 mm)	48 in. x 72 in. (1220 mm x 1830 mm)
30 in. x 48 in. (762 mm x 1220 mm)	Note: mat sizes do not included aluminum edging

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# ARMORMAT™ IMPACT-RESISTANT SAFETY MATS

## Extra heavy-duty and nearly puncture-proof



The **ArmorMat™ Industrial Safety Mats** are designed for personnel detection under conditions that are not suitable for conventional mat products. They incorporate an impact-resistant, penetration-resistant barrier that easily withstands abuse which would destroy ordinary pressure-sensitive mats.

Many standard sizes are available. Custom sizes and shapes can be manufactured to order with short lead times.

### Features & Benefits

- Extra heavy-duty industrial safety mat survives harsh treatment
- Designed with an impact-resistant, penetration-resistant barrier
- Stands up to gouging by sharp objects and pounding by heavy work pieces
- Switching elements protected in separate moisture-proof compartment
- 6 foot 4 conductor fail-safe wiring is standard
- Custom lead exits available
- Mat edge comes ramped (standard), squared or with optional aluminum edging

Armormat extra heavy-duty switching mats are nearly impenetrable and withstand abuse such as repeated gouging by dropped sheet metal, piercing by a heavy spoke, and continual pounding by heavy work pieces.

In conventional mats, penetrating objects allow intrusion of moisture, leading to electrical failure. The Armormat design safeguards against this failure mode with an impact-resistant barrier that protects a separate moisture-resistant compartment containing the switching elements.

Armormat sensing mats are available with square or ramped edges. They are easy to install and require no special floor preparation or add-on metal edges, although they are available to meet OSHA Requirements. All mats are supplied with 4 conductor fail-safe wiring, and are compatible with Tapeswitch Safety Interface Controllers.

### Applications

- Machine operation control
- Work cell hazard protection
- Automated assembly line guarding
- Robot area guarding
- Process cycle control
- General hazard protection under harsh conditions

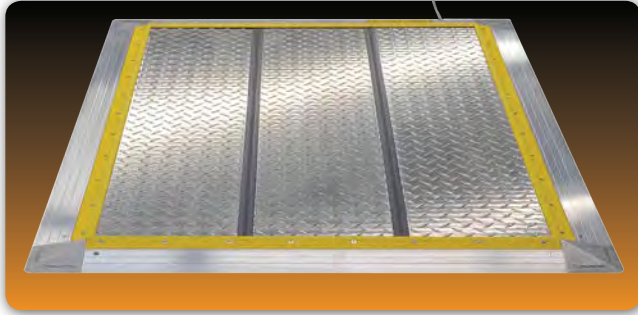
### General Specifications

Actuation Force	20 lbs. (90 N) nominal with 2 in. (80 mm) diameter disc
Recommended Voltage & Current	24 VAC or VDC at 1 amp max
Environment	NEMA 4 & IP65 rated, 32 to 122°F (0 to 50°C)
Colors	Black (standard), yellow, & blue (optional)
Maximum Size	Up to 48 x 144 in. single-piece construction
Wire	18-Gauge, 4 Conductor & 6 ft. long

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# DIAMOND PLATE ALUMINUM SAFETY MATS

## Super heavy-duty and nearly indestructible



The **Diamond Plate Aluminum Safety Mat** is designed for personnel or vehicle detection in heavy industrial applications. Designed to withstand forklift traffic, steel wheel carts, pallet loaders and similar equipment, it also survives welding debris, hot parts, metal chips and up to 20,000 pounds of traffic.

This product is available in a range of standard sizes and can also be custom configured to form a protected area around a machine or work cell.

### Features & Benefits

- Extra heavy-duty industrial safety mat survives harsh treatment
- Designed with an impact-resistant, penetration-resistant barrier
- Stands up to gouging by sharp objects and pounding by heavy work pieces
- Switching elements protected in separate moisture-proof compartment
- 6 foot 4 conductor fail-safe wiring is standard
- Custom lead exits available
- Mat edge come ramped or squared
- Built with a Safety Zone mat it's IP67 rated

The Diamond Plate Aluminum Safety Mat is our most durable sensing mat available for heavy-industry manufacturing environments. The mat surface is heavy gauge aluminum deck plate, which is non-sparking and non-magnetic. The external wiring is encased in stainless steel armored cable.

