



CEN TC 10 (Lifts, escalators and moving walks)

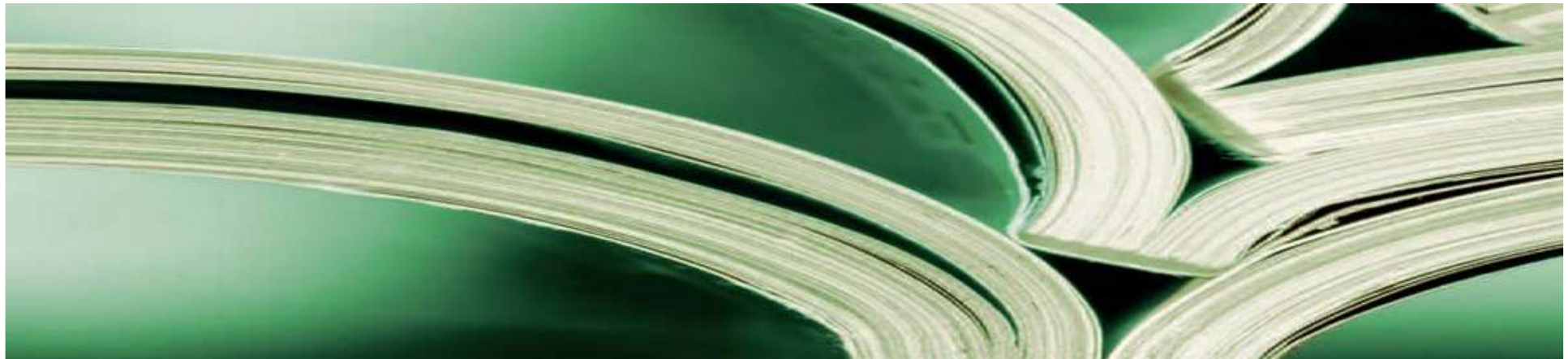
Introduction to EN 81-20/-50

Issue: 2015-03-27





CEN TC 10 (Lifts, escalators and moving walks)



Background



EN 81-20 and EN 81-50

CEN/TC 10

CEN TC 10 (Lifts, escalators and moving walks)

- Technical Committee 10 (TC10) in CEN
- Developing and maintaining European standards for lifts, escalators and moving walks
- Established in 1971
- Contribution of more than 400 National experts
- Two main standards
 - *EN 81-20 (EN81-1 and EN81-2) for Lifts*
 - *EN115-1 for Escalators*

