# SVENSK STANDARD
# SS-EN 81-50:2020

**Säkerhetsregler för konstruktion och installation av hissar – Inspektion och provning –**
**Del 50: Konstruktionsregler, beräkning, inspektion och provning av hisskomponenter**

**Safety rules for the construction and installation of lifts – Examinations and tests –**
**Part 50: Design rules, calculations, examinations and tests of lift components**

Svenska Institutet för Standarder

Språk: engelska/English
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Europastandarden EN 81-50:2020 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 81-50:2020.

Denna standard ersätter SS-EN 81-50:2014, utgåva 1.

The European Standard EN 81-50:2020 has the status of a Swedish Standard. This document contains the official version of EN 81-50:2020.

This standard supersedes the SS-EN 81-50:2014, edition 1.

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 81-50

February 2020

ICS 91.140.90

Supersedes EN 81-50:2014

English Version

# Safety rules for the construction and installation of lifts - Examinations and tests - Part 50: Design rules, calculations, examinations and tests of lift components

Règles de sécurité pour la construction et l'installation des élévateurs - Examens et essais - Partie 50 : Règles de conception, calculs, examens et essais des composants pour élévateurs

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Prüfungen - Teil 50: Konstruktionsregeln, Berechnungen und Prüfungen von Aufzugskomponenten

This European Standard was approved by CEN on 1 December 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**



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## European foreword

This document (EN 81-50:2020) has been prepared by Technical Committee CEN/TC 10 “Lifts, escalators and moving walks”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by February 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 81-50:2014.

This document is a revision of EN 81-50:2014. Significant changes made are as follows:

— All externally referenced standards have now been dated

— A new Annex ZA has been developed in order to be aligned with the requirements of the EU Commission Standardization Request “M/549 C(2016) 5884 final”

No technical changes have been made during this revision

This standard is the culmination of the progressive development of the EN standards for lifts. Previous versions of the EN 81-1 and EN 81-2 standards incorporated into EN 81-20:2020 and EN 81-50:2020 include:

— EN 81-1:1985, Safety rules for electric lifts;

— EN 81-1:1998, Safety rules for electric lifts;

— EN 81-1:1998, Corrigendum No 1:1999;

— EN 81-1:1998/A1:2005, incorporating programmable electronic system in safety related applications for lifts;

— EN 81-1:1998/A2:2004, incorporating machine-room-less lifts;

— EN 81-1:1998+A3:2009, Incorporating unintended car movement with open doors;

— EN 81-2:1987, Safety rules for hydraulic lifts;

— EN 81-2:1998, Safety rules for hydraulic lifts;

— EN 81-2:1998, Corrigendum No 1:1999;

— EN 81-2:1998/A1:2005, incorporating programmable electronic system in safety related applications for lifts;

— EN 81-2:1998/A2:2004, incorporating machine-room-less lifts;

— EN 81-2:1998+A3:2009, incorporating unintended car movement with open doors.

The content of this standard provides the design rules, calculations, examinations and tests for lifts component, the requirements of which are specified in other EN 81 series of standards. Therefore this standard can only be used in conjunction with the standards for specific lift types, e.g. EN 81-20 for passenger and goods passenger lifts.

This standard is part of the EN 81 series of standards. The structure of the EN 81 series is described in CEN/TR 81-10.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

# Introduction

The object of this standard is to define safety rules related to lifts with a view to safeguarding persons and objects against the risk of accidents associated with the user-, maintenance- and emergency operation of lifts.

Reference should be made to the respective introductions of the standards calling for the use of this standard with regard to persons and objects to be safeguarded, assumptions, principles, etc.

# 1 Scope

This document specifies the design rules, calculations, examinations and tests of lift components which are referred to by other standards used for the design of passenger lifts, goods passenger lifts, goods only lifts, and other similar types of lifting appliances.

# 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies

EN 81-20:2020, *Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 20: Passenger and goods passenger lifts*

EN 10025 (series), *Hot rolled products of non-alloy structural steels - Technical delivery conditions*

EN 12385-5:2002, *Steel wire ropes - Safety - Part 5: Stranded ropes for lifts*

EN 60068-2-6:2008, *Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)*

EN 60068-2-14:2009, *Environmental testing - Part 2-14: Tests - Test N: Change of temperature*

EN 60068-2-27:2009, *Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock*

EN 60112:2003, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

EN 60664-1:2007, *Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests*

EN 60947-4-1:2010, *Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters*

EN 60947-5-1:2017, *Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices*

EN 61508-1:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 1: General requirements*

EN 61508-2:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 2: Requirements for electrical/electronic/programmable electronic safety-related systems*

EN 61508-3:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 3: Software requirements*

EN 61508-7:2010, *Functional safety of electrical/electronic/programmable electronic safety-related systems - Part 7: Overview of techniques and measures*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*