In addition to handling factory vehicular traffic and heavy rolling equipment, it is also appropriate around welding operations or where hot parts, hot metal chips, or abundant sparking would destroy a non-metallic safety mat. Installation is simple and straight forward and, after installation, the Diamond Plate Mat is maintenance-free. It is supplied with 4 conductor fail-safe wiring, and is compatible with Tapeswitch Safety Interface Controllers.

### Applications

- Sensing and control around factory traffic
- Guarding of robotic work cells
- Protection in automated material handling areas
- Hazard protection around welding operations
- Operator presence sensing for machine control
- General hazard protection requiring extreme durability

### General Specifications

Actuation Force	Less than 45 lbs. (200 N) nominal with 2 in. (80 mm) diameter disc
Recommended Voltage & Current	24 VAC or VDC at 1 amp max
Environment	NEMA 4 & IP65 rated, 32 to 122°F (-18 to 0°C)
Colors	Black (standard), yellow, & blue (optional)
Options	Multiple zones, connectors, cable length and location
Wire	18-Gauge braided wire, 4 Conductor & 6 ft. long

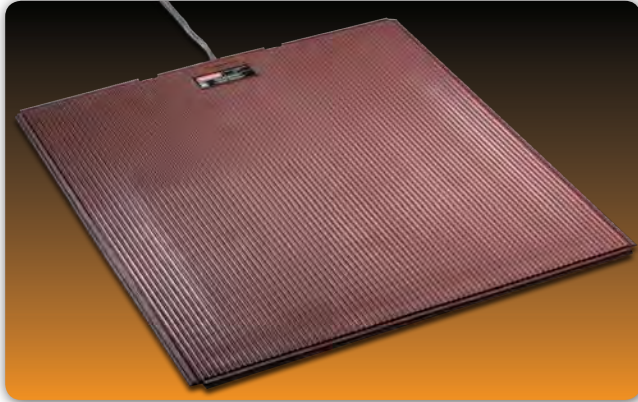
Note: Mat requires a flat surface to operate properly.

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# SAFETY ZONE SENSING MATS

## Molded construction, parallel plate design



**Safety Zone Sensing Mats** are designed to protect against accidents and injury around machinery in an industrial or factory environment. They feature molded, seamless construction and, consequently, exhibit exceptional resistance to moisture intrusion as well as most acids, alkalis and salts.

Logos in any color or combination of colors can be molded directly into the mat surface. Mats can also be made with multiple sensing zones, and sensitivity can be adjusted to suit specific applications.

### Features & Benefits

- Molded construction for exceptional moisture and chemical resistance
- Parallel-plate switching technology eliminates dead zones
- Can be installed on or in the floor and with or without edging
- 1/2 inch thick construction provides long life and wear resistance
- Choice of ribbed or eurodot surface to maximize traction

**Safety Zone Sensing Mats** are constructed with two highly-rigid metal plates separated by spacer buttons and O-ring seals. This switching mechanism is then covered with a molded virgin vinyl housing which seals out water and other contaminants. The result is a durable and long-lasting pressure-sensitive mat suitable for harsh factory or commercial conditions.

These mats are 1/2 inch thick with a choice of a ribbed, smooth or eurodot surface. The eurodot is a good choice for oily, or wet conditions and also have the benefit of easy clean or wash down. They are supplied with 4 conductor, fail-safe wiring and are compatible with Tapeswitch Safety Interface Controllers.

**Safety Zone Sensing Mats** are available that are form, fit, and function replacements for most brands of pressure-sensitive safety mats. These mats feature the same durability, long life and exceptional moisture resistance as the standard models. For more information on these products, contact Tapeswitch.

### Options

- Shape
- Wire or cable type
- Number of zones
- Ramped Edge
- Edge design
- Wire locations
- Connectors
- Colors
- Molded-in logos
- Grommets

### General Specifications

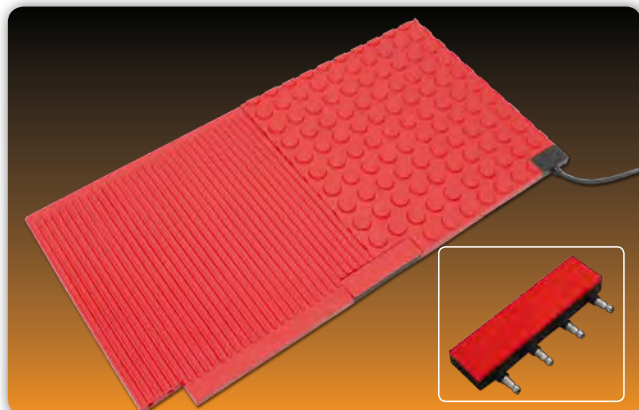
Actuation Force	33 lbs. (147 N) nominal with 2 in. (50 mm) diameter disc
Recommended Voltage & Current	12 - 48 VAC or VDC at 50 mA min. to 1 amp max
Environment	NEMA 6 & IP67 rated, 32 to 122°F (0 to 50°C)
Safety Standards	ANSI/RIA R15.06-1999, TUV EN1760-1:1997
Maximum Size	Up to 40 x 60 in. single-piece construction
Wire	18-Gauge, 4 Conductor & 10 ft. long

