

Dedicated to People Flow™



6

A MANUAL FOR OWNERS, FACILITY MANAGERS AND OPERATORS

Safety checks for elevators

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1 Introduction

KONE moves millions of people with elevators, escalators and autowalks every day. To us, safety is of the utmost importance.

Elevator safety is a joint effort. Technology producers must manufacture equipment that meets applicable codes and standards. Building owners and maintenance service providers have a responsibility to make sure the equipment is professionally maintained and kept in good condition, and to inform KONE of any concerns.

We constantly strive towards achieving our ultimate goal of zero accidents by paying rigorous attention to our design, manufacturing, installation, and maintenance processes. It is our strong belief that all accidents are preventable.

This manual, intended for owners, facility managers and operators, is designed to explain important visual and functional safety checks that should be completed on a regular basis on all equipment.

By taking the time to check your equipment regularly you can maintain safety and security and facilitate smooth, uninterrupted journeys for everyone.

We recommend that personnel responsible for the daily safety or operation of the equipment in your property familiarise themselves with this manual and implement checks on the equipment as part of their daily inspection regime.

Only people with appropriate qualifications and training should work on equipment.

KONE Customer Care Center™

For further information, please contact the KONE Customer Care Center. We would be delighted to provide you with a more detailed presentation of the safety checks appropriate for your equipment.

- 1 300 362 022 (Australia)
- 0800 775 663 (New Zealand)
- KEA.ServiceCentre@kone.com

General safety measures

Before taking the elevator into operation, make sure that the following requirements are fulfilled:

- Establish a planned maintenance service program with a professional elevator maintenance company.
- Ensure that round-the-clock service is available for regular maintenance, unexpected breakdowns or emergency entrapment situations.
- Attach an information label with the name and telephone number of the maintenance company on an easily visible location inside the elevator.
- Check that the access ways to the elevator and to the elevator machine room are safe and clean.
- Keep the keys to the control panels and landing doors in a secure place that is accessible only to authorised persons. Strictly forbid personnel who have not received the proper training or authorisation from opening elevator doors, as this may cause serious injuries or fatalities, e.g., from falling into the pit. Entrust the keys only to competent personnel.
- Keep the machine room door locked and prohibit unauthorised access.
- Check your equipment regularly to help locate defective components before they cause hazards.

If your equipment has been maintained by a service provider other than KONE or is more than ten years old, please contact your KONE representative to agree on a KONE Care for Life™ assessment.

The assessment is a full evaluation of the safety, accessibility, aesthetics, performance and eco-efficiency of your equipment. It proposes how to enhance safety for end users while also assisting you in planning your budget for any necessary modernisation.

Regular tests during operation

A visual safety check and a functional safety check should be completed by the facility staff of the building on a daily basis.

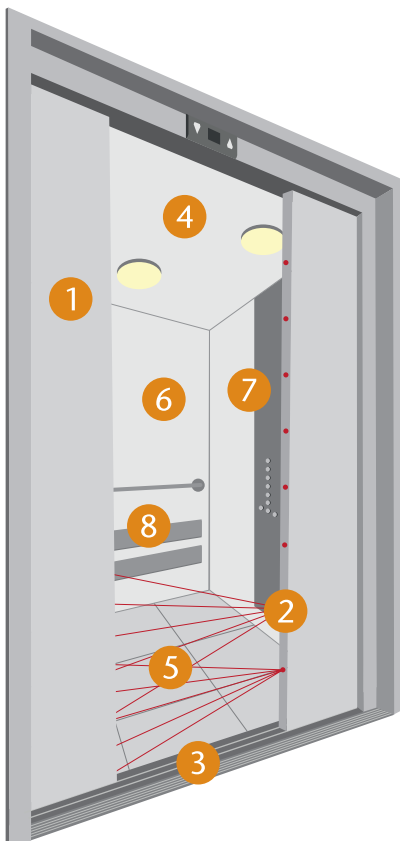
The building owner, facility manager or operator is strongly advised to keep a record of the safety checks. Please use the safety check log attached (see Appendix).