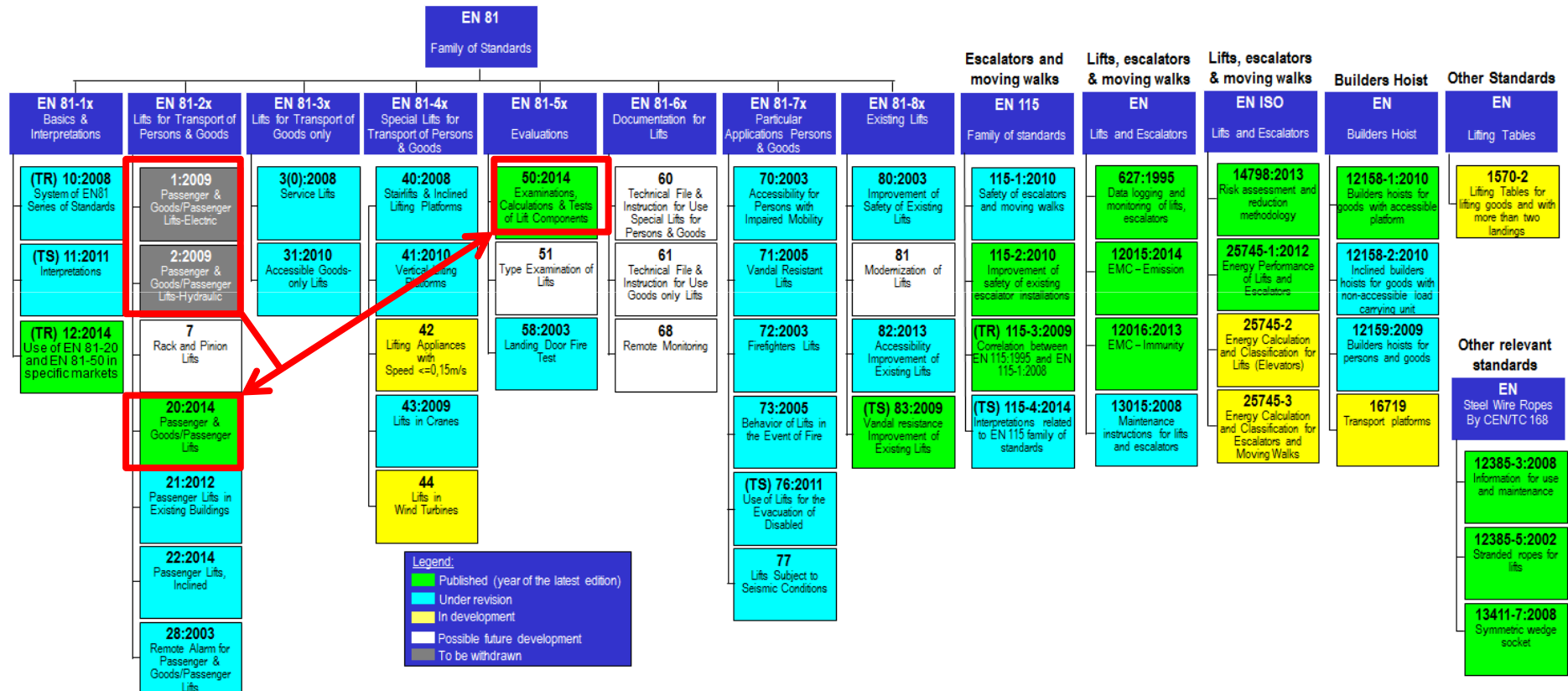




EN 81-20 and EN 81-50

CEN/TC 10 Work Program

CEN TC 10 (Lifts, escalators and moving walks)



Total of 44 standards, 37 published and 7 under development



EN 81-20 and EN 81-50

Revision of EN 81-1 and EN 81-2

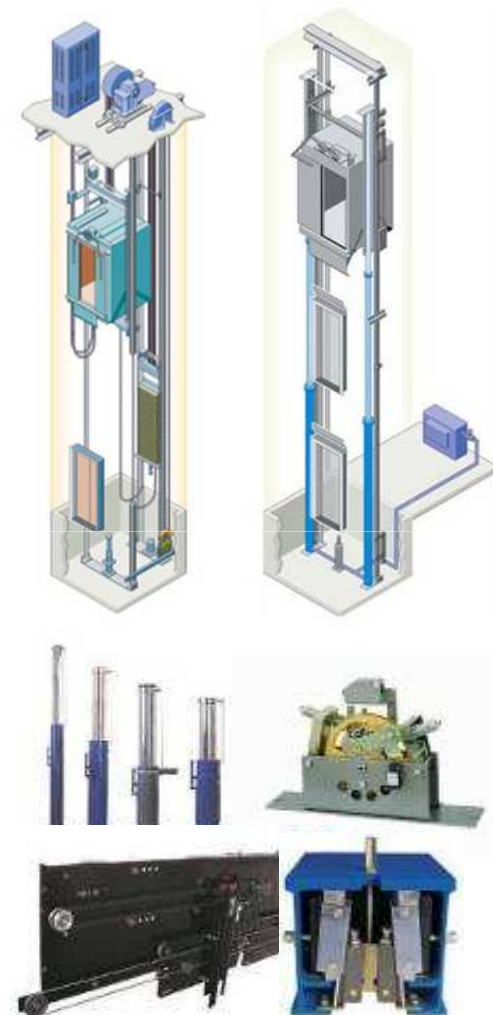
CEN TC 10 (Lifts, escalators and moving walks)

→ Result of revision of EN 81-1 and EN 81-2, two new standards

EN 81-20: *Requirements for complete passenger or goods passenger lift installations independent of the driving system*

EN 81-50: *Description of the examinations, calculations and tests of lift components used in any type of lift (passenger, goods passenger, goods only lift, etc.)*

→ *New format for the standards, with many changes to all aspects and many new or improved safety provisions*

