Eurolift
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EN 81-20 and EN 81-50

EN 81-20 and EN 81-50: what they require

Two complementary standards

Safety of users

Safety of technicians

What about existing buildings?



Since 2017, every new lift installed in Europe must comply with EN 81-20 (construction and installation) and EN 81-50 (design rules, calculations and tests of components). Here are the main requirements and how our lifts meet them.

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Two complementary standards

EN 81-20 sets the construction and installation rules for passenger and goods passenger lifts. EN 81-50 defines how safety components are designed, calculated, checked and tested. They apply under European directive 2014/33/EU and protect two groups: users and the technicians who maintain the lift.

Safety of users

Car door opening · cl. 5.3.15.2

Outside the unlocking zone, the car door must not open more than 50 mm under a 1,000 N force: mechanical door lock or opening restrictor.

Door detection · cl. 5.3.6.2.1.1

If presence detection fails, the door closes at reduced speed with an audible signal, or the lift is taken out of service.

Fire resistance · cl. 5.4.4

Car materials rated at least Cfl-s2 for the floor, C-s2,d1 for the walls and C-s2,d0 for the ceiling.

Wall strength · cl. 5.4.3.2

Under 1,000 N, no permanent deformation above 1 mm; laminated glass walls pass hard and soft pendulum tests.

Door strength · cl. 5.3.5

Panel connections at 1,000 N, limited deformation under 300 N and 1,000 N, and a mechanical means keeps the panels in their guides on impact.

Car lighting · cl. 5.4.10.1

At least 100 lux 1 m above the floor in normal service, and 5 lux for 1 hour in emergency lighting.

Passenger evacuation · cl. 5.4.6.1

When an emergency trap door is fitted in the car roof, its clear opening is at least 0.40 × 0.50 m.

Brake self-monitoring · cl. 5.6.6.2

Each machine brake must be checkable; with the QI Touch controller, each brake is tested individually from the landing cabinet.

Machine certification · cl. 5.6.6.4

Upward overspeed protection may act on the traction sheave shaft under conditions; Sodimas machines hold a conformity certificate.

Shaft walls · cl. 5.4.2.2

Under 1,000 N, no permanent deformation above 1 mm and no elastic deformation above 15 mm.

Safety of technicians

Refuge spaces · cl. 5.2.5.7 and 5.2.5.8

At the top of the shaft and in the pit: standing 2.00 × 0.40 × 0.50 m, crouching 1.00 × 0.50 × 0.70 m; in the pit, lying 0.50 × 0.70 × 1.00 m.

Balustrades · cl. 5.4.7.2

0.70 m high if the gap to the shaft wall is between 0.30 and 0.50 m, and 1.10 m beyond 0.50 m; resistance to 1,000 N.

Car roof · cl. 5.4.7 and 5.4.8

Inspection control reachable from the refuge space, non-slip surface, roof withstanding 2,000 N on 0.30 × 0.30 m.

Mechanical safety in the shaft · cl. 5.5 and 5.2.6.4.4.1

Standard rope terminations, rope retainers on sheaves and mechanical stopping of the car if it moves unexpectedly during maintenance.

Electrical safety in the shaft · cl. 5.10 and 5.12

Residual current protection on the safety chain and door operators, 0.30 m/s maximum in inspection near the shaft ends, 200 lux at the controller.

Pit access · cl. 5.12

Inspection box with lighting, controls and power socket; fixed or retractable ladder for pits under 2.50 m.

Information for technicians · cl. 5.2.5.7

Number of people allowed on the roof, permitted postures and work instructions displayed.

Door bypass · cl. 5.12.1.8

Dedicated switch in the controller, audible and visual signal under the car and an electrical check preventing normal service with bypassed contacts.

Shaft emergency lighting · cl. 5.4.10.4

5 lux for 1 hour near the emergency control; with QI Touch, lighting of the whole shaft is backed up in a power cut.

Marking of safety components · cl. 5.11.2.3.5

Each component shows the manufacturer, the certificate number and the type of device.

Goods passenger lifts · cl. 5.4.2.2

Rated load and rules for handling equipment displayed at every landing.

What about existing buildings?

To replace a lift in an existing shaft, EN 81-21 allows, under conditions, reduced pits and headroom with additional safety devices. This is how the Médium range can work with a 300 mm pit in existing buildings, against 1,000 mm in new builds.

Frequently asked questions

Are EN 81-20 and EN 81-50 mandatory?

Yes, for new lifts placed on the European market since 1 September 2017, under directive 2014/33/EU. Outside Europe they are often used as a reference; we adapt the lift, after study, to local rules.

Must an existing lift be brought up to EN 81-20?

No, these standards apply to new lifts. Existing lifts follow national rules on the safety of the installed base; a modernisation is the time to address the main safety points.

Which documents prove compliance?

Each lift is supplied with its declaration of conformity and the type-examination certificates of its safety components.

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