Any irregularities should be reported immediately to a KONE Service Technician or to the KONE Customer Care Center.

Main components of elevator



1. Lighting
2. Entry and exit area (landing)
3. Floor signage
4. Control cabinet
5. Landing buttons
6. Landing door panels
7. Landing door sill



1. Car door panels
2. Photocells or curtain of light
3. Car door sill
4. Car lighting
5. Car floor
6. Car walls
7. Car operating panel
8. Accessories

2 Visual and functional safety checks to be performed around the equipment

The following visual inspection determines the presence of any recognisable hazards such as:

- Damage caused by vandalism that may affect the condition of the equipment
- Broken glass or sharp edges
- Missing components, such as paneling or covers that could affect the safety of users

Landing door panels

- Make sure the surface of the door panels is free from scratches and that the door frames are not damaged
- Look for marks that could signal that force has been applied on the panels.
- The panels should not scrape against each other or the frames.
- Doors should not shake when in motion.
- Check that the gap between door panels is constant along the whole panel.

Control cabinet

Make sure the control cabinet doors are properly locked.

Lighting

- Make sure that all the lights are fully functional in the elevator entry and exit area.
- Check that the lights are not damaged or missing so that users can see any potential tripping hazards.

Entry and exit area (landing)

Check that the entry and exit area is dry, not slippery, and free of obstacles and unnecessary elements which could easily attract users' attention; for example, advertisement racks, monitors or decorations.

Landing door panels



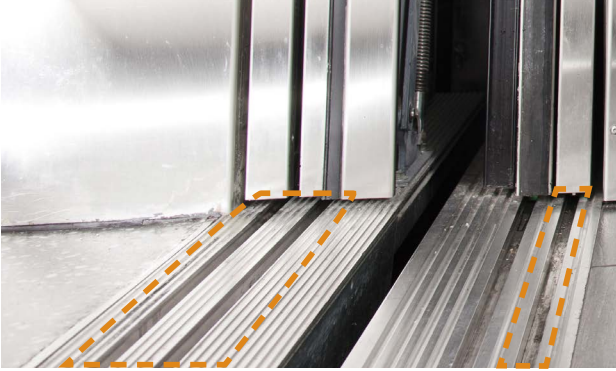
Control cabinet



Entry and exit area



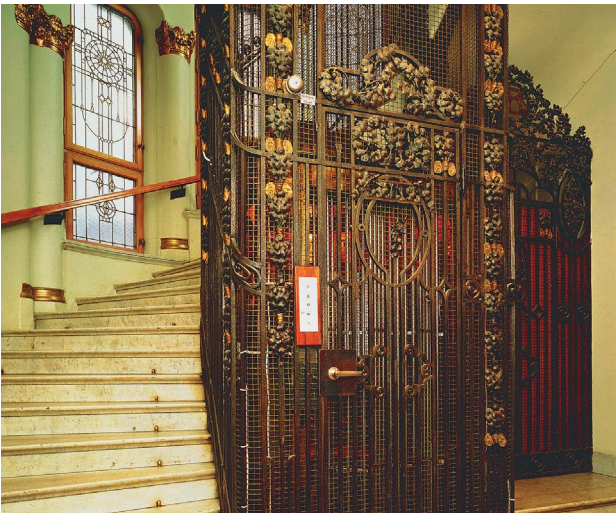
Landing and car door sill



Landing and car door sill

Verify that the sill grooves are free of debris and foreign objects. If the door sill groove is obstructed, attempt to remove the trapped objects with the help of a brush or a vacuum cleaner. If the objects cannot be removed easily, call the KONE Customer Care Center.

Steel mesh shaft walls



Steel mesh shaft walls

The steel mesh should not be damaged, as bigger holes could cause injuries.

Glass shaft walls

Check for damage in the glass shaft walls. If any is found, call the KONE Customer Care Center.



CAUTION: There is a danger of falling into the shaft or becoming injured if there are holes in the shaft wall.

