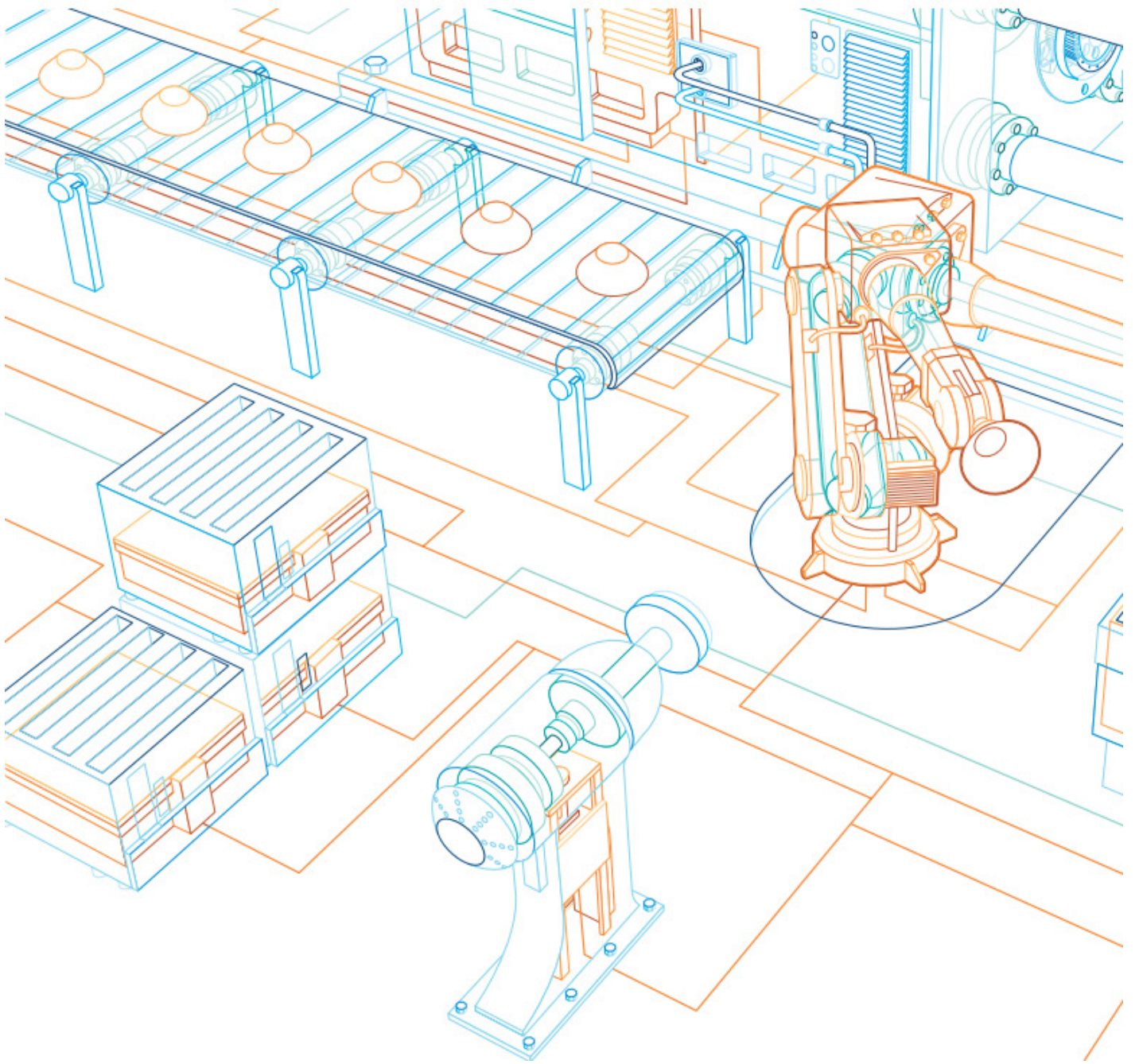


ABB Jokab Safety Safety Contact Mats

Power and productivity
for a better world™

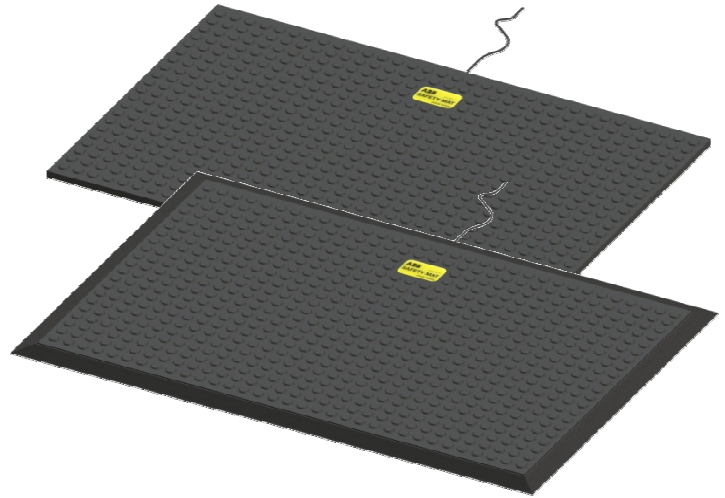




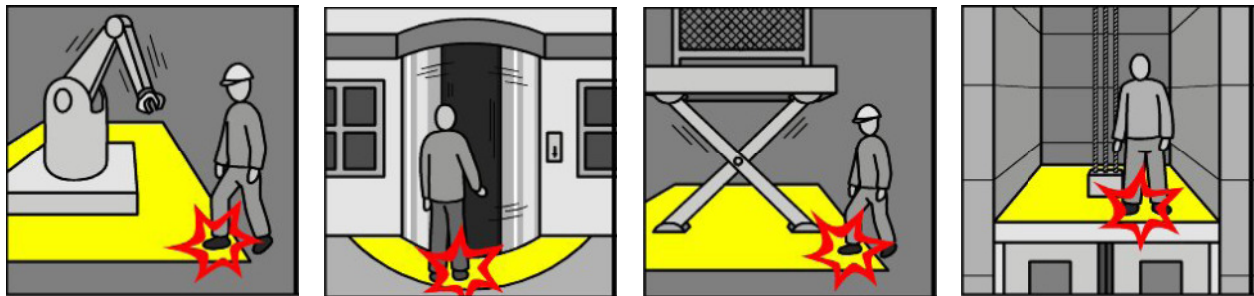
When should I use Safety Mats?

A Safety Mat is Used as Personal Protection Within Dangerous Areas

The ABB JOKAB SAFETY contact mat is used for safeguarding sections in hazardous areas around machines, presses, robots and other types of active equipment. When connected to a suitable monitoring system stepping on the mat surface triggers a control signal to the stop circuit of the potentially hazardous motion. This fast contact occurs due to the area switch design on the inside of the mat.

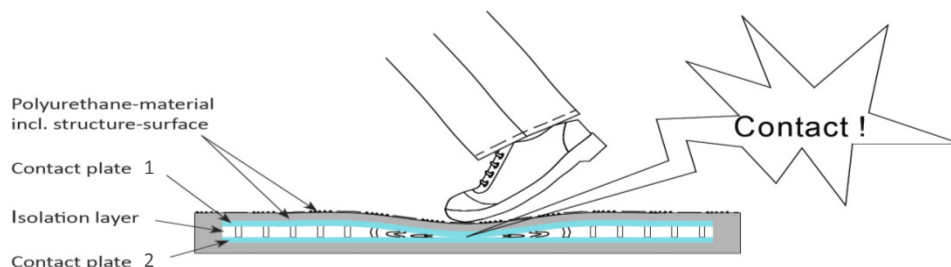


An anti-slip surface is also implemented into the design. The safety mat and its connection cabling can be supervised by a suitable ABB JOKAB SAFETY safety relay, Vital Controller or Pluto Safety PLC which provides PL d.



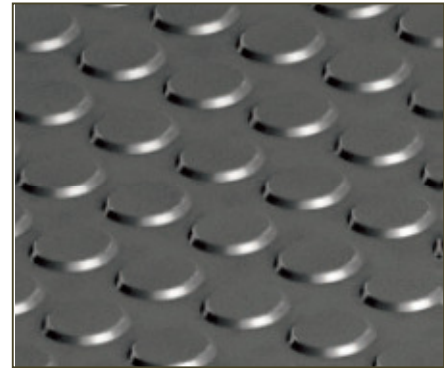
Safety Mat Construction

The basic construction of the ABB JOKAB SAFETY mat consist of two conductive plates which are separated by a proprietary isolating layer. These plates are completely potted in a polyurethane material so that they are impervious to oil, water and dirt. The top consists of a slip resistant dotted pattern. This surface provides excellent resistance against oil and grease. Mounting to the floor can be realized with either aluminum ramp rails or integrated rubber ramp trim.



Safety Mat Surface Layer

Safety mats are normally supplied with a dotted polyurethane non-slip surface layer that withstands tough conditions very well (oil, acid or caustic substances) and has anti-slip properties. If required, other patterns can be supplied, or for special requirements even other materials. Please contact us for more information about these alternatives.



