

Intended use

Safety mats are employed to protect hazardous areas at machines and other equipment.

All Safety Mats of series HSM[®] meet the requirements for safety components according to the Machinery Directive 2006/42/EC.

Please note: The Safety Mat type HSM[®] is suitable for use in dry environment. When using cooling agents, oils, acids etc. please contact manufacturer for more information.

Function

Except for dimensions and shapes, the Safety Mats generally have an identical design. They contain the following components:

- Haake Safety Mat[®] HSM[®] (opening N/C contacts)
- Polyurethane sheath with contact mat and slip-resistant structure
- Aluminium ramp trim to fit sensor and avoid chance of tripping
- Double-insulated connection cables to the machine control system

Upon actuation of the Safety Mat (sensor), the current flow is interrupted, based on the special geometry of the wedge elements inside. This interruption represents the OFF condition of the output signal switching device and thus transfers the safety output signal to the machine control system.

The Safety Mat meets the requirements for automatic reset, since after removing the operating force, it will return by itself into the ON condition.

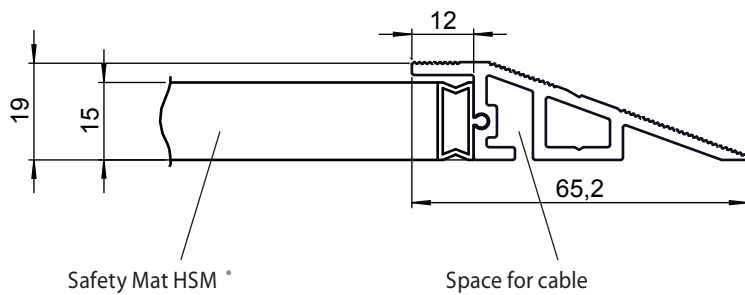
If it is required to work with a manual reset, this has to be implemented according to DIN EN 1760-1 by the machine control system.

Due to the positive break of the supply, (current circuit is broken), a separate safety control unit is not required. Safety Mat and control system together have to achieve the Performance Level that has been determined in the risk assessment.

Technical Data

Operating temperature:	+5 ... +50 °C
Enclosure sealing:	IP54 (standard)
Response time:	39 ms
Nominal voltage:	<50 V AC, 75 V DC (with safe separation from the supply system) A voltage source for SELV or PELV systems according to DIN VDE 0100-410 shall be used.
Nominal current:	max. 0.5 A, AC/DC The power supply shall be protected externally. (Fuse 0.5 A nominal value)!
Control category:	3 (to DIN EN ISO 13849-1)
Performance Level:	Possible up to d
Connection cable:	double-insulated, highly flexible single-core cables
Connection cable length:	max. 50 m
Sensor:	Embedded in polyurethane
Inactive border zone:	all around 30 mm, cable entry side 40 mm
Drivability:	Not suitable for starting, braking, turning of wheeled vehicles
Minimum dimensions, referred to individual sensor:	
Length 50 mm, width 60 mm (active zone)	
Maximum dimensions, referred to individual sensor:	
Length 2,000 mm, width 1,000 mm (active zone)	

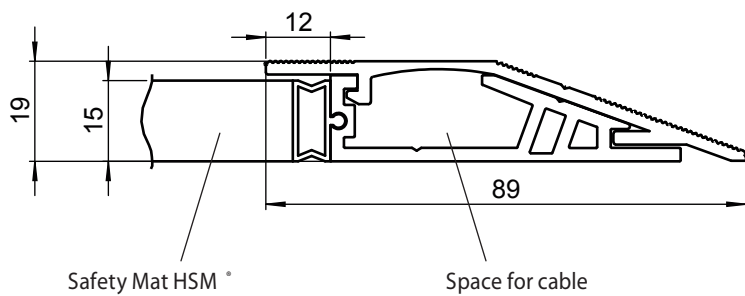
Technical data mounting profiles



Aluminium ramp trim (R 1)