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# MSP SAFETY ZONE SENSING MAT

## Molded construction, parallel plate design



The **MSP Safety Zone Sensing Mats** use the same construction and have the same features as the Safety Zone Mats and have a convenient Plug Together System

The interconnected system allows mats to be joined together by a simple 4 wire plug instead of a cable to cable connection. Simply place the mats side by side and join them together by using the JIP450 Joiner Plug to connect them both physically and electrically to each other. The first and last mats connect to your control circuit by using the CIP, Cable Insert Plug.

The MSP System can be applied to any new Safety Zone System and maintains all the features of the standard Safety. This can be used in any multiple mat systems.

### Features & Benefits

- Molded construction for exceptional moisture and chemical resistance
- Parallel-plate switching technology eliminates dead zones
- Can be installed on or in the floor and with or without edging
- 1/2 inch thick construction provides long life and wear resistance
- Choice of ribbed or eurodot surface to maximize traction

**MSP Safety Zone Sensing Mats** are constructed with two highly-rigid metal plates separated by spacer buttons and O-ring seals. This switching mechanism is then covered with a molded virgin vinyl housing which seals out water and other contaminants. The result is a durable and long-lasting pressure-sensitive mat suitable for harsh factory or commercial conditions.

These mats are 1/2 inch thick with a choice of a ribbed surface for dry, oily, or wet conditions, or a eurodot surface for wash down applications. They are supplied with 4 conductor, fail-safe wiring and are compatible with Tapeswitch Safety Interface Controllers.

**Safety Zone Sensing Mats** are available that are form, fit, and function replacements for most brands of pressure-sensitive safety mats. These mats feature the same durability, long life and exceptional moisture resistance as the standard models. For more information on these products, contact Tapeswitch.

### Options

- Shape
- Wire or cable type
- Number of zones
- Ramped Edge (except in plug areas)
- Edge design
- Wire locations
- Plug & Play Connectors
- Colors
- Molded-in logos
- Grommets

### General Specifications

Actuation Force	33 lbs. (147 N) nominal with 2 in. (50 mm) diameter disc
Recommended Voltage & Current	12 - 48 VAC or VDC at 50 mA min. to 1 amp max
Environment	NEMA 6 & IP67 rated, 32 to 122°F (0 to 50°C)
Safety Standards	ANSI/RIA R15.06-1999, TUV EN1760-1:1997
Maximum Size	Up to 40 x 60 in. single-piece construction
Wire	18-Gauge, 4 Conductor & 10 ft. long

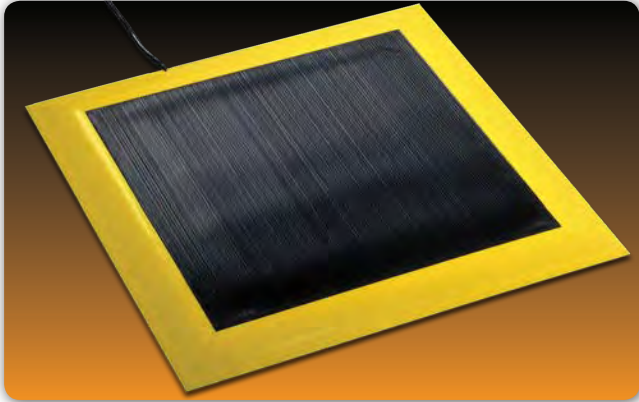
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# COMFORT ZONE SENSING MATS

## Anti-fatigue surface with pressure-sensitive switching



The **Comfort Zone Anti-Fatigue Switchmat** is the only mat that combines the safety of a pressure-sensitive switching mat with the comfort of an ergonomically-designed anti-fatigue mat. This unique product is intended for safety applications in which an operator must stand on a safety mat frequently or for extended periods during machine cycle times.