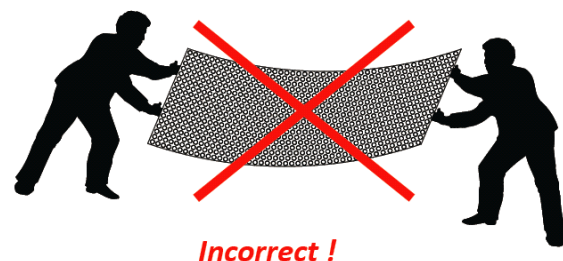
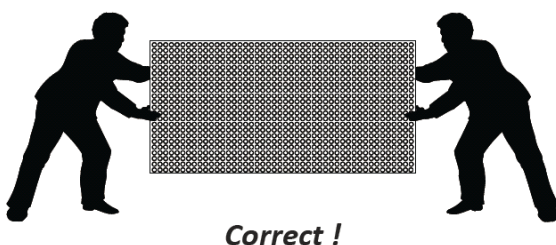
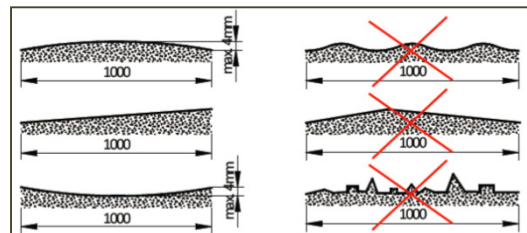
Safety Mat Electrical Connection

Safety mats must be connected to a suitable monitoring unit (e.g. ABB JOKAB SAFETY safety relays RT6, RT7A/B, RT9, Vital with Tina 6A or Pluto Safety PLC). The monitoring unit monitors the functionality of the contact protection and detects any breaks or short-circuits in the lines. Several Safety Mats can be connected in series while still retaining the same level of safety. When pressure is applied, the active surface of the contact area in the contact protection is closed and the safety output on the monitoring unit trips. A stop signal will be sent to the machine's safety circuits preventing any dangerous movements. Safety Mats are supplied with a 4 conductor 10m cable exiting out the middle of the long side. Conductors 1 and 3 are connected to the top plate (Safety channel 1) and conductors 2 and 4 are connected to the bottom plate (Safety channel 2).

Note: If alternative units are used rather than the recommended ABB JOKAB SAFETY relays, it is essential that the user checks their suitability with ABB JOKAB SAFETY before use. Failure to do so may result in incorrect operation and/or damage to the Safety Mat and invalidate warranty.

Safety Mat Mounting

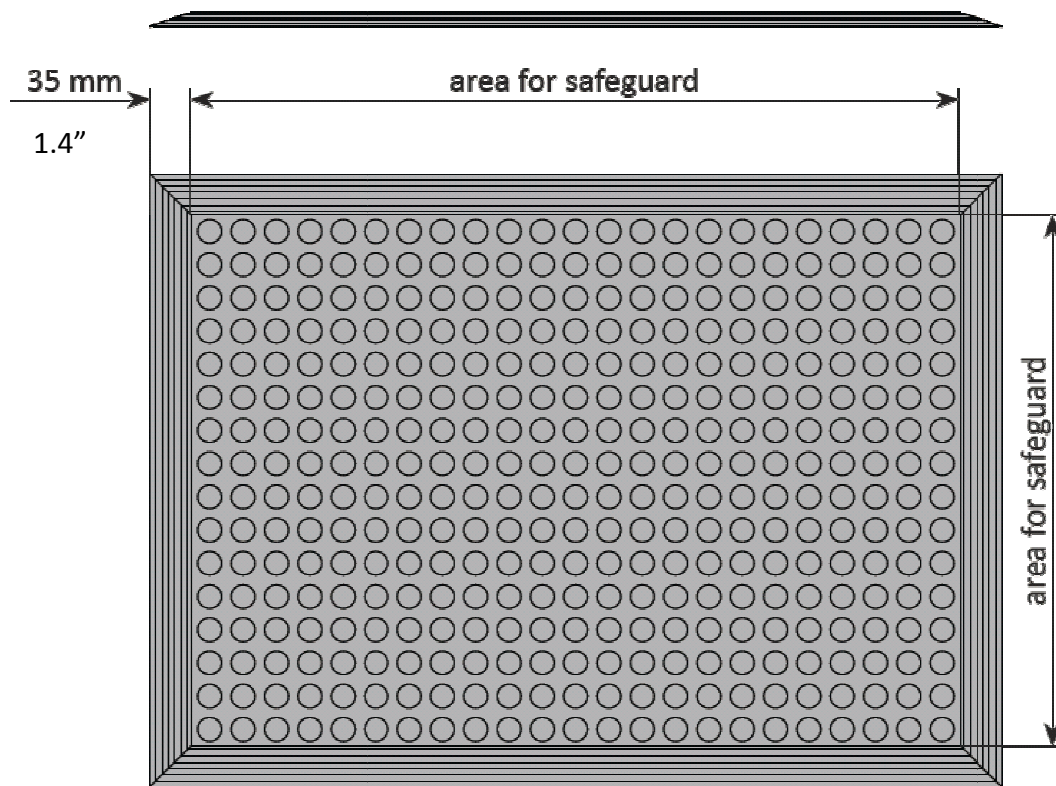
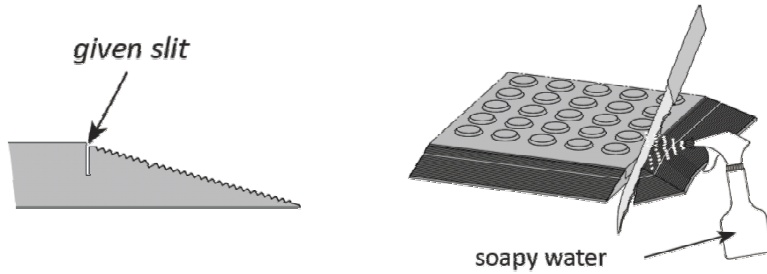
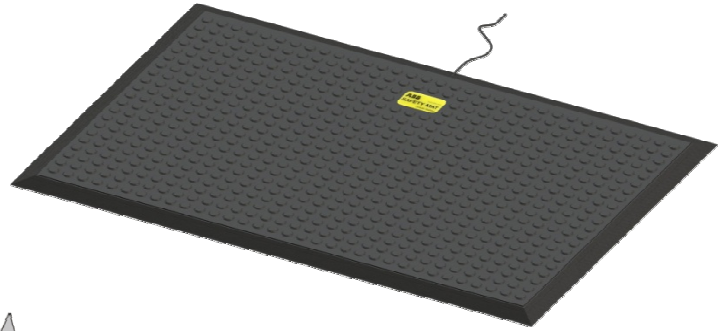
The ground on which the mats are to be laid must be level, clean and dry. The mats should not be glued to the ground. If more than one mat is to be installed be sure to place the mats edge to edge (without space).