Glass shaft walls



3 Visual and functional safety checks to be performed in the car

Car door panels



Car door panels

Make sure the surface of the door panels is free from scratches and that the door frames are not damaged. Look for marks that could signal applied force on the panels. Panels should not scrape against each other or the frames. Doors should not shake when in motion. Check that the gap size is constant along the whole panel.

Make sure the door glass panels are not broken. If the glass is damaged, put the equipment out of operation and call the KONE Customer Care Center.

Elevators not equipped with car doors

Check the inner door-side wall of the shaft for sharp or uneven edges.

Elevator without car door

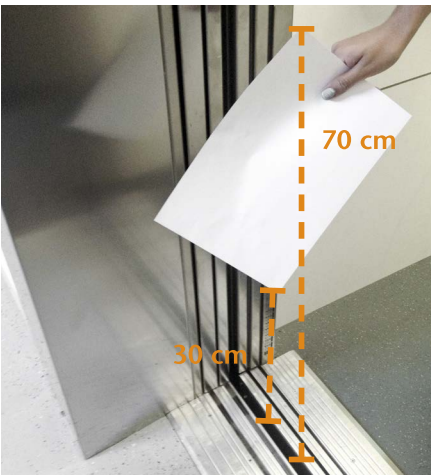


CAUTION: There is a danger of sharp edges causing injuries if the wall surfaces are not even.

Photocells or curtain of light

Verify that the door safety devices operate properly. Stand inside the car, wait for the door to start moving and hold a sheet of paper in the doorway at a 30 cm distance from the ground. The doors should reopen when the photocells or curtain of light are obstructed. Perform the check again by holding the paper at a height of 70 cm. If this does not activate the safety device, call the KONE Customer Care Center.

Photocells or curtain of light



Stopping accuracy

Check that the elevator car's floor is level with the landing floor when stopping. The stopping accuracy should not vary between the floors.

According to the latest code, the maximum tolerance shall not exceed +/- 10 mm.

The maximum tolerance varies somewhat depending on the equipment. It is affected by the age of the equipment and technology used. Verify the maximum tolerance for the equipment with the elevator maintenance provider.

Car lighting

Check that all the lights are fully functional. Check that the lights are not damaged or missing, and that the car is well lit so that users can easily see and use the operating panel.

Car floor and walls

Make sure the car floor and walls are not broken, as such damage may cause injuries.



CAUTION: There is a danger of injury if paneling is missing or broken inside the elevator car, exposing the shaft or other components.

How to measure stopping accuracy



Car interior



Door open button



Emergency stop button



Door open button

Verify that the door open button operates properly. Pushing it must reopen the doors and then close them after the open time has elapsed. This must take place while the car remains on the landing.

Emergency stop button

Check that the emergency stop button is operational. All elevators without car doors should be equipped with a stop button in the car. The stop button may also be found in some older elevators with car doors, or in elevators to which doors have been added on as an upgrade.

By pressing the button, the car must stop.

Information label



CAUTION: There is a danger of injury if the stop button does not work.

Handrail



Information labels inside the car

Verify that the information labels are in place, and have not been vandalized or removed. The text must be readable. It should provide information on the maximum load as well as the name and telephone number of the maintenance provider.

Car accessories

Make sure the mirrors are properly fixed, undamaged and free of sharp edges. Verify that the handrail, seat, buffer rails and other accessories are properly fixed.

Buffer rail



Noises and vibration during the ride

Take the elevator on a full journey up to the highest floor, and then down to the lowest floor, and then up again. There should be no noise, knocks, scrapes or irregular vibrations throughout the entire ride.

4 Taking the equipment out of operation

If you observe any malfunctions which could result in the elevator being taken out of operation, switch off the equipment, secure the affected area if needed and prevent reactivation by unauthorised personnel.

For further, more detailed instructions, refer to the owner's manual and contact the KONE Customer Care Center. They will provide you with the needed assistance or send a technician to the site to take the necessary actions.

Do not attempt to access the elevator pit or the shaft, as there is a danger of falling.