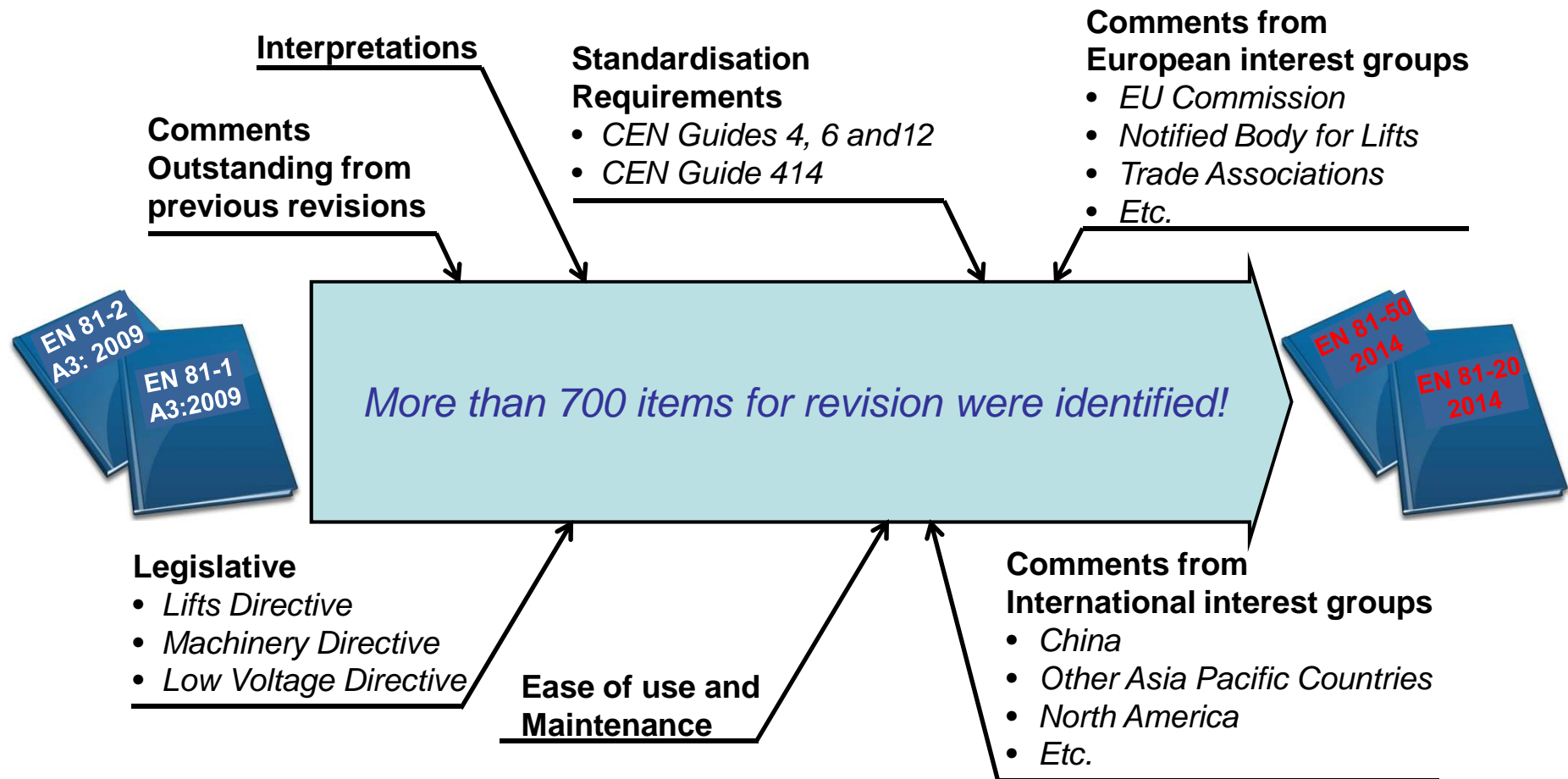




EN 81-20 and EN 81-50

Preparation for revision of EN 81-1/2

CEN TC 10 (Lifts, escalators and moving walks)



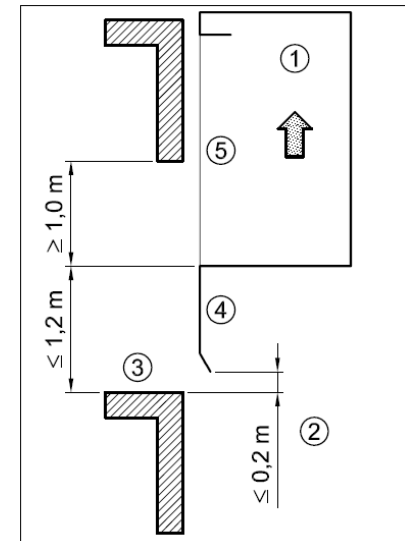
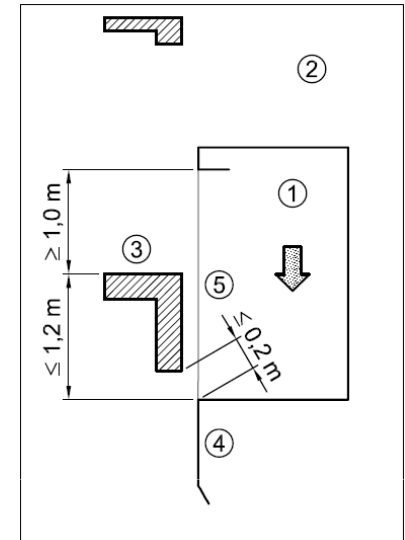