NOTE: Safety mats must not be rolled/twisted or modified in any way. It is also essential that mats are not cut into any shape or shortened following delivery.

Safety Mat Mounting – Integrated Ramp Trim

In the case of safety mats with cast-in rubber edge trim, the mat is secured to the floor by screws straight through the edge trim. When placing several mats side by side the relevant integrated rubber ramp rails have to be cut off. To do this, cut off the ramp rail with a knife in the given slit (spray the knife and the cutting area with soapy water).



Please note for over measure

The areas to be safeguarded are made up by the dimension of the safety contact mat and the dimensions of 70 mm / 2.8" (for the ramp rail) must be added to this. The sum gives the total area required. The ramp rails are required for holding the mat in position on the floor.

The maximum size that can be manufactured is 4' x 6'. Sizes greater than this can be realized by sequencing several single mats together.

Safety Mat Mounting – Aluminum Ramp Trim

In the case of safety mats with an aluminum edge trim, see below. Place the selected edge trim to the mat. Mark the cable routes on the edge trim and cut out slots to allow cable access into the cable channel as indicated. Mark the locations of the securing screws along the scribed line on the edge trim. It is recommended that fixing screws should be located at 60 cm spacing. Secure the edge trim to the ground with 6 mm plugs and suitable screws. Plug the holes above the screws in the edge trim with the cover plugs provided.

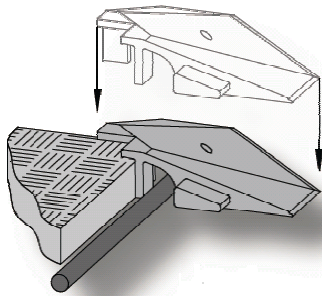
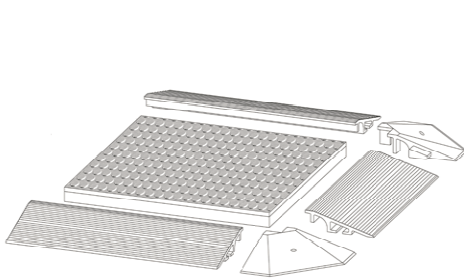
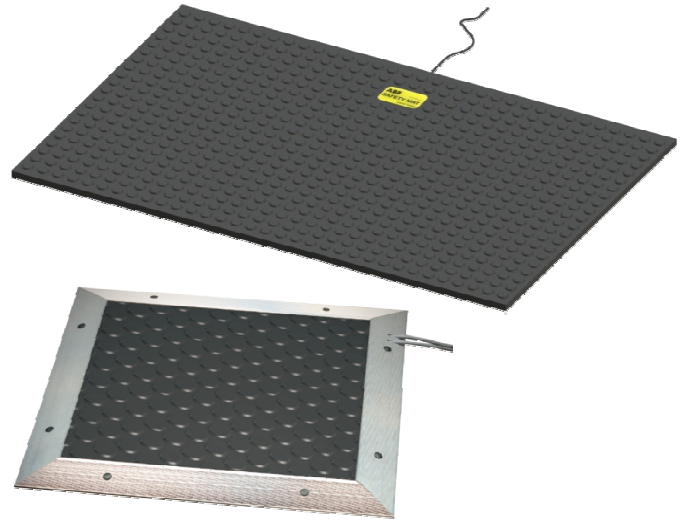