### Features & Benefits

- A unique combination of safety and ergonomic comfort in one mat
- Integral safety-yellow ramped edge minimizes trip hazard
- Built-in edging means out-of-the-box installation
- 4 conductor fail-safe wiring is standard
- Meets or surpasses ANSI/RIA15.06-1999 and TUV EN1760-1:1997

The **Comfort Zone Anti-Fatigue Switchmat** melds parallel-plate switching technology with premier Comfort King™ Zedland™ Vinyl Foam to create a unique dual-purpose mat. A highly-visible yellow ramped edge greatly reduces any trip hazard, while providing out-of-the-box service. All Comfort Zone mats are supplied with 4-lead fail-safe wiring, and are compatible with Tapeswitch Interface Controllers.

### General Specifications

Actuation Force	22 lbs (100 N) nominal with 2 inch (50 mm) diameter disc
Recommended Voltage & Current	12 to 48 Vac or Vdc at 50 mA min. to 1.0 amp max.
Environment	NEMA 4 & IP65 rated, 32 to 122°F (0 to 50°C)
Switch Life	1 million operations at any point
Wire	18-Gauge, 4 Conductor & 10 ft. long

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# CUSTOM MATS FOR UNUSUAL APPLICATIONS

## Mats designed to solve specific problems

Tapeswitch is the industry leader in custom mats for unusual or difficult applications. If you do not find precisely what you need within our standard product offering, we can still most likely meet your exact application needs.

We can supply nearly any size and shape, including mats with odd angles, curves, and cutouts for obstacles. With our engineering capabilities, skill for innovation, and range of available technologies, we can handle nearly any application.

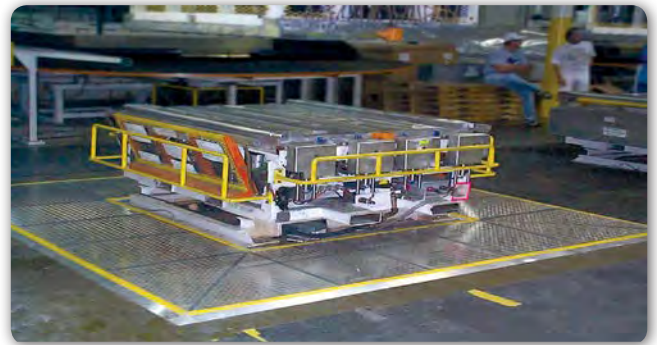


### Guard machines, work cells, robot installations that require:

- Odd shapes
- Curves & angles
- Cutouts
- Special colors
- Large-area coverage

### Protect areas that have:

- Forklifts, steel carts, pallet loaders, other vehicular traffic
- Hot parts, welding debris, sparks
- Accidental dropping of heavy parts
- Conditions that destroy standard mats



### Specify mats that require:

- Multiple sensing zones
- Color-coded areas
- Logos and graphics
- Other unusual features



Whether you have an immediate requirement or are planning a long-term project, you can count on our engineering department to come through for you. We have built our reputation on rapid response, customer commitment, and common-sense solutions.

For the engineering department or customer service call toll-free at 1-800-234-8273.

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# MAT EDGING OPTIONS AND ACCESSORIES

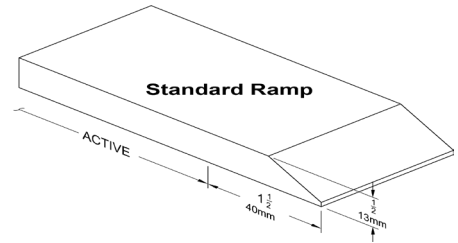
## Mat edge styles and aluminum trim options

**Tapeswitch** safety mats are supplied with a choice of edge styles and do not require additional edging in many applications. In some cases, however, aluminum edging may be used to secure the mat to the floor, provide a wire chase for the leads, or to add a safety-yellow edge marking.