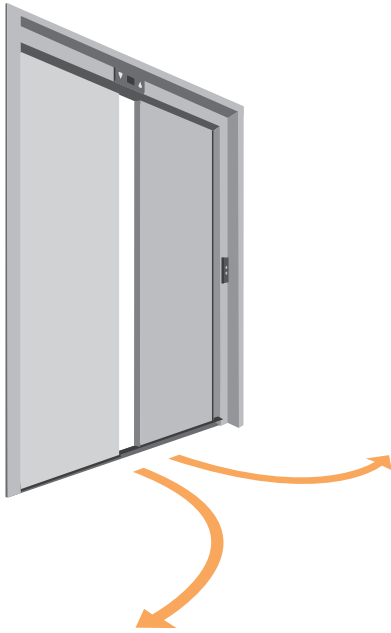


CAUTION: Releasing trapped passengers without adequate training or authorisation from the service provider is strictly forbidden. Do not attempt to access the elevator pit or the shaft, as there is a danger of falling or getting injured by moving elevator

5 Safety in and around the elevator

Safety instructions for conducting visual and functional safety checks

DOs



Keep the access ways to the elevator and working places safe and clean.

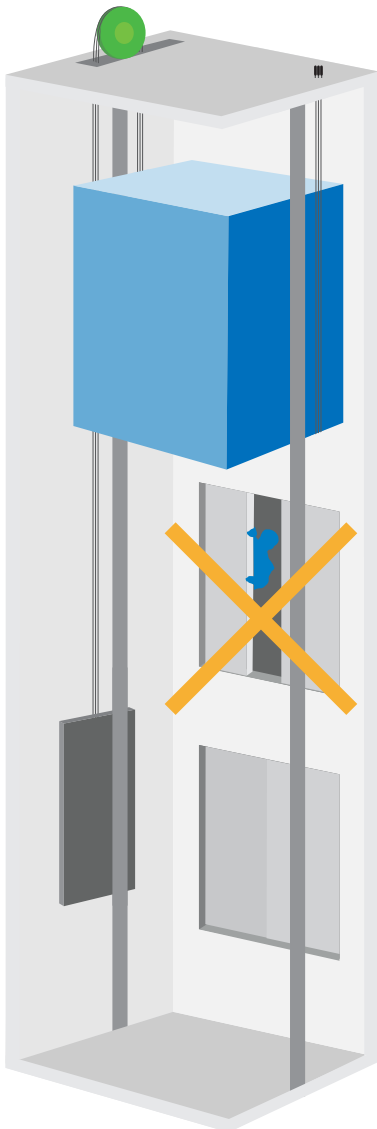


Keep the machine room locked to prevent unauthorised access.

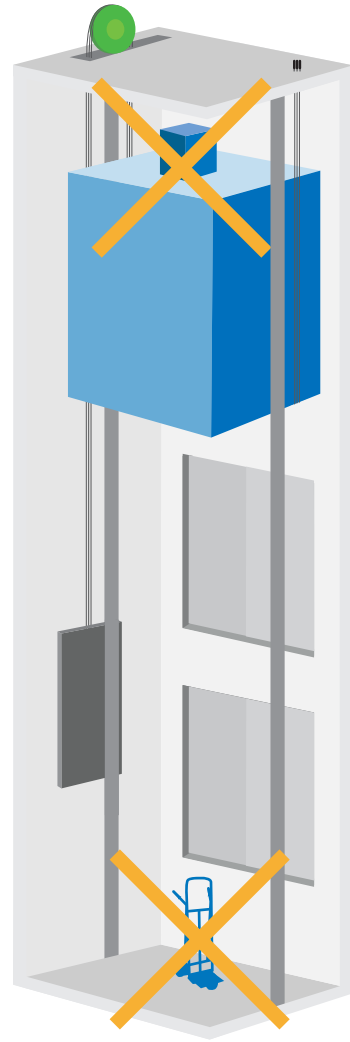


Contact the KONE Customer Care Center if you observe any malfunctions, irregular conditions, or other reasons to take the equipment out of operation, or that present safety concerns in any way.