Fig. 1

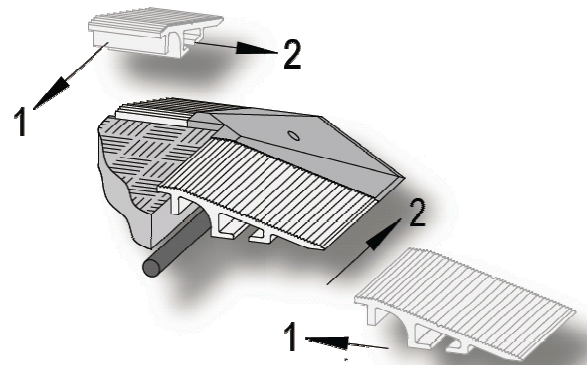


Fig. 2

When using corner connectors the ramp rail must be shortened around 20mm for each corner connector. The corner connector nearest the cable is to be mounted from above over the cable in such a way that the cable is guided safely in the cable duct (fig. 1). Afterwards drill and fasten it to the bottom with 6 mm dowel and suitable screw.

Push the ramp rails laterally to the mat and then on the fixation-pin of the corner connector (fig. 2). Mark the fastening points along the marking groove on the rail and pre-drill 10 mm for the intended plugs. Fasten the rails on the bottom with 6 mm dowels and suitable screws (approx. all 60 cm) and close the openings with the plugs (fig. 3).

Push the corner connectors laterally to the mat and then the fixation-pin into the rail. Afterwards drill and fasten it to the bottom with 6 mm dowel and suitable screw.

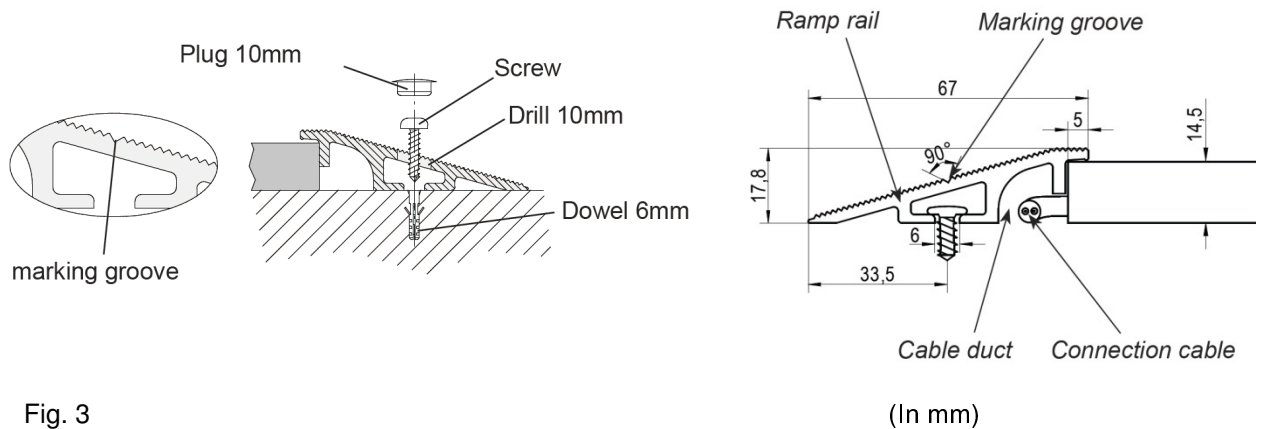
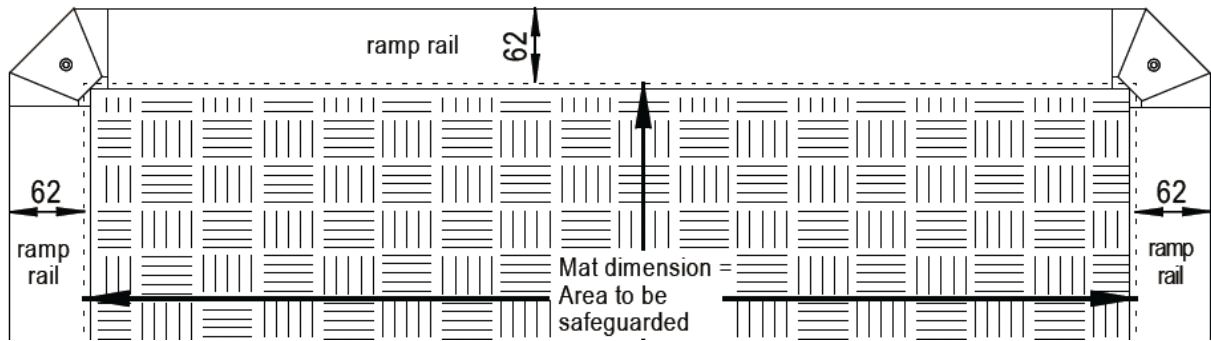