### Edge Styles

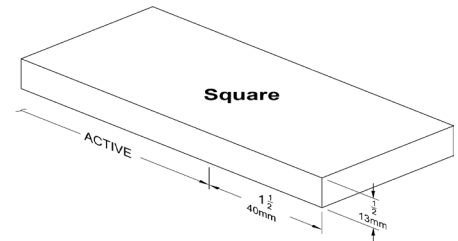
#### Ramped Edge

- Provides a smooth transition between the floor and the mat, minimizing any trip hazard
- Suitable for single mat installation where permanently affixing the mat is not required



#### Square Edge

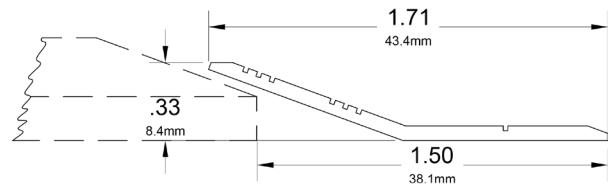
- Suitable when multiple mats are placed side by side or when aluminum edging is to be used
- Use when mat will be butted up against a machine or wall



### Optional Edging

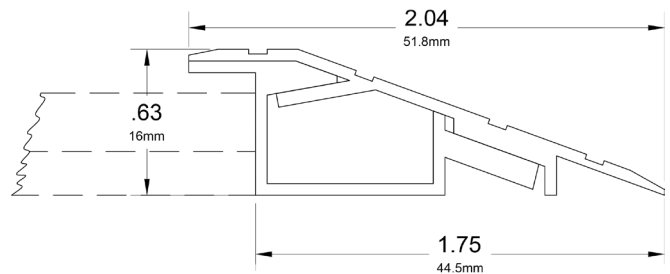
#### Aluminum Edging Type AE-1

- One-piece extrusion used to secure the mat to the floor
- Can be used with both square and ramp edged mats
- Aluminum corners



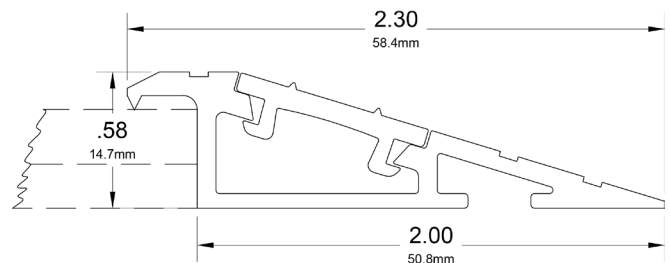
#### Aluminum Edging Type AE-2

- Heavy-duty, two-piece aluminum extrusion
- Secures mat to floor and provides built-in wire chase
- Used for square edge mats only



#### Aluminum Edging Type AE-3

- Heavy-duty aluminum extrusion with yellow PVC cover
- Secures mat, provides wire chase and highlights mat edge with yellow
- Snap-on corner pieces have lead exits
- Two piece corners



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# HOW TO ORDER SAFETY MATS

## Things to know before you order

### CONTROLMATS & ARMORMATS

#### 1. Specify the mat size

ControlMats™ are available in sizes up to 48 x 168 inches.

ArmorMats™ are available in sizes up to 48 x 120 inches.

#### 2. Pick a lead exit

Mats are supplied with one 4 conductor lead. The lead outlet options are:

**LLS** Long side, Left, Single lead

**LRS** Long side, Right, Single lead

**SLS** Short side, Left, Single lead

**SRS** Short side, Right, Single lead

Other locations available

#### 3. Pick a mat color

Color choices are: Black (standard), Yellow, and Blue.

#### 4. Pick an edge treatment

Choices are: square or ramped.

#### 5. Pick edging or grommets if required in your application

For ramped edges, choose AE-1.

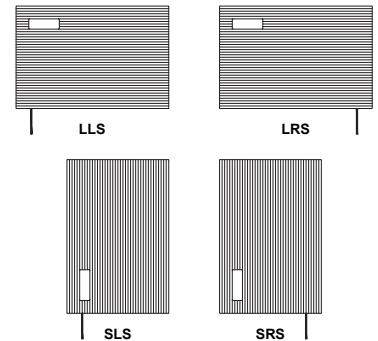
For square edges, choose AE-2 or AE-3 (Controlmats™ only).

#### 6. Pick an interface controller (see page 12)

Choose PCU, PRSU, or PSSU for high risk applications.



Lead Exit Options



### DIAMOND PLATE MATS

#### 1. Specify the active area required (up to 48 inches wide and any length)

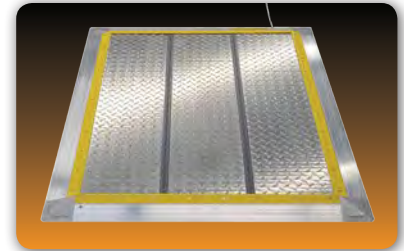
Diamond Plate Mats have 3 1/2 inch trim on each edge, which is inactive.

