

### **Lift and Escalator Installations**

#### **Building Works Requirements**

The design and construction of buildings and building works accommodating lift and escalator installations are governed by Building (Construction) Regulation 9A, which specifies performance requirements in broad terms. Detailed technical standards are promulgated in the “Code of Practice on the Design and Construction of Buildings and Building Works for the Installation and Safe Use of Lifts and Escalators 1993” (the “Code of Practice on Building Works for Lifts and Escalators”) issued by the Building Authority (“BA”). Compliance with this Code will be considered as satisfying the requirements of Building (Construction) Regulation 9A.

2. Other standards may also be accepted if it is proved to the satisfaction of the BA that they are capable of achieving equivalent performance. If other standards are to be applied, it will speed up the processing of plans if the full background to such standards and their suitability for local conditions are clearly explained.

#### **Code of Practice on Building Works for Lifts and Escalators**

3. The Code of Practice on Building Works for Lifts and Escalators is kept under review and amendments from time to time to cater for changes in circumstances, advancement in technology and latest development in building standards.

4. Since its publication in 1993, various amendments have been made to the Code of Practice on Building Works for Lifts and Escalators. These amendments are set out at Appendix A. The Code should therefore be read in conjunction with the amendments at Appendix A, which will be incorporated in the next reprint of the Code.

#### **Adequacy of Fixing Details**

5. Buildings with lift and escalator installations shall be designed and constructed so as to provide adequate structural strength for the safe operation, maintenance and inspection of the lifts and escalators. In this regard, Authorized Persons and Registered Structural Engineers are reminded to pay particular attention to the following fixing details, including layout arrangement, specification of structural materials, anchor and load distribution, so as to ensure that the machine and pulley rooms as well as liftwells shall be so constructed to withstand the loads and forces to which they will normally be subjected:

- (a) fixing details between the guide rail mounting bracket and the supporting building structure;
- (b) fixing details between the lift machine and the supporting building structure; and

/(c) .....

- (c) fixing details between the deflector sheave (pulley) bracket and the supporting building structure.

### **Electrical, Mechanical and Operational Requirements**

6. Requirements for the electrical, mechanical and operational aspects of lifts and escalators are laid down in the “Code of Practice on the Design and Construction of Lifts and Escalators” and the “Code of Practice for Lift Works and Escalator Works” issued by the Director of Electrical and Mechanical Services (“DEMS”) under the Lifts and Escalators (Safety) Ordinance, Cap. 327 (“LE(S)O”).

### **Works Required by the DEMS in Connection with an Application for Permission to Put Lifts or Escalators into Service**

7. Authorized Persons are reminded to ensure that all essential building and lift/escalators works as well as works associated with the lift and escalator installation (“the associated works”) should be completed before submitting application to the DEMS under the LE(S)O for permission to put the lifts and escalators into service. The DEMS has advised that in the past most of such applications were submitted while the associated works had not yet been completed. A list of the associated works often found incomplete for a lift installation is attached at Appendix B and that for an escalator installation is at Appendix C for reference.

### **Minimum Dimensions of Machine Rooms**

8. Alternative approach to comply with the machine room minimum dimensions stipulated in Table 1 of the Code of Practice on Building Works for Lifts and Escalators is also accepted, i.e. adopting the machine room clearances approach. See Appendix A for details.



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- Appendix A : Amendments to Code of Practice on Building Works for Lifts and Escalators  
B : Associated works often found incomplete for Lift Installations  
C : Associated works often found incomplete for Escalator Installations

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**Addendum to the Code of Practice  
On the Design and Construction of Buildings and Building Works  
for the Installation and Safe Use of Lifts and Escalators 1993**

