

# **Electrical and Mechanical Services Department**

## Code of Practice ON THE DESIGN AND CONSTRUCTION OF LIFTS AND ESCALATORS

### **Addendum No. DC03**

Section E: Part 1: Clause 5.10.5.5, 5.11.1.5, 5.11.1.6.1, 5.11.1.6.2, 5.12.1.12 of the above code of practice are revised as follows:

(Replaced Section E: Part 1: Clause 5.10.5.5)

**5.10.5.5** While the main switch has disconnected the supply to the lift, any automatic operated movement of the lift (e.g. automatic battery powered operation, **automatic rescue device**) shall be prevented.

(Replaced Section E: Part 1: Clause 5.11.1.5)

#### **5.11.1.5 Automatic Rescue Device and Post-Voltage-Dip-Operation Means**

(Added Section E: Part 1: Clause 5.11.1.5.1.1)

##### **5.11.1.5.1.1 Post-Voltage-Dip-Operation Means**

The lift shall be equipped with a post-voltage-dip-operation means. In the event of voltage dip of the main power supply rendering the lift inoperative, the means shall be able to:

- a) send the car to a landing. Then, open the car and landing doors to release the passengers, or;
  - b) resume the normal operation of the lift,
- when the normal power supply is stabilized after a voltage-dip event to the main power supply.

The post-voltage-dip-operation means shall prevent the lift to be restarted, if further lift operation will lead to a dangerous situation.

(Added Section E: Part 1: Clause 5.11.1.5.2.1)

##### **5.11.1.5.2.1 Automatic Rescue Device**

An automatic rescue device is required for non-fireman's lift unless alternative power source (e.g. emergency generator) is available to power the lift.

Any automatic rescue device, if installed in a fireman's lift, shall be inoperative when the fireman's switch is activated.

The automatic operated movement of the lift powered by an automatic rescue device shall be prevented if the main switch has been disconnected to the power supply. The requirements of main switch shall be referenced to 5.10.5.1, 5.10.5.2 and 5.10.5.5.

The automatic rescue device shall prevent the lift to be restarted, if further lift operation would lead to a dangerous situation.

The automatic rescue device shall be compatible with the lift system.

(Added Section E: Part 1: Clause 5.11.1.5.2.2)

#### **5.11.1.5.2.2**

An automatic rescue device shall be able to maintain the car in a momentary operation for the safe exit of passenger when there is a power failure. When the device detects power failure, it shall use its internal auxiliary power source (e.g. battery) to move the car to the nearest landing in a direction depending on load condition, and shall open the car and the landing doors to release the passengers. The car will then remain out of service until normal power supply is resumed.

(Replaced Section E: Part 1: Clause 5.12.1.12)

#### **5.12.1.12 Home Landing Operation**

Every lift shall be provided with a facility to bring the lift to the home landing in case of fire by manually operated switch installed at the home landing floor or Building Management Office. This switch shall only be operated when it is safe for the lift to return to the home landing. In the case the lift is a fireman's lift, the home landing is the designated point of entry (see Section F of the Design Code).

The automatic home landing operation activated by a building fire alarm signal or automatic actuating device is subjected to the requirements of Fire Services Department and their approval.

When normal power supply fails, **the emergency power must be sufficient for the sequential returning of the lifts to home landings** while the fireman's lift is/are in operation. The operation of fireman's lift(s) shall not be affected in any case.

The emergency power need not be provided **to the home landing operation** if no emergency power supply is required for fire services installations at the building. Any connection to the emergency generator for fire service installations and equipment is subjected to the approval of the Fire Services Department.

Section E: Part 4: Clause 4.10, 5.4.2.1.1.3, 5.12.2.5, 5.12.3.2 of the above code of practice are revised as follows:

(Replaced Section E: Part 4: Clause 4.10)

#### **4.10 Hazards Specific for This Type of Machine**

Many hazards are specific for that type of machine. These include:

- missing steps or pallets (see 5.3.6);
- trapping by hand winding device (see 5.4.1.4);
- misuse by transporting other items than persons (e.g. shopping or luggage trolleys, push chairs) (see ~~7.4.1-d~~, A.4, Figure G.4, Annex I);
- climbing on the outside of the balustrade (see 5.5.2.2);
- sliding between balustrades (see 5.5.2.2);
- climbing over the balustrade (see 5.5.2.6);
- storage of merchandise adjacent to the balustrade (~~see 7.4.1-d~~);
- creation of traffic jam at blocked landings or intermediate exits of consecutive escalators or moving walks (see A.2.5, A.2.6);
- disturbance of the person flow in connected escalators/moving walks (see A.2.5, A.2.6);
- lifting by the handrail at the newel ends and falling over adjacent fixed barrier or the balustrade of the escalator/moving walk (see A.2.7)

(Replaced Section E: Part 4: Clause 5.4.2.1.1.3)

#### **5.4.2.1.1.3 Operational Braking by Electrical Braking**

For electrical braking (e.g. electrical braking with inverter) the requirements

according to 5.4.2.1.1.1 a) shall be fulfilled.

An electro-mechanical brake according to 5.4.2.1.2 is required and also to be initiated under the conditions of 5.12.3.5.2

(Replaced Section E: Part 4: Clause 5.12.2.5)

#### **5.12.2.5 Actuation of Safety Devices**

The components actuating the safety devices shall be selected and assembled so that they are able to function properly even under the mechanical stresses resulting from its continuous operations.

Fixing element for safety device shall ensure the operation of the function by mechanical or geometric arrangements.

In the case of redundancy type failsafe circuit, it shall be ensured by mechanical or geometric arrangements of the detecting elements that a mechanical fault cannot cause unnoticed loss of redundancy.

Detecting elements of failsafe circuits shall fulfil the requirements in EN115-1 if its malfunction is not detected.

(Replaced Section E: Part 4: Clause 5.12.3.2, NOTE)

See EN115-1 for manual starting and the obligation to observe a complete revolution of the step/pallet band before making the escalator/passenger conveyor available to the public after maintenance.

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