

## Product Selection—Standard Mats

| Mat Size [mm (in.)]                                               | Cat. No.                    |                       |
|-------------------------------------------------------------------|-----------------------------|-----------------------|
|                                                                   | Standard Perimeter Trim Kit | Safety Mat            |
| 500 x 500 (19.7 x 19.7)                                           | 440F-T1010                  | <b>440F-M1010BYNN</b> |
| 500 x 1500 (19.7 x 59.1)                                          | 440F-T1030                  | <b>440F-M1030BYNN</b> |
| 500 x 750 (19.7 x 29.5)                                           | 440F-T1015                  | 440F-M1015BYNN        |
| 750 x 750 (29.5 x 29.5)                                           | 440F-T1515                  | 440F-M1515BYNN        |
| 750 x 1500 (29.5 x 59.1)                                          | 440F-T1530                  | <b>440F-M1530BYNN</b> |
| 500 X 1000 (19.7 X 39.4)                                          | 440F-T1020                  | <b>440F-M1020BYNN</b> |
| 750 X 1000 (29.5 X 39.4)                                          | 440F-T1520                  | 440F-M1520BYNN        |
| 1000 x 1000 (39.4 x 39.4)                                         | 440F-T2020                  | <b>440F-M2020BYNN</b> |
| 1000 x 1250 (39.4 x 49.2)                                         | 440F-T2025                  | <b>440F-M2025BYNN</b> |
| 1000 x 1500 (39.4 x 59.1)                                         | 440F-T2030                  | <b>440F-M2030BYNN</b> |
| 1000 x 1800 (39.4 x 70.9)                                         | 440F-T2036                  | 440F-M2036BYNN        |
| Recommended control unit. For other control units, see page 5-69. |                             | <b>440R-C23139</b>    |

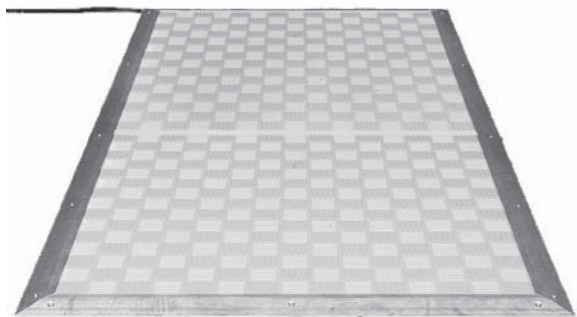
## Examples of Standard System Configurations

|  | Bill of Materials                                                          |          |                       |
|--|----------------------------------------------------------------------------|----------|-----------------------|
|  | Description                                                                | Quantity | Cat. No.              |
|  | Mat                                                                        | 1        | <b>440F-M2030BYNN</b> |
|  |                                                                            | 2        | <b>440F-M1010BYNN</b> |
|  | Mat                                                                        | 1        | <b>440F-M1030BYNN</b> |
|  | Perimeter Trim*                                                            | 2        | 440F-T3210            |
|  | Perimeter Trim*                                                            | 1        | 440F-T3310            |
|  | Active Uniting Trim<br>Used to join two mats<br>to ensure no dead<br>spots | 1        | 440F-T3220            |
|  | MatGuard Controllers                                                       | 1        | 440F-C4000S           |
|  | Corner Trim                                                                | 4        | 440F-T3012            |

**2-Safety Mats**

|  | Bill of Materials    |          |                       |
|--|----------------------|----------|-----------------------|
|  | Description          | Quantity | Cat. No.              |
|  | MatGuard Safety Mats | 1        | <b>440F-M2025BYNN</b> |
|  |                      | 1        | <b>440F-M1010BYNN</b> |
|  |                      | 1        | 440F-M1015BYNN        |
|  | Perimeter Trim*      | 1        | 440F-T3310            |
|  | Corner Trim          | 1        | 440F-T3012            |
|  | Uniting Trim         | 2        | 440F-T3020            |
|  | MatGuard Controllers | 1        | <b>440F-C4000P</b>    |
|  |                      |          |                       |

\* Customer must cut trim to proper length.



### Description

The MatGuard safety mat is a pressure-sensitive safeguarding product that is designed to detect the presence of people on its sensing surface.

The MatGuard safety mat has two conductive hardened steel plates that are held apart by non-conductive compressible separators. Each four-wire mat, operating on only 24V DC, is pre-wired and connected in series with other mats to form a floor level guarding system for hazardous areas. The circuit through the mat must be monitored by a safety-rated control unit, which may be a Minotaur Safety Relay, MatGuard control unit, or MatGuard Mat Manager. When the mat is clear, the control unit provides a signal to the machine control circuit.

When a mat is stepped on, the conductive plates touch and the resistance in the circuit falls to zero. This is monitored by the control unit, which sends a shutdown signal to the machine.

Since the MatGuard safety mat is completely sealed (IP67), water, liquids and coolants present no problem. In addition, the tough vinyl will resist bleaches, acids, salts and many industrial chemicals.

The unique molding process allows the long life and reliability of the mat.

### Features

- Hardened steel plate construction
- No dead spots
- 4-wire system to detect opens and shorts
- Can withstand a static pressure of 4500 psi
- IP67 rated

### Specifications

|                                 |                                                                                        |
|---------------------------------|----------------------------------------------------------------------------------------|
| Standards                       | EN1760-1, EN954-1, ISO 13849-1, IEC/EN60204-1, ANSI RIA R15.06, ANSI/B11.19, AS4024.5  |
| Category                        | Cat. 1 device per EN954-1, suitable for Cat. 3 systems                                 |
| Certifications                  | CE Marked for all applicable directives, cULus Listed, CSA Z432-04, and TÜV            |
| Power Supply                    | 24V DC, -20% +10%, provided by the control unit                                        |
| Connection Wire Length, Max.    | 200 m (656 ft)                                                                         |
| Cable Length                    | 4.5 m (15 ft) standard (see Product Selection)                                         |
| Detection Weight                | 30 kg (66 lbs) minimum on an 80 mm (3.125 in.) diameter circular disk                  |
| Maximum Pressure Applied to Mat | 31,034 kPa (4500 psi)                                                                  |
| Zone Size                       | 100 m <sup>2</sup> (1076 ft <sup>2</sup> ), maximum                                    |
| Mechanical Life                 | 10,000,000 operations                                                                  |
| Operating Temperature [C (F)]   | -25...55° (-14...131°)                                                                 |
| Relative Humidity               | 100%                                                                                   |
| Enclosure Type Rating           | IP67 (NEMA 6P)                                                                         |
| Vibration                       | 5 g, 10...200 Hz                                                                       |
| Shock                           | 11 ms 10 g/16 ms 10 g                                                                  |
| Terminal Protection             | IP 20 DIN 0470                                                                         |
| Wire Size                       | 0.75 mm <sup>2</sup> (18 AWG), 2 wire; 3.8 mm x 7.4 mm (0.15 in. x 0.29 in.) jacket OD |
| Weight                          | 10.9 kg/m <sup>2</sup> (2.2lbs/ft <sup>2</sup> )                                       |
| Material                        | Plastisol Vinyl                                                                        |
| Color                           | Yellow or Black                                                                        |
| Trim Material                   | 6063 Aluminum                                                                          |
| Mounting                        | Flat surface                                                                           |
| Thickness                       | 16 mm (0.63 in.)                                                                       |