Fig. 3



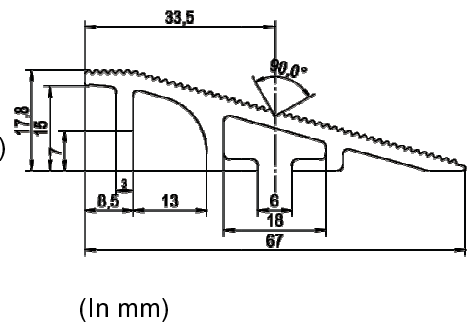
Please note for over measure

The areas to be safeguarded are made up by the dimension of the safety contact mat and the dimensions of 62 mm (for the ramp rail) must be added to this. The sum gives the total area required. The ramp rails are required for holding the mat in position on the floor.

The maximum size that can be manufactured is 4' x 6'. Sizes greater than this can be realized by sequencing several single mats together.

Safety Mat Trim – Specifications

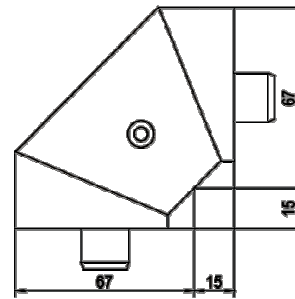
Material:	Aluminum AlMgSi 0,5
Standard delivery lengths:	10' (3048 mm)
Custom lengths	Length of Mat minus 0.75" (20mm) per corner connector
Weights:	approx. 788 g/lfm



Safety Mat Corner Connector – Specifications

Technical specification Corner Connector

Material: PA 6 black



(In mm)

Safety Mat – Specifications

Max. Dimension:	4' x 6'
Standard dimensions:	See Product Ordering Page
Construction height:	14 mm
Weight: approx.	17 kg/m ² (without covering)
Inactive border: max.	16/42 mm
Switching pressure:	Round body Ø 80 mm = ca. 150 N
Static load:	max. 2000 N over Ø 80 mm *
Response time:	max. 25 ms *
Switching cycles:	min. 1 million *
Electrical Capacity:	24 V 100 mA
Material:	Polyurethane black, 68 +/- 5 Shore A
Protection class:	IP 65
Temperature range:	-10 °C to + 55 °C
Chem. resistance:	Oil, greases - good 10 % acid - resistant 10 % lye - resistant
Maintenance:	The mat is maintenance free. Functional testing on an annual basis is recommended
Connection cable:	Standard 10m 4 conductor
Fire and shock evaluation:	UL 508 and CSA C22.2 no. 14

* Tested according to EN 1760-1

Safety Mat – Ordering Data

Safety Mat without Integrated Trim

Material Number	MATERIAL DESCRIPTION
2TLA858002R3800	SAFETY MAT WO TRIM 24" X 24"
2TLA858002R3900	SAFETY MAT WO TRIM 24" X 30"
2TLA858002R4000	SAFETY MAT WO TRIM 24" X 36"
2TLA858002R4100	SAFETY MAT WO TRIM 24" X 42"
2TLA858002R4200	SAFETY MAT WO TRIM 24" X 48"
2TLA858002R4300	SAFETY MAT WO TRIM 24" X 60"
2TLA858002R4400	SAFETY MAT WO TRIM 30" X 30"
2TLA858002R4500	SAFETY MAT WO TRIM 30" X 36"
2TLA858002R4600	SAFETY MAT WO TRIM 30" X 42"
2TLA858002R4700	SAFETY MAT WO TRIM 30" X 48"
2TLA858002R4800	SAFETY MAT WO TRIM 36" X 36"
2TLA858002R4900	SAFETY MAT WO TRIM 36" X 42"
2TLA858002R5000	SAFETY MAT WO TRIM 36" X 48"
2TLA858002R5100	SAFETY MAT WO TRIM 36" X 60"
2TLA858002R5200	SAFETY MAT WO TRIM 42" X 42"
2TLA858002R5300	SAFETY MAT WO TRIM 42" X 48"
2TLA858002R5400	SAFETY MAT WO TRIM 48" X 48"
2TLA858002R5500	SAFETY MAT WO TRIM 48" X 60"