#### 2. Pick a lead exit

Mats are supplied with one 4 conductor lead. See the diagram for ControlMats™ and Armormats™ above.

#### 3. Pick an interface controller (see page 12)

Choose PCU, PRSU, or PSSU for high risk applications.



### SAFETY ZONE MATS

#### 1. Specify the mat size

Safety Zone Mats are available in sizes up to 40 x 60 inches.

#### 2. Pick a mat color

Color choices are: Black and Yellow. Other colors optional.

#### 3. Pick an edge treatment

Choices are: square or ramped.

#### 4. Pick edging or grommets if required in your application

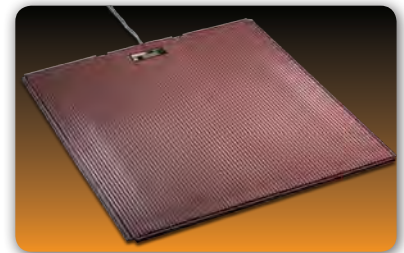
For ramped edges, choose AE-1.

For square edges, choose AE-2 or AE-3.

#### 5. Pick an interface controller (see page 12)

Choose PCU, PRSU, or PSSU for high risk applications.

Note: Standard lead location is mid-point on short side. Other locations optional.



### COMFORT ZONE MATS

#### 1. Specify the mat size

Comfort Zone Mats are available in sizes up to 40 x 60 inches.

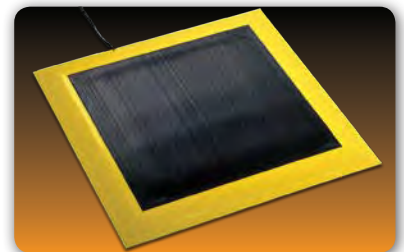
#### 2. Pick a lead exit

Mats are supplied with one 4 conductor lead. See the diagram for ControlMats™ and Armormats™ above.

#### 3. Pick an interface controller (see page 12)

Choose PCU, PRSU, or PSSU for high risk applications.

Note: Mat has black sensing surface with ramped, safety yellow edges.



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# INTERFACE CONTROLLERS FOR MATS

## Compatible controllers for safety applications

Tapeswitch manufactures interface controllers that are compatible with all of the mat products shown in this catalog. These devices provide an interface between the low-voltage mat sensors and the machine or device being activated. Be certain to select the appropriate controller for the application.

Safety applications require the use of both a fail-safe mat and a fail-safe rated interface controller. For non-safety applications, any mix of fail-safe and non-fail-safe devices may be used.

### PCU/1 Control Unit - Programmable safety control unit

This controller allows for the connection, control, and streamlining of multiple safety devices with programmable logic control functions, such as safety sensors and signals, light curtains, safety photocells, e-stops, safety mats, sensing edges, sensing bumpers, two-hand controls and magnetic or mechanical switches. Check website for category and SIL safety level. The easy to use software allows for multiple functions and logic controls and has a configurable memory a list of input and output objects for a user friendly interface. It is USB capable for connection to the most common industrial Fieldbus systems for diagnostics and data communication. The stand alone controller has 8 input, 2 OSSD pairs, 4 test outputs, 2 digital signaling outputs, 2 inputs for restart, and 24 connectors, plus several different expansion units for additional inputs, outputs, and signaling and connectors plus additional safety relays.



### PSSR/2 Control Unit - Fail-safe controller for end of the line resistor products

The PSSR/2 safety interface controller offers Category 3, SIL2, PLd safety level performance and meets EN13849-1:2008. It is self monitoring and offers integrity monitoring of any 6.8 to 8.2 k ohm end of the line resistor product, such as switches, mats, and edges that incorporate a 6.8 to 8.2 k ohm resistor, making a complete safety system. It has forced guided relays and 2 normally open (safety) and 1 normally closed (monitor) contacts. It has a manual or auto reset function. It has a maximum sensor length of 330 feet. It is 22.5 mm din rail mountable.



### PRSU Control Units - Our most compact fail-safe module.

For high-risk automation and machine control applications. Compatible with all Tapeswitch sensing products, including switches, edges, bumpers, and mats. Conforms to EN 13849-1 safety performance level PLd, Category 3, and meets or exceeds the safety content of the applicable OSHA, ANSI, and RIA standards.

Available in a DIN rail-mounted package, with two power options. PRSU/4 operates on 24 VDC or VAC supply, PRSU/5 operates on 115 VAC supply. Both models feature manual and automatic reset capability.