CEN TC 10 (Lifts, escalators and moving walks)



***Examples of safety improvements
for passengers***

- Protection against Unintended Car Movement (UCM), with open doors
 - Detect the unintended car movement, when the car door is open or landing door is unlocked
 - Stop the lift within a limited distance





EN 81-20 and EN 81-50

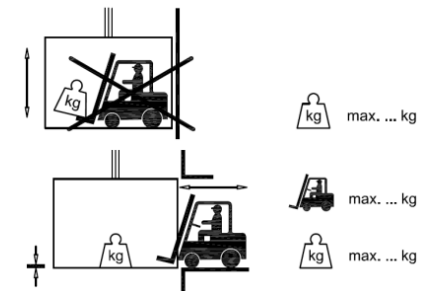
Examples of safety improvement for passengers

CEN TC 10 (Lifts, escalators and moving walks)

- Higher requirements for strength of landing and car doors
 - *Addition of door retainers*
 - *To withstand an impact force of 1000N*
 - *To be tested with a soft pendulum shock device*

- Preventing door striking the passengers when entering or leaving the lift car
 - *Non-contact detection device to open the door before striking the passenger*

- New requirements for considering loading and unloading devices
 - *Design to consider the weight of the devices*
 - *Pictograms to inform the users*





EN 81-20 and EN 81-50

Examples of safety improvement for passengers

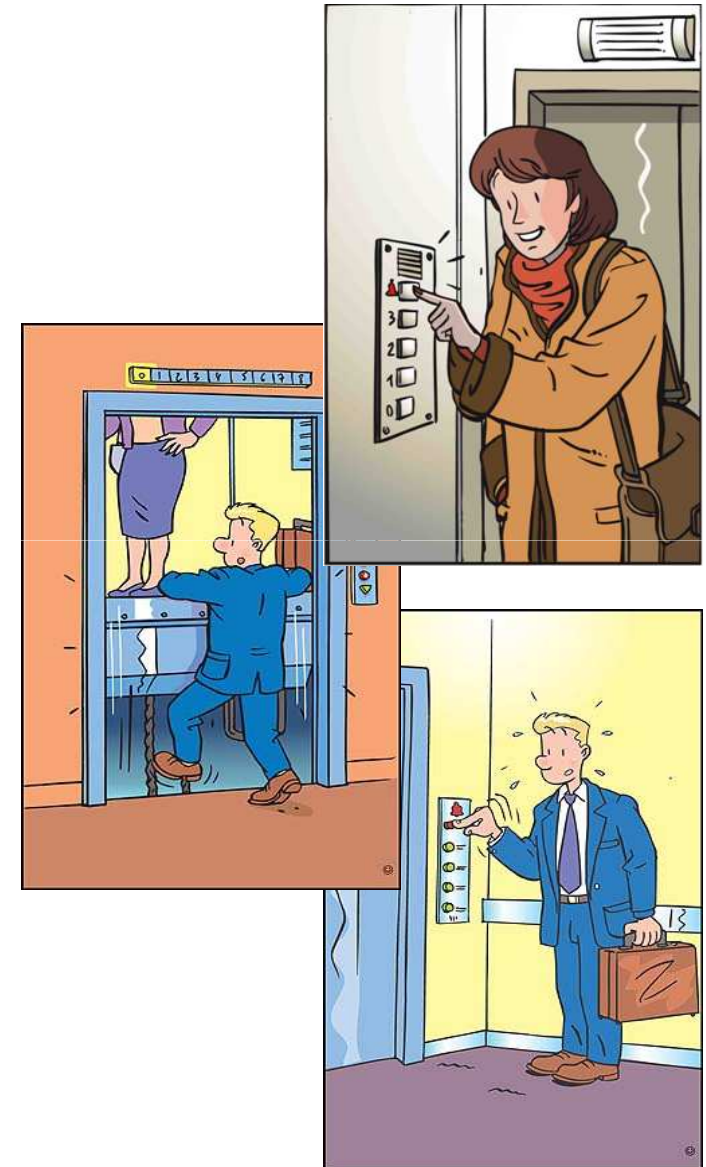
CEN TC 10 (Lifts, escalators and moving walks)

- Higher requirements for strength of car walls
 - *Withstand 1000N*

- Higher level of car lighting
 - *100 lux (instead of 50 lux)*

- Provision against possible fall into the lift well due to self-rescue
 - *Not to be able to open the car door from inside the car when the car is outside the unlocking zone*

- Higher requirements for rescue of trapped persons
 - *Rescue crew to be able to move the car in all conditions*





