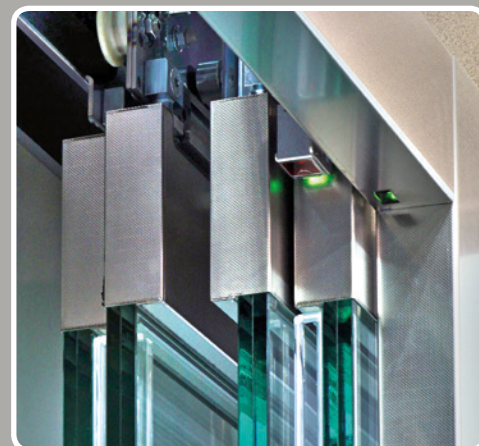


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Fingerguard[®]



Innovative safety system for glass lift doors

Innovative safety system for glass lift doors

The new MEILLER FingerGuard® system finally closes the security gap at lift entrances

Hands down: in future there will be no more accidents involving children getting their fingers trapped in lift doors, thanks to the newly developed FingerGuard® from MEILLER.



MEILLER solutions are anything but half-hearted, as amply demonstrated by the **FingerGuard®** finger protection system for children.

Unlike other protection systems that are currently available, **FingerGuard®** offers 100% protection against the risk of injury among children's hands. Moreover, the system is quick to install and only needs to be configured once.

FingerGuard® is registered for patent and is available for both centre-opening and telescopic lift doors.

Safe for children too?

It might be true in general that lifts are safe compared with other forms of transport, but they still represent a risk for children. Children are fascinated by anything that moves; for them the world is a huge adventure playground and they have little concept of danger; their body sense and balance are still developing and they do not have the motor skills of an adult.

This explains why children are so interested in lifts, and why they like to gaze into lift shafts and feel the motion of the lift – and they experience all of this with a sense of wonder and curiosity. Glass lift doors represent a particular danger, because children like to place their hands on the glass as they peer through the windows down into the shaft. When the lift car arrives and the doors open, there is a real risk of their hands getting trapped in the gap if they fail to take them away from the glass in time.

The most frequent injuries are crushing and lacerations but even broken bones are sadly not unheard of.

Underestimated risk

Studies at the renowned University of Indiana in Indianapolis, USA have shown that the risk of injury to small children from a technical elevator defect is very low, with only one in twenty incidents being of this nature.

On the other hand, the study also makes reference to the large number of so-called 'accidents' caused by human error or oversight. Accidents that would have been avoidable had the right kind of protection systems been installed.

No such thorough studies have been conducted for Germany; accidents occurring with lifts are generally recorded in hospital reports as contusions or lacerations. But based on the data from the USA, together with reports from the media, it can be assumed that there are also a considerable number of unreported cases.

FingerGuard®

Problem detected, problem solved?

Both the responsible standards committees and the manufacturers of lifts and lift doors have realised they need to act, and so over the last few years, they have taken steps to protect the youngest lift passengers from danger.

In terms of standards, the gaps at the glass doors, i.e. the gap between the door panels resp. between the panels and the door frame, has been reduced to between 3 mm and a maximum of 5 mm; this is, however, difficult to ensure when the doors are in constant service.

Reducing the transparency of door surfaces up to a height of 1100 mm (rising to 1600 mm in the future) reduces the risk of accident but impairs the doors appearance. Future standards will exclude coating surfaces with a substance designed to make hands slide away.

The majority of solutions proposed by manufacturers centre on a signal being emitted when anything comes into contact with the door frame; it is then sent to the controller, where the signal is processed into a command. Although the severity of the injury can generally be reduced using this type of system, the relatively long response time of the controller means that it is not possible to ensure that injury can be completely avoided. Moreover, the necessary sensors are generally mounted in an accessible area, where they are also prone to outside influence.

Lift manufacturers generally bemoan the tedious and often difficult installation of such systems, not to mention the complex configuration procedures. Lift operators dislike their high susceptibility to breakdown and the resultant reduction in overall performance.

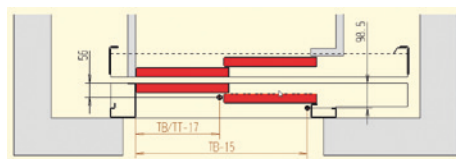
MEILLER FingerGuard® – more than a step ahead

The **FingerGuard®** from MEILLER is a finger protection system that satisfies all requirements.

The innovation consists of two components and combines maximum safety with rapid installation, low susceptibility to faults, and high overall performance of the door system.

The first component is the detector, which can be quickly and easily set to monitor the desired area. Unlike previous solutions, neither the frame nor the door panel are monitored but the space in front of the danger zones.

This space is narrower than usual, at 10-15 mm. This reduces the chance of a situation being misinterpreted while also preventing children's fingers passing through the monitoring area undetected.



The detector is configured once on the lift door. If an object is detected, the second component – a brake circuit located in the drive system – immediately prevents the door from closing.

The brake circuit serves to separate the door controller and the motor from the input signals of the door controller. The entire energy from the door drive is now used to counteract the motion of the lift door. This ensures that the door halts its movement before any fingers or hands can become trapped in the gap.



An elegant solution has also been found to the problem of misinterpretation: the system is only active during relevant phases of the door opening cycle. If the door is completely open, the sensor switches off.

The benefits of FingerGuard® – a handy guide

For lift passengers:

- > No more accidents involving children's trapped fingers or hands
- > Parents with small children can now use lifts without worry

For lift manufacturers:

- > Rapid installation and configuration
- > Immediately ready for use
- > No special knowledge needed for installation
- > Fault-free operation and high overall performance resulting in high level of user satisfaction

For lift operators:

- > Reduced risk of accident in entrance areas, e.g. with lifts in public spaces
- > Optimum overall performance thanks to very low susceptibility to breakdown and shorter down times
- > Positive marketing feature for property, particularly with buildings frequented by families (shopping centres, medical centres, etc.)

FingerGuard® - Executions

STANDARD VERSION

Landing door frame height:

- Upper frame higher by 50 mm
- Min. frame height:
 - 100 mm for side-opening doors
 - 130 mm for center-opening doors with closing weight inside the door frame
 - 100 mm for center-opening doors with closing weight outside the door frame

Transom height: 297 mm

**Minimum floor level distance:
increased by 50 mm**

**Incl. energy chain for cable duct,
installation on site**

INVISIBLE CABLE DUCTING

Landing door frame height:

- Upper frame higher by 50 mm
- Min. frame height:
 - 100 mm for side-opening doors
 - 130 mm for center-opening doors with closing weight inside the door frame
 - 100 mm for center-opening doors with closing weight outside the door frame

Transom height: 347 mm

**Minimum floor level distance:
increased by 100 mm**

**Incl. energy chain factory-made, mounted in
concealed position inside landing and car door
transom**



Meiller Aufzugtüren GmbH

Ambossstraße 4
D-80997 München

Phone: +49 89 1487 – 0

Fax: +49 89 1487 – 1566

E-mail: info@meiller-aufzugtuere.de

www.meiller-aufzugtuere.de