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Safety Rules for the Construction and Installation of
Electric Lifts

电梯制造与安装安全规范

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Forewords

In this code, Chapter 1, Chapter 2, Chapter 3, Chapter 4, Section 7.2.1 (partial), Section 8.17.1, Section 9.1.2b), Section 9.9.6.2 (partial), Section 12.6 (partial), Section 13.1.1.3, Section 15.2.3.2 (partial), Section 16.2a)6) (partial), Annex C, Annex E, Annex G, Annex M and Annex ZA are recommendatory; the rest are obligatory.

This code is the revised version of GB 7588-1995 Safety Rules for the Construction and Installation of Lifts (equivalent to EN81-1: 1985) on the base of EN81-1: 1998 Safety Rules for the Construction and Installation of Lifts issued by European Committee for Standardization (CEN). This revised version is equivalent to EN81-1:1998 in the fields of technical contents and article numbering.

Compared with EN81-1:1985, EN81-1:1998 changed huge parts of contents. The new version increases plenty of new technical contents and new calculation method. Besides a few parts are changed according to the Chinese lift situations, this revised version is basically compliant to the contents of EN81-1:1998.

In the revised version, the following major technical contents are changed:

1. GB 7588-1995 version has a concise and definite application scope, so this revised version reserve the application scope of GB 7588-1995. For the purpose of presenting the definiteness, the revised version adds sickbed lift, deletes the application scope of EN81— 1:1998.
2. This revised version makes the following changes from the quoted terms and conditions of EN81-1:1998.
 - (1) If the international standards or overseas advanced standards listed in "Quoted Codes" of EN81-1:1998 have already equivalently adopted as Chinese national standards (GB) or industry standard, then this quoted terms and conditions are directly named as the corresponding Chinese code number.
 - (2) The code name that is not included in the Quoted Codes and make no mention in EN81-1:1998 has some content involved in the Chinese code, so it is also listed in the Quoted Codes of this code. For instance, in Clause :16.2a)6), the original text "use CENELEC symbols" is listed in Chinese national standard GB/T 4728, Graphical Symbols for Electrical Diagrams. And Clause 9.1.2c) is listed in the Chinese national standard GB 8903, Wire Ropes for Lifts.
 - (3) The foreign code name listed in EN81-1:1998 but not inverted into Chinese national standards, we directly refer the foreign code name. For instance, EN12015 Electromagnetic Compatibility - Product Family Standard for Lifts, Escalators and Passenger Conveyors - Emission, EN12016 Electromagnetic Compatibility - Product Family Standard for Lifts, Escalators and Passenger Conveyors— Immunity.

3. In order to coordinate with other Chinese lift standards, the nomenclatures that are the same as those listed in the Terminology of Lifts, Escalators and Moving Walks of EN81-1:1998 and GB/T 7024 are not included any more, and only exclusive nomenclatures are reserved. In addition, "overhaul trapdoor" and "shaft emergency door" are added.
4. According to the national situation of China, partial contents of EN81-1:1998 have been amended or adjusted.
 - (1) Added: for instance, Clause 5.1.2 adds "excluding sightseeing lifts"; and Clause 7.1 and Clause 8.6.3 add "this interstice shall not be greater than 8mm for freight lifts"; Clause 5.6.1 adds "in exceptional cases, in order to meet the position requirement to install lift parts in the foundation pit, the interstice shall be as small as possible".
 - (2) Deleted: for instance, Clause 9.8.2.1 deletes " instant-type safety tong with buffer function" and other relevant contents; Clause 10.3.4 deletes " energy-storage buffer with buffering restoration" and other relevant contents.
 - (3) Adjusted contents: Clause 8.2.1 and 8.2.2 adjusts the available car area; Clause 9.8.2.1 adjusts the velocity interval of instant-type and inching-type safety tong; D2j) of Annex D adjusts "rated speed" into "overhaul speed"; F5.3.1 adjusts the testing contents of "energy-storage buffer with buffering function" into the testing method of "linear energy-storage buffer".

The safety criterions stated in this code and all the requirements of the appendices offer a uniform technical base and safety requirements for constructing, installing and examining the passenger lifts and freight lifts. Pre-delivery inspection, periodic inspection as well as momentous retrofit or post-accident inspection shall not exceed the scope of this code.

Annex A, B, C, D, F, H, J, K, L and N are standard Annexes; Annex C, E, G, M, ZA are suggestive appendices.

This code takes effects from January 1, 2004 and substitute GB 7588-1995 in the meanwhile. From the execution date, the transition period of this code is 1 year; upon expiration of transition, GB 7588-1995 is to repeal.

This code is brought forwards by China Machinery Industry Federation.

This code is governed by China Elevator Standardization Technical Committee.

This code is drafted by the Institute of Building Mechanization of China Academy of Building Research.

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This code was firstly promulgated in 1987, and was revised for the first time in 1995 and for the second time in 2003.

EN 81-1 Foreword

0 Introduction

0.1 General

0.1.1 This code, from the viewpoint of protecting users and goods, establish safety code for passenger lifts and freight lifts, preventing from the accident risks involved with users, lift maintenance and emergency operation.

0.1.2 This code is to research several accident probability of lift in the following aspects:

0.1.2.1 Danger might be caused by the following accidents:

- A) Shearing;
- B) Extrusion;
- C) Falling;
- D) Impact;
- E) Being stranded;
- F) Fire;
- G) Electric shock;
- H) Material failure due to the following causes;
 - 1) mechanical damage;
 - 2) abrasion;
 - 3) rustiness.

0.1.2.2 Protected persons:

- A) users;
- B) maintenance and inspection staff;
- C) persons out of the lift shaft, equipment room and pulley room (if any).

0.1.2.3 Protected objects:

- A) Loaded goods in the car;
- B) Lift parts;
- C) Building equipped with lifts.

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