### MultiZone Controller - Custom designs for custom controls.

Acts as an interface between various Tapeswitch sensing devices and a machine or process control. Designed to monitor up to 6 zones and provides power to all connected B-Series Light Curtains emitters and receivers and monitors the output signals. Also interfaces with a variety of pressure sensitive, normally-open switches made by Tapeswitch, including ribbon switches, safety mats, sensing edges and bumpers.



### PSSU Control Units - 4 fail-safe models in 2 package styles.

For high-risk automation and machine control applications. These controllers exceed the requirements of category 3 of EN 954-1 and meet or exceed the safety content of the applicable OSHA, ANSI, and RIA standards. Available in wall-mounted and DIN rail-mounted versions with voltage options of 110/240 VAC or 24 VDC operation. Auto or manual reset, depending on model.



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# ABOUT SIGNAL MATS

Tapeswitch Signal Mat Products are intended for presence sensing in non-safety applications. They are typically used to detect the presence of a person or object and then operate a device or counter. Applications include lighting controls, entrance annunciators, intrusion alarms, or initiation of non-hazardous processes or machines. Products are available for:

- General commercial applications to detect the presence of a person
- Vehicle detection in car wash or environmentally demanding applications
- Transit-type applications for signaling, door opening, or counting

## Custom Designs with Short Lead Times

Tapeswitch routinely designs custom mats for unusual or difficult applications. We can provide nearly any shape or size, including products with odd angles, curves and cutouts.

Our special capabilities include:

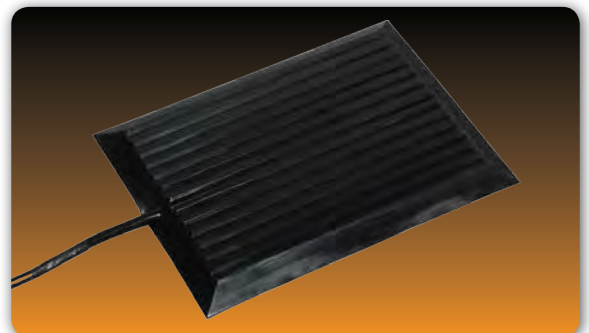
- Ultra - thin mats– Sensing mats that are only 3/16 inch thick



- Multi-zone mats – Different output signals from different areas of the mat
- Multiple colors and graphics – Special colors, logos or text molded in



- Custom sizes – Specify the size and shape you need



If you have a custom requirement and would like to speak to someone, give us a toll-free call at **1-800-234-8273** and ask to speak to an application engineer.

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## Commercial duty, non-safety



**CVP Switching Mats** are designed for commercial control, signaling, and counting applications. They feature minimum thickness, maximum durability and low cost. CVP Mats are flexible and conform to irregular surfaces, so installation is simple and straight-forward. They are water-resistant, but not immersible. Only 5 pounds of force is needed for operation. CVP Sensing Mats are not suitable for, and should not be used for, industrial safety applications or personnel protection.

### Features & Benefits

- Slimmest profile of any sensing mat
- Only 5 pounds of force needed for operation
- Flexible and water resistant
- Concealable under carpeting or matting
- May be placed under Masonite or plywood for heavy duty applications
- All models are UL listed

CVP Mats use field-proven ribbon switch technology, which eliminates the need for plates or screen mesh switching elements. They operate as normally open switches and can be used to control relays, lights or alarms from a low voltage source. CVP Mats can function as hidden switches when placed under carpeting or matting. For heavy duty applications, they can be placed under plywood or Masonite.

All units are tested at 1 ampere, 115 VAC. For floor switching, however, 24 volts or lower is strongly recommended.

### Features & Benefits

- Entrance annunciators for stores and offices
- Pedestrian counting
- Display advertising lighting
- Foyer lighting control
- Cash register protection
- Burglar and intrusion alarms
- Confessional booth signaling
- Check cashing photography
- Stairway lighting control
- Aged invalid alarm

### General Specifications

Actuation Force	5 lbs nominal with 2 inch (50 mm) diameter disc
Recommended Voltage & Current	24 VAC or VDC at 1.0 amps max
Colors	Olive green (for special colors, contact Tapeswitch)
Wire	18-Gauge 2 Conductor & 18 in to 6 ft. long (lead length varies by mat size)

### Standard Sizes

6 in. x 23 in. (154 mm x 584 mm) 18 in. lead	23 in. x 35 in. (584 mm x 889 mm) 18 in. lead
17 in. x 23 in. (432 mm x 584 mm) 18 in. lead	30 in. x 32 in. (762 mm x 813 mm) 6 ft. lead

Height 3/32 inches

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# MATEX® TREADLE SWITCH MATS

## For trains, buses, and other public transit



**Matex® Treadle Mats** are used on buses, trains, and trams for door Safety, door Opening, and passenger Counting. They can also be used at electric turnstiles or gates, ticket dispensing equipment, and other traffic control installations in the transit industry. Energy and maintenance savings can be achieved through their use for controlling escalator operation. Treadle mats are usually specifically designed for each application.