CEN TC 10 (Lifts, escalators and moving walks)



***Examples of safety improvements
for workers***



EN 81-20 and EN 81-50

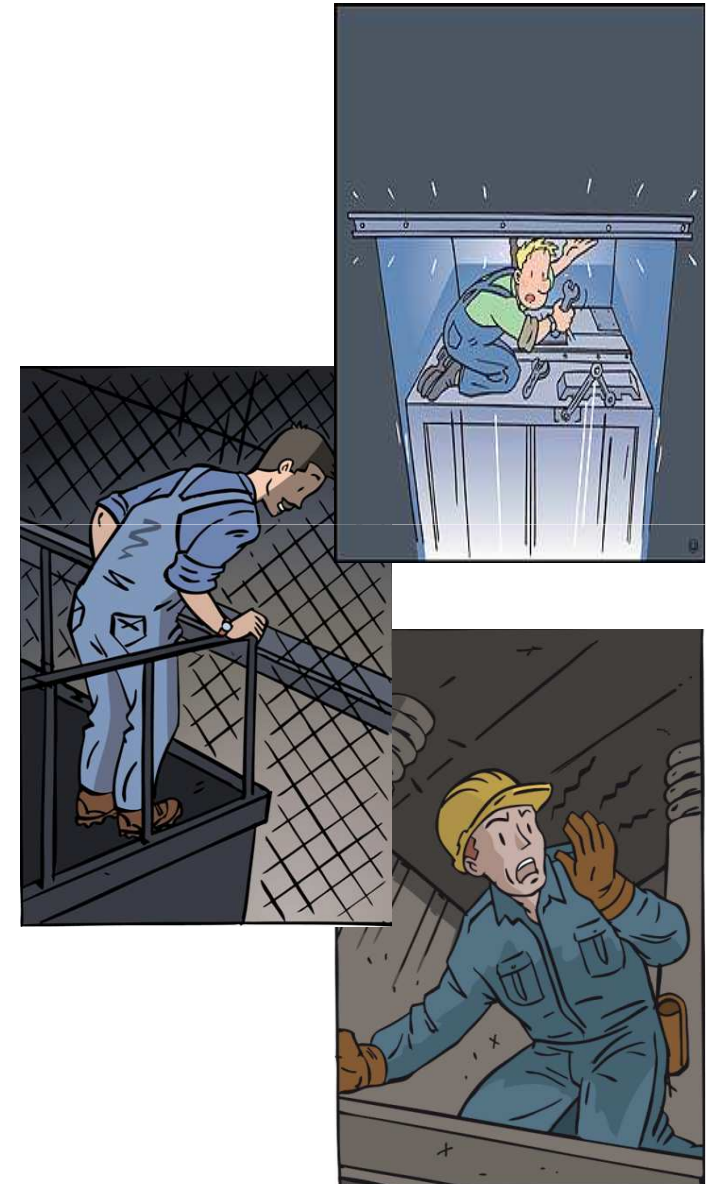
Examples of safety improvement for workers

CEN TC 10 (Lifts, escalators and moving walks)

- Higher requirements for refuge spaces on the car roof and in the pit
 - *Larger safety refuge volumes*
 - *Safety refuge volume per person present on the car roof and in the pit*
 - *Emergency light on the car roof*

- Higher requirements for balustrades on the car roof
 - *For balustrade of 1100 mm, distance between the lift and the well reduced from 850mm to 500mm*
 - *Strength of the balustrade is defined*

- Higher requirements to prevent risk of trapping on the car roof and in the pit
 - *To open the landing door from the pit*
 - *To leave the car roof when the car is blocked for maintenance*





EN 81-20 and EN 81-50

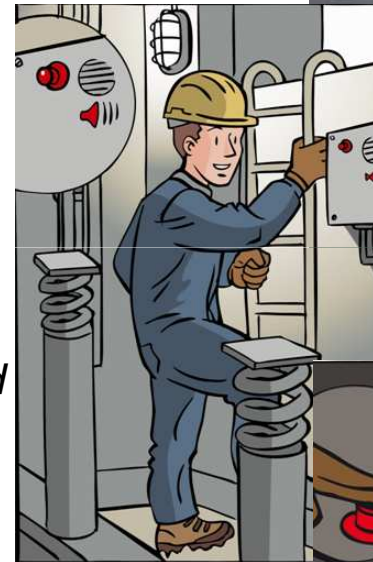
Examples of safety improvement for workers

CEN TC 10 (Lifts, escalators and moving walks)

- Specific requirements for the size and location of landing door unlocking device
 - *No need to stand on the toes or stool to open the landing door*