<b>Paragraph in the Code</b>	<b>Amendments</b>
1.1	Replace “the Code of Practice for the Design, Construction, Maintenance, Examination and Testing of Lifts and Escalators” by “the Code of Practice on the Design and Construction of Lifts and Escalators and the Code of Practice for Lift Works and Escalator Works.
2.	Renumbered as “2.1”.
2.2	<p>New paragraph added:- “If there are justifications to deviate from, or practical difficulties to comply with, the minimum dimensions given in Table 1, then the requirements may be modified provided that a registered lift engineer or a person authorized by a registered lift contractor confirms in writing that:-</p> <ul style="list-style-type: none"><li>(i) the installations can be accommodated in the proposed lift wells and machine rooms;</li><li>(ii) any future maintenance, repair, major alteration, replacement, examination and testing of the lifts can be carried out in the proposed liftwells and machine rooms safely and without difficulty; and</li><li>(iii) the lift installations are in full compliance with the Code of Practice on the Design and Construction of Lifts and Escalators issued under the Lifts and Escalators (Safety) Ordinance.”</li></ul>
2.3	<p>New paragraph added:- “The requirements on “machine room minimum dimensions” and “overall headroom” are not applicable to machine-room-less lift installations if the concerned lift models are approved by the Director of Electrical and Mechanical Services. Particulars of the lift models used and relevant approval shall be indicated in the general building plans.”</p>

Table 1	<p>Replace item 2 of “Notes on Table 1” by “The dimensions specified in this table are also applicable to rated speeds lower or higher than those stated (i.e. lower than 1.0 m/s for all rated loads; higher than 1.75 m/s for 630 kg, 3.5 m/s for 1,600 kg, etc.). For intermediate loads and rated speeds, the dimensions are determined by linear interpolation from relevant dimensions in Table 1.</p> <p>Add item 7 to “Notes on Table 1” as follows: -</p> <p>“7. As regards “machine room minimum dimensions”, the provision of sufficient machine room clearances is accepted as an alternative approach to comply with the relevant requirements. If this alternative approach is to be adopted, a general note (sample at Annex) should be provided in the general building plans. The details should then be verified on site upon completion of works.”</p>
3.8.4	<p>Add the following after “.....equipment.”:</p> <p>“The position of at least one hand hold in the lift well should be approximately 1.3 m above the sill and not more than 0.9 m from the landing entrance opening.”</p>
3.10.3	<p>The original wording of the notice “WHEN THERE IS A FIRE DO NOT USE THE LIFT 火警時切勿使用升降機” specified in this paragraph is deleted and substituted by the following: -</p> <p style="text-align: center;">IN CASE OF FIRE DO NOT USE THE LIFT 如遇火警切勿使用升降機</p>
3.11.1	<p>Add the following after “.....door and/or trap.”:-</p> <p>“Provision of machine room is not required for machine-room-less lift installations if the concerned lift models are approved by the Director of Electrical and Mechanical Services. Apart from indicating particulars of the lift models used and relevant approval in the general building plans, a clear and safe access shall be provided to the control panels / cabinets for machine-room-less lift installations. Such access shall be from common areas without necessitating entry into private premises.”</p>
4.6.2	<p>Replace “the Code of Practice for the Design, Construction, Maintenance, Examination and Testing of Lifts and Escalators” by “the Code of Practice on the Design and Construction of Lifts and Escalators”.</p>
5.3.1	<p>Replace “imperforate Triangular” by “obstruction” and “the Code of Practice for the Design, Construction, Maintenance, Examination and Testing of Lifts and Escalators” by “the Code of Practice on the Design and Construction of Lifts and Escalators”.</p>

(Rev. 11/2010)

**Lift Machine Room Clearances**

**(General note for adding to the general building plans to undertake compliance with the alternative requirements on sizes of machine rooms)**

For the lifts (Nos. xxxxxxxx) to be installed, the following machine room clearances will be provided in accordance with PNAP APP-29 :-

- a. a clear horizontal area in front of the panels / cabinets with depth not less than 0.7m and width not less than 0.5m and the full width of the cabinet / panel.
- b. a clear horizontal area of at least 0.5m x 0.6m for servicing and inspection of moving parts and manual emergency operation where necessary.
- c. access ways to these clear spaces, with a width not less than 0.5m or, in areas where there are no moving parts, 0.4m.

