

Electromagnetic compatibility — Product family standard for lifts, escalators and passenger conveyors — Immunity

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British Standard

ICS 33.100; 91.140.90

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National foreword

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English version

Electromagnetic compatibility — Product family standard for lifts, escalators and passenger conveyors — Immunity

Compatibilité électromagnétique — Norme famille de produits pour ascenseurs, escaliers mécaniques et trottoirs roulants — Immunité

Elektromagnetische Verträglichkeit — Produktfamilien-Norm für Aufzüge, Fahrtreppen und Fahrsteige — Störfestigkeit

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CEN

European Committee for Standardization
Comité Européen de Normalisation
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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 10, Passenger, goods and service lifts, 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of an identical text or by endorsement, at the latest by November 1998, and conflicting national standards shall be withdrawn at the latest by November 1998.

This European Standard 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 standard.

The initial draft for the standard was prepared by the Fédération Européenne de la Manutention (FEM) and consideration was given to EN 50082-1:1992, *Electromagnetic compatibility — Generic immunity standard — Part 1: Residential, commercial and light industry* and prEN 50082-2:1991, *Part 2: Industrial environment*. The levels of immunity and the resultant performance criteria which are given in this standard reflect the fact that lifts, escalators and passenger conveyors are deemed to consist of self-contained sub-systems and apparatus (e.g. machine room, lift car etc.). This standard is the product family standard for the electromagnetic compatibility of lifts, escalators and passenger conveyors (immunity) and takes precedence over all aspects of the generic standard.

The related EMC product family standard for emission is:

EN 12015, *Electromagnetic compatibility — Product family standard for lifts, escalators and passenger conveyors — Emission*.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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0 Introduction

This European Standard has been prepared to provide one means of conforming with the requirements of the Electromagnetic Compatibility (EMC) Directive. The requirements of this European Standard have been specified so as to ensure a level of electromagnetic immunity which will allow minimal disturbance to the product family.

Two levels of immunity are given, which have been selected such that the immunity levels for safety circuit apparatus are higher than the immunity levels for normal operation apparatus. The higher levels cover the possibility, for example, of disturbances emanating from hand-held transmitters in close proximity to safety circuit apparatus.

Neither level, however, covers cases where an extremely low probability of occurrence exists.

The immunity levels given are on the basis that equipment of the product family range is installed both indoors and outdoors in all types of building and, generally, is connected to a low voltage system.

It is known that in the field of EMC provision technology changes often require amendment to standards. During the preparation of this standard equipment operating in the radio frequency (RF) field above 500 MHz has been introduced into the market. A revision to this standard will be prepared stating the performance criteria and associated test values at these frequencies. In the meantime, due to distances etc., it is assumed that equipment utilizing frequencies above 500 MHz will not be used in close proximity to lift, escalator and passenger conveyor controls.

1 Scope

This European Standard specifies the immunity levels and test conditions for lifts, escalators and passenger conveyors, which are permanently installed in buildings and for which CEN/TC 10 has direct responsibility for the production of European Standards, in relation to continuous and transient, conducted and radiated disturbances including electrostatic discharges. These levels represent essential EMC requirements; however, this standard does not specify the basic safety requirements for lifts, escalators and passenger conveyors, which are covered by EN 81-1, EN 81-2 and EN 115. If, however, electronic means are used in safety circuits associated with safety components then this standard applies. In other cases, where ultimate passenger safety is not influenced by EMC considerations, this standard can be used to assess the overall performance.

Since lifts travel large vertical distances in buildings, it becomes impracticable to test the total assembly either in a test laboratory or in situ (where the uncontrolled environment may also influence the test procedures and results). Likewise, due to practical restrictions imposed by the lift car internal dimensions, it is

impracticable to test the lift car from within. Similar considerations regarding dimensions apply equally to the testing of escalators and passenger conveyors. Therefore, this standard applies to the sub-systems and/or apparatus of lifts, escalators and passenger conveyors, an assembly of which will comprise an installation, the boundaries of which are indicated by example in Figures 2 and 3. However, this standard does not apply to lighting apparatus and other services already proven to be in conformity to the EMC Directive.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 61000-4-2, *Electromagnetic compatibility — Part 4: Testing and measurement techniques — Section 2: Electromagnetic discharge immunity test — Basic EMC publication.*

EN 61000-4-3, *Electromagnetic compatibility — Part 4: Testing and measurement techniques — Section 3: Radiated, radio-frequency, electromagnetic field immunity test.*

EN 61000-4-4, *Electromagnetic compatibility — Part 4: Testing and measurement techniques — Section 4: Electrical fast transient/burst immunity test — Basic EMC publication.*

EN 61000-4-11, *Electromagnetic compatibility — Part 4: Testing and measurement techniques — Section 11: Voltage dips, short interruptions and voltage variations immunity tests.*

3 Definitions

For the purposes of this standard the following definitions apply.

3.1

installation

lift, escalator or passenger conveyor installation comprising sub-systems with electrical and electronic equipment and interconnections

3.2

sub-system

an assembly of apparatus which is appropriate for assessment for conformity to this standard and, by means of interconnection with other sub-systems, forms an installation (see clause 4)