- Higher requirements for access to pit and machine rooms, e.g. ladders
 - *Dimensions, strength and location have been defined*

- Control station in the pit to avoid using ladders and stools to reach car components
 - *Moving the car under the control of the person in the pit*
 - *Reset the lift from outside the well*





EN 81-20 and EN 81-50

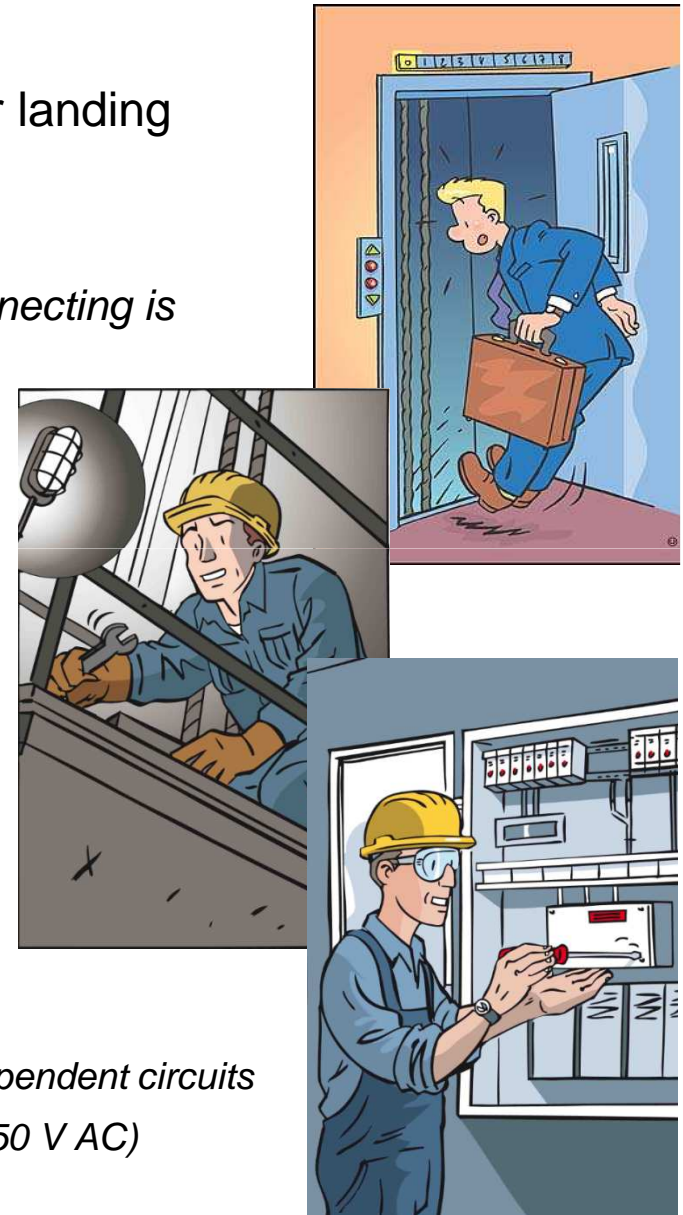
Examples of safety improvement for workers

CEN TC 10 (Lifts, escalators and moving walks)

- Specific requirements for over-connecting the car or landing door contacts during the maintenance operations
 - Audible signal on the car during the operation
 - Lift may put into normal service only when the over-connecting is disabled

- Accurate definitions for lighting in the well
 - Addition of the emergency lighting (5Lux)

- Additional protection against electrical shock
 - Electric shock protection according to HD 60364-4-41
 - Basic and fault protection
 - Additional protection: 30mA RCD for
 - Socket outlets depending on shaft and/or well lighting and dependent circuits
 - Control circuits for landing controls and indicators (voltage > 50 V AC)
 - Circuits on the lift car (voltage > 50 V AC)





EN 81-20 and EN 81-50

Building interfaces (examples)

CEN TC 10 (Lifts, escalators and moving walks)

→ Well Ventilation

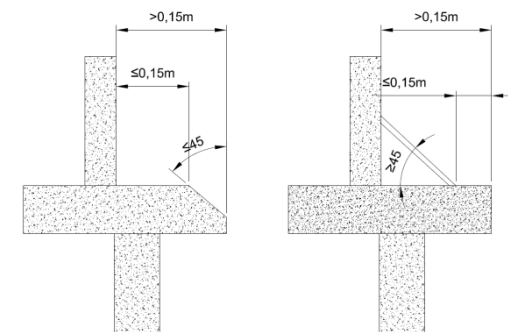
- *It is the responsibility of the building designer, based on the information provided by the lift designer*