DON'Ts



Do not attempt to access the elevator pit or the shaft, as there is a danger of falling into the shaft.



Do not transport or store anything inside the shaft or on the car top.



Do not try to release trapped passengers if you have not received the appropriate training or authorisation. Unauthorised personnel should never access the shaft.

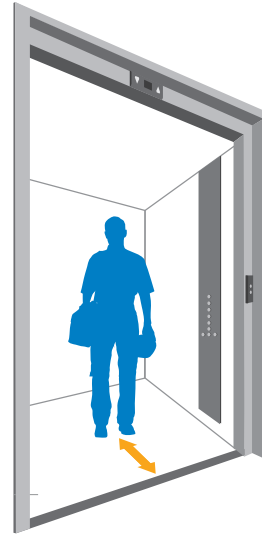
Safety instructions for end users

Being observant and acting sensibly can prevent elevator injuries and help ensure a safe and comfortable ride for everyone. Following these simple guidelines can enhance your safety and the safety of those around you. Building owners and managers should observe end-user behavior and instruct them when necessary.

DOs



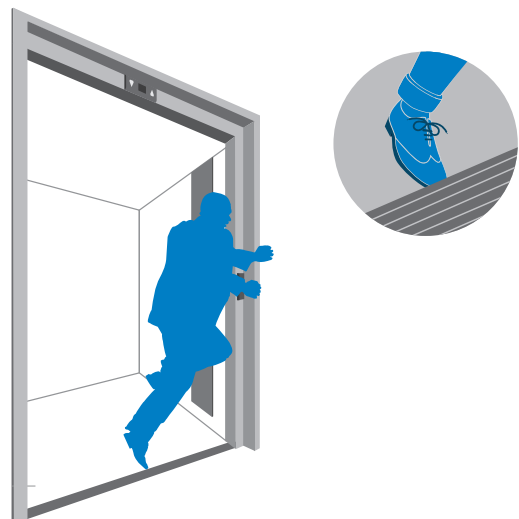
If the car is full, be patient and wait for the next ride.



When you enter the elevator, walk to the back of the car, face forward and keep away from the doors.

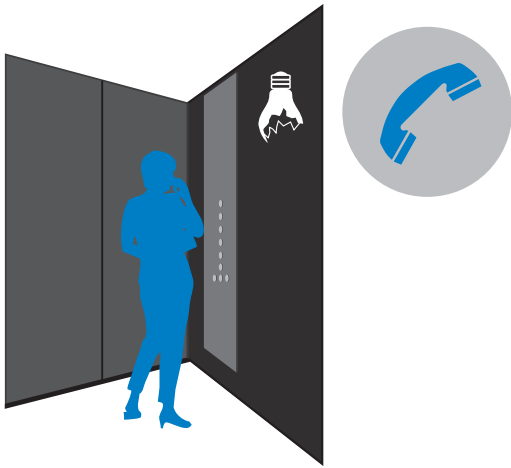


Children must always be accompanied by an adult, and their hand should be held for the duration of the ride. Pets should be kept close on a leash.



Watch your step when entering or exiting the elevator, as it may not be level with the landing floor.

DOs



If you notice something unusual about the elevator, inform the facility management immediately, or call the elevator maintenance company to inspect it.



Use the door opening button to hold the car for another person.



When transporting big and bulky equipment, try to distribute the load evenly inside the elevator car.

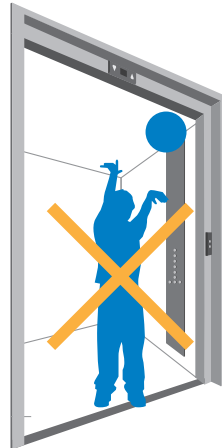


When using elevators which are not equipped with car doors, stay clear of the doors in order to prevent bulky items from getting wedged in or loose clothing from getting stuck in moving parts.