(11/2010)

**A list of associated works often found incomplete by DEMS  
for a lift installation  
when an application for permission to put the lift into service was submitted  
(the list is not exhaustive)**

1.	Permanent doors to machine and pulley room opening outwards, fitted with self-closing devices and proper locking devices. Permanent warning notices on the outside face of the door.
2.	Clear and safe access to machine and pulley rooms.
3.	Adequate railings of suitable height to machine platforms. Appropriate steps or stairways where there was a level difference.
4.	Liftwells, machine and pulley rooms completely enclosed and all unnecessary holes sealed up.
5.	Permanent and adequate lighting for liftwells, machine and/or pulley rooms and/or machine platforms.
6.	Protective guards to ventilating fans. Cross-ventilation through the machine room. Wind guards to ventilation louvers.
7.	Provision of adequate electricity supply by permanent cables.
8.	Proper isolation switch with permanent identification label for each lift, easily accessible from an entrance of the machine room.
9.	MCB and proper isolation switches with permanent identification labels for lighting and/or socket outlets of lift cars, wells or pits, machine and/or pulley rooms.
10.	Unnecessary holes in lift wells, machine and pulley rooms filled up.
11.	Surplus/protruded iron bars inside liftwells all removed.
12.	Inspection doors, emergency doors and inspection traps, where required, with proper locking devices and clear and safe access.
13.	Required partition between lift ways in common liftwells.
14.	Lift pits completely enclosed and waterproofed.
15.	Cat ladders with suitable hand holds for access to pits.

16.	Supporting frames and reinforced wire mesh provided to the liftwell top vents
17.	Permanent and adequate lighting installations in lift lobbies. (If decoration, false ceilings, etc are to be installed in the lift lobby after permission to use the lift has been granted, such decoration/false ceiling shall not affect or obstruct the permanent illumination of the lift lobby.)
18.	Ventilation of liftwells directed to open air either directly or via ducting/the machine/pulley room.
19.	Permanent and adequate lighting in liftwells and lift pits.
20.	Debris and unrelated materials in liftwells, machine and pulley rooms cleared.
21.	Earth bonding for metallic parts in machine rooms.
22.	Associated works (except those purely for decoration purposes) surrounding the landing entrances.
23.	All necessary instructions and notices in both Chinese and English in the lift cars and on the landings.
24.	The maximum permissible load in both Chinese and English indicated on the lifting beams or hooks.

(3/2007)

**A list of associated works often found incomplete by DEMS  
for an escalator installation  
when an application for permission to put the escalator into service was submitted  
(the list is not exhaustive)**

1.	Permanent machine room doors fitted with self-closing devices, with permanent warning notices and proper locking devices.
2.	Clear and safe access to machine rooms.
3.	Unnecessary holes in machine rooms filled up.
4.	Provision of adequate electricity supply by permanent cables.
5.	MCB and proper isolation switches with permanent identification labels for lighting and socket outlets for each escalator.
6.	Proper protective guards where the clearance between the balustrade exterior paneling and any adjacent guard rail/wall at each landing exceeds 100 mm.
7.	Permanent obstruction guards properly installed at floor intersections, building obstacles and on criss-cross escalators.
8.	Adequate clearance between the outer edges of the handrails and the adjacent walls, criss-cross escalators or other building obstacles.
9.	Clear height above the steps and the required unrestricted area of not less than 2.3 m.
10.	The required unrestricted area for accommodating passengers at both landings.
11.	Permanent and adequate lighting around the escalator including both landings. (If decoration, false ceilings, etc are to be installed around the escalator after permission to use the escalator has been granted, such decoration/false ceiling shall not affect or obstruct the permanent illumination around the escalator including both landings.)
12.	The part of wellway, building obstacles or external wall of adjacent criss-cross escalator facing handrail forming a smooth continuous vertical surface.
13.	The underside of false ceiling at floor intersections or bottom deck of adjacent criss-cross escalator forming a smooth continuous flat surface.