→ Accessible space under the pit

- *Safety gear in the counterweight must be provided*

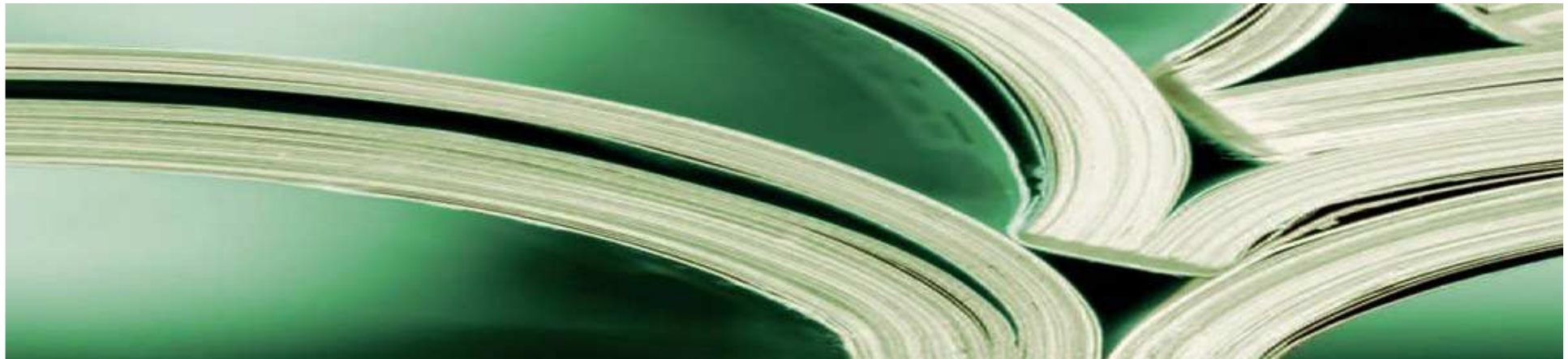
→ Well design

- *It is no longer allowed to use ladders to access pits with depth >2500mm*
- *Well walls to withstand 1000N*
- *If glass is used, it must be laminated glass*
- *Ledges with depth $\geq 0,15m$ to be chamfered or protected from person standing*





CEN TC 10 (Lifts, escalators and moving walks)



Time table

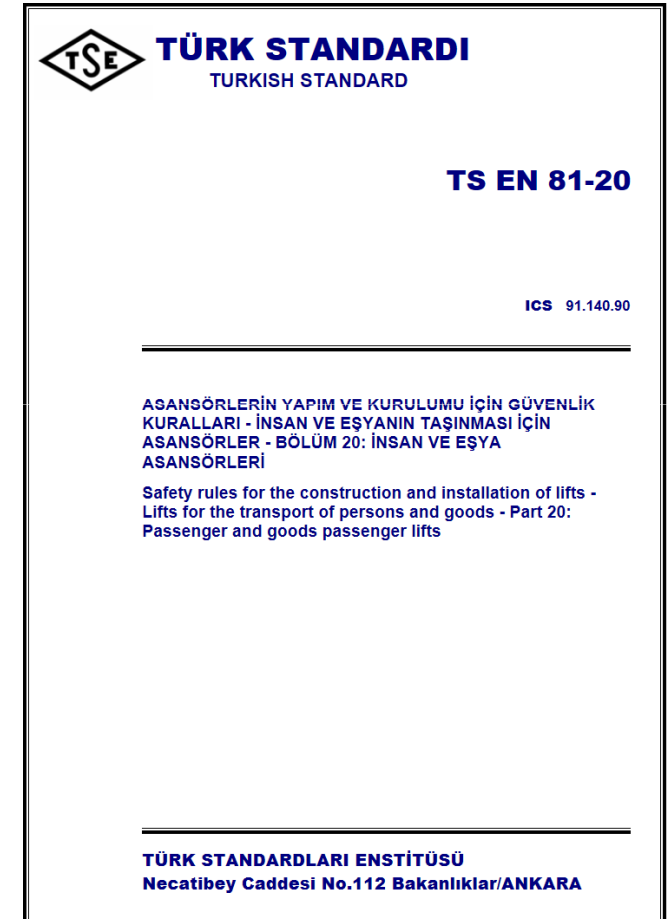


EN 81-20 and EN 81-50

Time table of EN 81-20/50 publication and EN 81-1/2 withdrawal

CEN TC 10 (Lifts, escalators and moving walks)

- Published: 6th August 2014 (DAV)
 - *This is the date that CEN has sent the EN 81-20/50 standards to all National Standardization Bodies*
- Published in Turkey (TS EN 81-20): 30th October 2014
 - *Turkey (TSE) is a full member of CEN*
- Harmonised (Lifts Directive): 12th December 2014
 - *From this date, EN 81-20/50 is harmonised and may be applied to comply with the Lifts Directive. EN 81-1/2 also remains valid (harmonised)*
- EN 81-1/2 will be withdrawn by 31st August 2017