DON'Ts



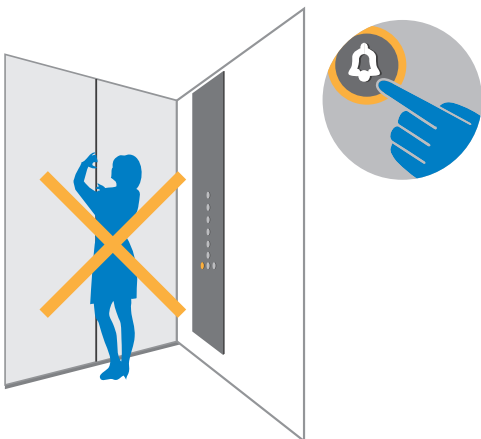
Do not use elevators in the event of a fire or other emergency.



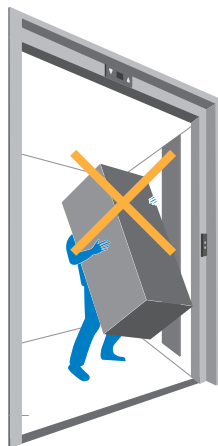
Do not play in or around an elevator.



Do not attempt to keep the doors open by placing objects or body parts in their way.



If trapped in the elevator, press the alarm button and wait for the service center to help. Do not attempt to get out on your own.



Do not overload or exceed the elevator capacity when you are moving heavy or large items. Look for a service or freight elevator, or use the stairs instead.

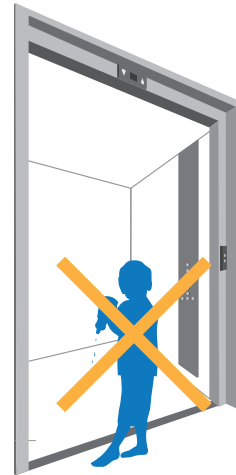


Do not lean on elevator doors or hold your hands against them. Make sure children do not do so either.

DON'Ts



Do not smoke inside the elevator.



Do not dump waste or water into the elevator shaft. Water will damage electric components and waste could cause mechanical problems with moving parts, such as doors.



Do not press both the up and down landing buttons while calling the elevator. Press only the button for the direction in which you wish to go.



While loading and unloading, do not use trolleys, walking aids or other equipment with small wheels, as these might damage the door sills or get stuck in them.

Daily safety check log for elevators

Building:	Address:
Unit ID:	Starting date:
Person responsible:	KONE Customer Care Center:

Complete this form for each elevator when conducting safety checks. If any of the items listed in this document are not functioning properly, the elevator must not be put into use. Call the KONE Customer Care Center immediately for further instructions.

Only personnel who have familiarised themselves with the *Safety checks for elevators* manual are allowed to inspect elevators. Persons conducting visual and functional safety checks must cover their hair or tie it securely. Loose clothing such as scarves, neckties or jewelry, including rings, must not be worn during inspections. Personnel must wear gloves at all times when checking elevators.

Please see a more detailed description of each checklist item in the *Safety checks for elevators* manual (OM-01.01.004).

Ref	Check list item	Page	Initials of person conducting the safety checks:						
			Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Landing door panels	6							
2	Control cabinet	6							
3	Lighting at the elevator landing	6							
4	Entry and exit area (landing)	6							
5	Landing and car door sill	7							
6	Steel mesh shaft walls	7							
7	Glass shaft walls	7							
8	Car door panels	8							
9	Photocells or curtain of light	8							
10	Stopping accuracy	9							
11	Car lighting	9							
12	Car floor and walls	9							
13	Door open button	10							
14	Emergency stop button	10							
15	Information labels inside the car	10							
16	Car accessories	10							

You may copy this safety check log for your own use, or order more copies by calling the KONE Customer Care Center.

Authorisation Notice

Authorisation notice

This publication is for informational purposes and is meant to advise the owners, facility managers and / or operators on how and when an elevator should be checked to provide for the maximum safety of users.

Please note that local or regional codes may specify additional or more restrictive requirements.

Illustration Notice

The illustrations in this manual are generic and may differ in some cases from the material used for the actual unit.

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Our engineers and sales consultants are always available to answer questions and provide speedy quotations no matter the job.

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