**Usually placed in the rear stairwell of a vehicle, a treadle mat sends a signal when stepped on. This signal usually serves one of four functions:**

1. To prevent the rear doors from closing on a passenger
2. To open the rear doors for an exiting passenger when the bus is stopped. The passenger steps down on the mat and the doors open
3. To be used as part of a passenger counting system
4. Installed on wheelchair lifts to signal that the wheelchair is in position for lift operation

### Features & Benefits

- Molded design and durable switching technology provide long operating life
- Simple screw-down mounting system for easy installation and maintenance
- Cutouts available to accommodate door pivots, door guides, handrails, etc.
- Standard or custom colors can be used to match vehicle color scheme
- Two-zone activation is available to implement “open” and “hold” door functions

### General Specifications

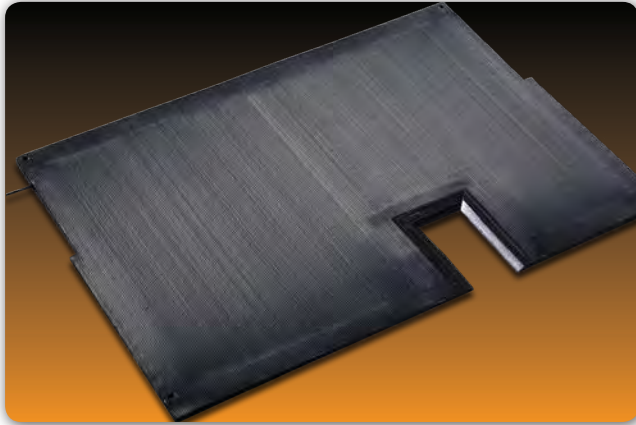
Actuation Force	33 lbs (147 N) nominal
Recommended Voltage & Current	30 VAC or VDC at 1.0 amps max.
Product Life	One million actuations
Environment	NEMA 4 & IP65 rated, 32 to 122°F (0 to 50°C)
Wire	18-Gauge 2 conductor & 6 ft. long

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# WHEELCHAIR LIFT SENSING MATS

## For wheelchair lifts on buses and vans



The **Wheelchair Lift Sensing Mat** is a specialty signaling product that is used to detect the presence of a wheelchair or powered scooter on a bus or van-mounted lift. The rugged design is easy to install and the ribbed surface provides excellent traction, even under wet conditions. The mat acts as a normally-open switch that provides a contact closure when the wheelchair or scooter is in place.

Wheelchair sensing mats are custom designed to provide exact fit to each application. Cutouts and angles are available to accommodate guides, supports, hand rails, and other mechanical features of the lift.

### Features & Benefits

- Moisture and abrasion resistant for long life
- Cutouts available to install around lift guides, rails, etc.
- Switch life of over millions operations at any point
- Simple screw-down mounting for ease of installation

### General Specifications

Actuation Force	30 lbs (134 N) nominal
Recommended Voltage & Current	12 to 24 VAC or VDC at 1.0 amps max.
Product Life	three million actuations
Environment	NEMA 4 & IP65 rated, 32 to 122°F (0 to 50°C)
Wire	3/16 in. & 12 in. long (Gray)
Color	Black or Yellow

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# Some of the industries we serve.

Industrial Plant Maintenance   **Stamping**   Lock out   **Area Guarding**  
Metalworking   **Plant Safety**   **Military**   Material Handling   Signaling  
Fabricating   **Manufacturing**   **Robotics**   Process Control   **OEM's**  
**Packaging**   Aerospace   Public Safety   **Gaming**   **Sensing**   Medical  
**Machine Guarding**   Monitoring   Entertainment   Access Control  
Emergency Response   **Transportation**   Amusement Parks  
Motion Sensing   Monitoring   Counting   **Machine Control**   Security



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