EN 81-20 and EN 81-50

CEN/TR 81-12

CEN TC 10 (Lifts, escalators and moving walks)

- Use of EN 81-20 and EN 81-50 in specific markets
- Based on the comments received from ISO non-European members during the prEN 81-20/50 CEN Enquiry
- It provides
 - *Comparison of clause numbers of EN 81-1/2 and EN 81-20/50 to assist with adoption of the new standards*
 - *Explanation on the basics of EN 81-20/50, for example importance of “assumptions” in the standard or understanding the meaning of “shall”, “should”, etc.*
 - *Some guidance on how to align the EN 81-20/50 requirements with national regulations (outside Europe)*
- Published in October 2014

TECHNICAL REPORT
RAPPORT TECHNIQUE
TECHNISCHER BERICHT

CEN/TR 81-12

October 2014

ICS 91.140.00

English Version

Safety rules for the construction and installation of lifts - Basics and interpretations - Part 12: Use of EN 81-20 and EN 81-50 in specific markets

Règles de sécurité pour la construction et l'installation des ascenseurs - Fondamentaux et interprétations - Partie 12: Utilisation des normes EN 81-20 et EN 81-50 dans les marchés spécifiques

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Grundlagen und Auslegungen - Teil 12: Anwendung der EN 81-20 und EN 81-50 in bestimmten Märkten

This Technical Report was approved by CEN on 9 September 2014. It has been drawn up by the Technical Committee CEN/TC 10.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

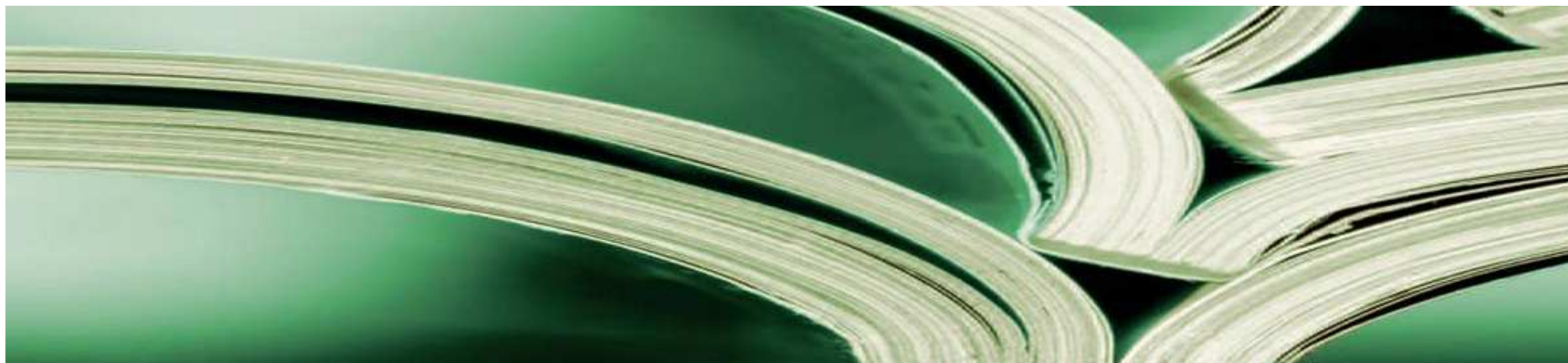


EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITE EUROPEEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

EN 12016	Low
EN 12016	Low



CEN TC 10 (Lifts, escalators and moving walks)



On-going related actions



EN 81-20 and EN 81-50

Other related development due to EN 81-20/50

CEN TC 10 (Lifts, escalators and moving walks)

- **Standards to be revised due to publication of EN 81-20/50**

Affected Standard	Level of Change
EN 81-3	Low
EN 81-10	Low
TS 81-11	High
EN 81-21	High
EN 81-22	Med
EN 81-28	Low
EN 81-31	Med
EN 81-40	Low

Affected Standard	Level of Change
EN 81-41	Med
EN 81-43	Med
EN 81-58	Low
EN 81-70	Med
EN 81-71	High
EN 81-72	Med
EN 81-73	Low
TS 81-76	Low

Affected Standard	Level of Change
EN 81-77	Med
EN 81-80	High
EN 81-82	Low
TS 81-83	Low
EN 13015	Low
EN 12015	Low
EN 12016	Low

DOW of the superseded standards to be aligned with DOW of EN 81-20/-50 (31st August 2017)