Width: 65 mm, effective increase in width 60 mm

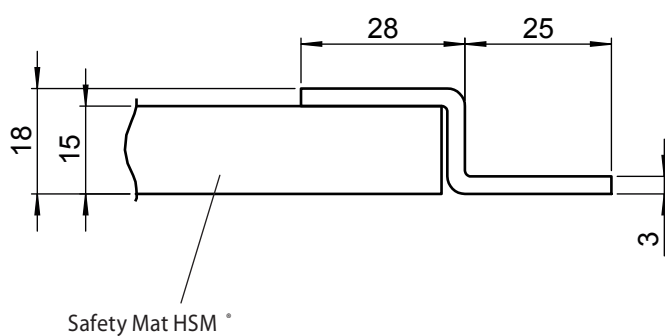
Material: Aluminium



Aluminium ramp trim (R 2)

Width: 89 mm, effective increase in width 84 mm

Material: Aluminium



Aluminium Z trim (Z)

Width: 52 mm, effective increase in width 28 mm

Material: Aluminium

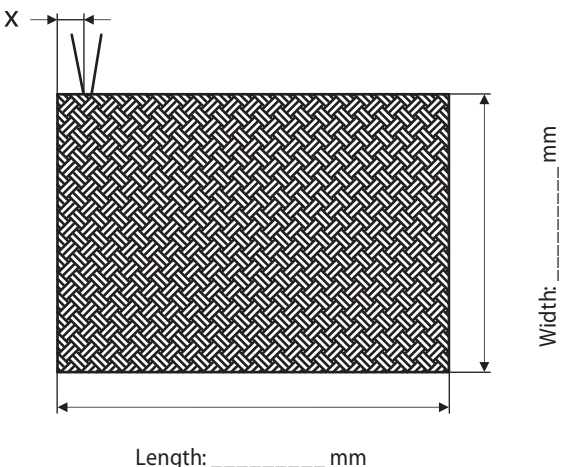
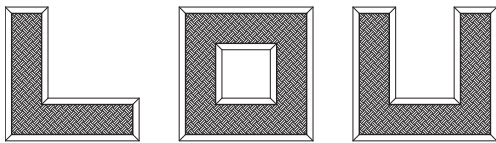
Inquiry

First and last name:		E-Mail:	
Company:			
Street and no.:			
Postal code/ZIP and city:		Country:	
Phone no.:		Fax no.:	

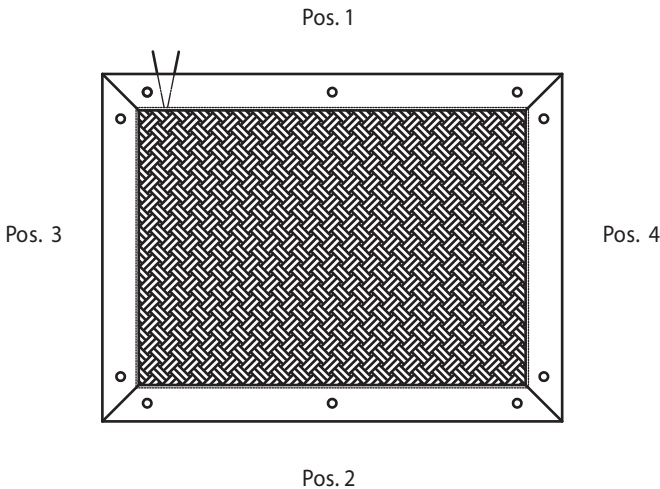
Quantity and application

Quantity:	Field of application:
	Ambient conditions (e.g. oils, lyes, acids):

Dimension of surface and position of cable exit

	x dimension of cable exit to edge: <input type="checkbox"/> 50 mm (Standard) <input type="checkbox"/> _____ mm (Upon request, surcharge)
	cable length: <input type="checkbox"/> 1.000 mm (Standard) <input type="checkbox"/> _____ mm (Upon request, surcharge)
	The following special profiles are available: 

Choice for mounting

	Aluminium ramp trim (R 1): Width: 65 mm, effective increase in width 60 mm Aluminium ramp trim (R 2): Width: 89 mm, effective increase in width 84 mm Aluminium Z trim (Z): Width: 52 mm, effective increase in width 28 mm				
		No trim	R1	R2	Z
	Pos. 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pos. 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pos. 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pos. 4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If not stated otherwise, fixing holes are dimensioned by us and their number is determined corresponding to the dimensions. Fixing material (screws, dowels, plugs) is supplied with the mat.