Singapore Standards Council

SS 550~~:2009+A3:2017~~ : 2020
EN 81-20:2014, MOD

(ICS 91.140.90)

SINGAPORE STANDARD

Code of practice for installation, operation and maintenance of electric passenger and goods lifts

~~[Formerly CP 2]~~

~~Incorporating Amendment No. 1, No.2 and No. 3~~

The national standard is the modified implementation of EN 81-20:2014 and is adopted with permission of CEN, Avenue Marnix 17, 1000 Brussels

~~Published by~~

Enterprise Singapore

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Code of practice for installation, operation and maintenance of electric passenger and goods lifts

Published by Enterprise Singapore

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		Mr Nelson Yeap	*Singapore Electrical Trades Association*

EESC set up the Technical Committee on Building Facilities and Services to oversee the preparation of this standard. The Technical Committee consists of the following members:

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		Er. Tan Kok Koon	*Housing & Development Board*
		Ms Corine Wong	*National Environment Agency*
		Dr Zhou Yi	*The Institution of Engineers, Singapore*

The Technical Committee set up the Working Group on Lifts, Escalators and Passenger Conveyors ~~appointed by the Electrical and Electronic Standards Committee and responsible for the preparation of~~ to prepare this standard. The Working Group consists of ~~representatives from~~ the following ~~organisations~~experts who contribute in their *individual capacity*:

		Name
Co-Convenors	:	Er. Adeline Koh
		Er. Ng Teck Eng
Members	:	Er. Cheah Sek Cheong
		Er. Chee Yao Hui
		Er. Goh Mun Choon
		Mr Alfred Lee Kok Wee
		Er. Leong Shee Kok
		Er. Lum Chong Chuen
		Major Bryan Ng Chee Heng
		Mr Phuah Cheng Kok
		Mr Quah Eng Hing
		Mr Wan Tai Gan

The organisations in which the experts of the Working Group are involved are:

Association of Consulting Engineers Singapore
Building and Construction Authority
Housing & Development Board
JTC Corporation
Land Transport Authority
Singapore Civil Defence Force
Singapore Lift and Escalator Contractors and Manufacturers Association
Singapore Manufacturing Federation
The Institution of Engineers, Singapore

~~* served till Sep 08~~

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National Foreword

This Singapore Standard was prepared by the ~~Technical Committee~~Working Group on Lifts, Escalators and Passenger Conveyors set up by the Technical Committee on Building Facilities and Services under the purview of ~~the Electrical and Electronic Standards Committee. It is a~~ EESC.

This standard is a revision of ~~the code of practice, CP 2 which was first prepared in 1971. CP 2 has been re-numbered as SS 550. This Singapore Standard was revised to keep up with the latest changes in technology, local practices and developments in lift standardisation internationally~~SS 550 : 2009 + A3 : 2017 that was based mainly on the previous EN 81-1:1998, “Safety rules for the construction and installation of lifts – Part 1: Electric lifts”. It is a modified adoption of EN 81-20:2014, “Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 20: Passenger and goods passenger lifts”, published by European Committee for Standardisation, CEN, Avenue Marnix 17, 1000 Brussels.

The main changes made in this revision are as follows:

~~a) For clause 3 on lift well, new subclauses have been added for partially and totally enclosed well. In addition, new requirements have been added for access to lift well and installation of wired and wireless devices in lift well.~~

~~b) For clause 4 on machine and pulley spaces, a new subclause 4.4 is added for machinery inside the lift well to include the special requirements for machine room-less lifts.~~

~~c) For clause 5 on landing doors, information on mechanical strength and materials including the use of glass panels are added.~~

~~d) For clause 6 on car rated loading capacity, Table 1 is revised to provide better understanding and allow flexibility in practice.~~

~~e) For clause 8 on suspension, compensation and overspeed protection, information on special requirement of counterweight safety gear and ascending car overspeed protection is included.~~

~~f) For clause 9 on guiderails, buffers and final limit switches, a new subclause is added for general provisions concerning guide rails and the minimum buffer stroke in Table 3 is revised for clearer understanding and alignment with international / regional standards.~~

~~g) For clause 12 on electrical installations and appliances, changes have been made to require communication devices to be installed in every lift and to the capacity of EBOPS.~~

~~h) For clause 13 on emergency operations for lifts, requirements for automatic rescue devices (ARD) are included.~~

~~i) For Annex D, periodic maintenance and examination, the contents are expanded and a new subclause for lift maintenance scope of work, examinations and tests after a major modification is included~~

~~j) A new annex on energy efficiency of lifts (Annex G) is included.~~

~~Annexes A, B, C, D, E, G & H are informative and Annex F is referred to under 6.4 rated loading capacity.~~

~~In preparing this revision, reference was made to the following publications:~~

~~1. EN 81 Safety rules for the construction and installation of lifts
Part 1 : 1998 Electric lifts~~
~~2. ISO/TR 11071 Comparison of worldwide lift safety standards
Part 1: 1990 Electric lifts (elevators)~~
~~3. HK Guidelines on Energy Efficiency of Lifts and Escalators Installations, 2000. (Annex G, energy efficiency of lifts)~~

~~The following materials were reproduced from EN 81-1 : 1998 - "Safety rules for the construction and installation of lifts, Part 1 : 1998 Electric lifts" with permission from CEN, Rue de Stassart 36, B-1050 Brussels for incorporation into this Singapore Standard:~~

~~1. Definitions for buffer, guide rails, unlocking zone, lift machine, overspeed governor and safety gears;~~

~~2. Figures for partially enclosed well and distances;~~

~~3. Clauses on protection of any spaces located below the car, counterweight or balancing weight, emergency unlocking of landing doors, car lighting, ascending car overspeed protection means and general provisions concerning guide rails.~~

~~Tables 1, 2 and 3 and Subclause 8.2.4 were extracted from ASME A17.1 — 1996 "Safety code for elevators and escalators" by permission of The American Society of Mechanical Engineers (All rights reserved).~~

a) Inclusion of local terms and definitions from 3.66 to 3.75.
b) Adoption of most of the clauses in EN 81-20:2014 except for goods passenger lifts, positive drives and manual doors for passenger lifts.
c) Inclusion of additional clauses on requirements using mechanical device for goods lift (traction type).
d) change of average weight per passenger to 75 kg in line with EN 81-20.

Certain modifications due to national requirements are given in Annex ZB. To facilitate identification, the affected texts of the EN Standard which were changed within this standard are marked by a margin on the left.

NOTE 1 – Reference to International Standards are replaced by applicable Singapore Standards/Technical References.

NOTE 2 – Where numerical values are expressed as decimals, the comma is read as a full point.

NOTE 3 – Where applicable, refer to the IEC or ISO standard if the EN standard is an adoption of the IEC or ISO standard.

Diagrams in Annex ~~E~~E4.5 are provided by courtesy of Toshiba Elevator.

~~As amended Dec 13~~ ~~Subclause 8.4 on unintended car movement protection was reproduced/adapted from 9.11 of EN 81-1:1998+A3:2009 with permission from CEN.~~

~~Acknowledgement is made to~~ The diagrams included as examples in this Singapore Standard are collectively contributed by the Working Group members for the sole purpose of illustration. The inclusion of diagrams in this Singapore Standard does not connote any endorsement whatsoever of any product, service and/or design concept by the ~~above organisations for the use of their materials~~Working Group and Enterprise Singapore.

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~~**NOTE**~~

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NOTES

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