Safety Mat with Integrated Trim

Material Number	MATERIAL DESCRIPTION
2TLA858002R5600	SAFETY MAT W TRIM 24" X 24"
2TLA858002R5700	SAFETY MAT W TRIM 24" X 30"
2TLA858002R5800	SAFETY MAT W TRIM 24" X 36"
2TLA858002R5900	SAFETY MAT W TRIM 24" X 42"
2TLA858002R6000	SAFETY MAT W TRIM 24" X 48"
2TLA858002R6100	SAFETY MAT W TRIM 24" X 60"
2TLA858002R6200	SAFETY MAT W TRIM 30" X 30"
2TLA858002R6300	SAFETY MAT W TRIM 30" X 36"
2TLA858002R6400	SAFETY MAT W TRIM 30" X 42"
2TLA858002R6500	SAFETY MAT W TRIM 30" X 48"
2TLA858002R6600	SAFETY MAT W TRIM 36" X 36"
2TLA858002R6700	SAFETY MAT W TRIM 36" X 42"
2TLA858002R6800	SAFETY MAT W TRIM 36" X 48"
2TLA858002R6900	SAFETY MAT W TRIM 36" X 60"
2TLA858002R7000	SAFETY MAT W TRIM 42" X 42"
2TLA858002R7100	SAFETY MAT W TRIM 42" X 48"
2TLA858002R7200	SAFETY MAT W TRIM 48" X 48"
2TLA858002R7300	SAFETY MAT W TRIM 48" X 60"

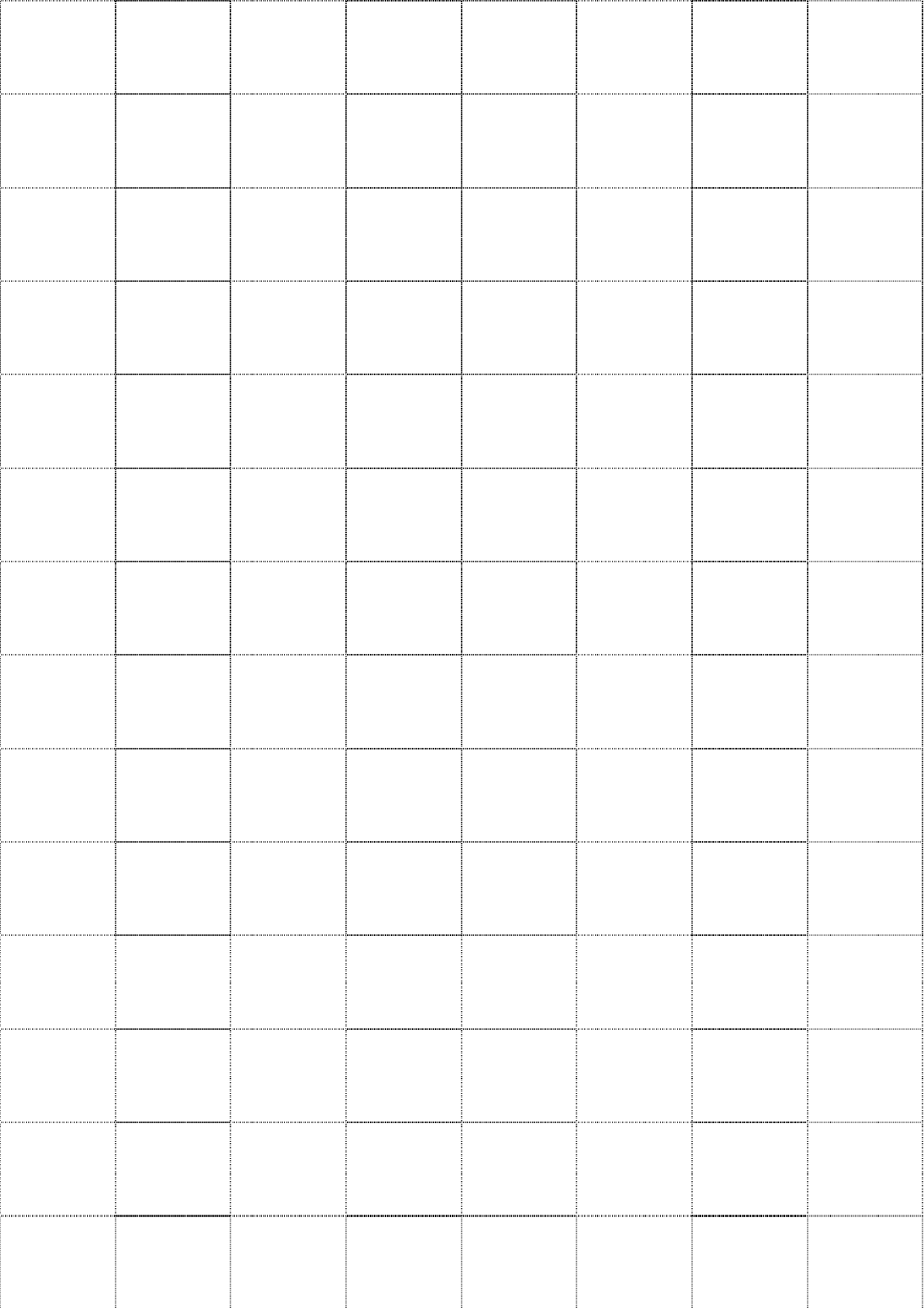
Note: Custom non-stocked Safety Mats are available upon request.

Safety Mat Aluminum Trim

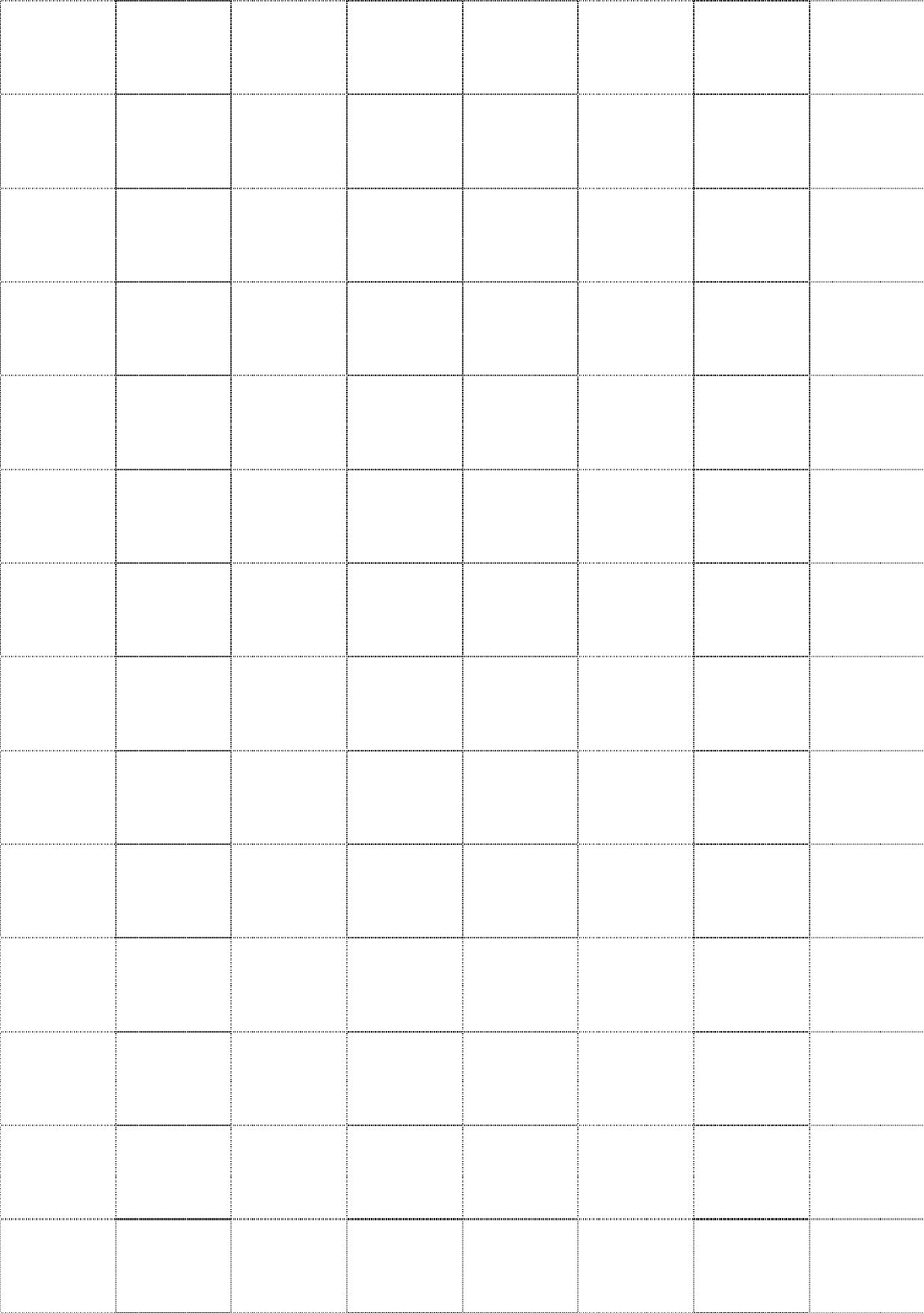
Material Number	MATERIAL DESCRIPTION
2TLA858002R7400	SAFETY MAT TRIM CORNER CONN.
2TLA858002R7500	SAFETY MAT ALUM. TRIM (by the inch)
2TLA858002R7600	SAFETY MAT DEMO SAMPLE

For Order Entry Support or Technical Support please contact ABB JOKAB SAFETY at 888-282-2123.

Safety Mat – Sketch Pad



Safety Mat – Sketch Pad



Contact us

ABB Inc.
ABB Jokab Safety Products
6471 Commerce Drive
Westland, MI US 48185

Phone: 1-888-282-2123
Fax: 1-800-565-9302

Web: www.jokabsafetyna.com

Document ID 1SXU172008C0201