

A Guide to the Provisions for Excavations and Miscellaneous Safety

under the Construction Sites (Safety) Regulations



Occupational Safety and Health Branch
Labour Department

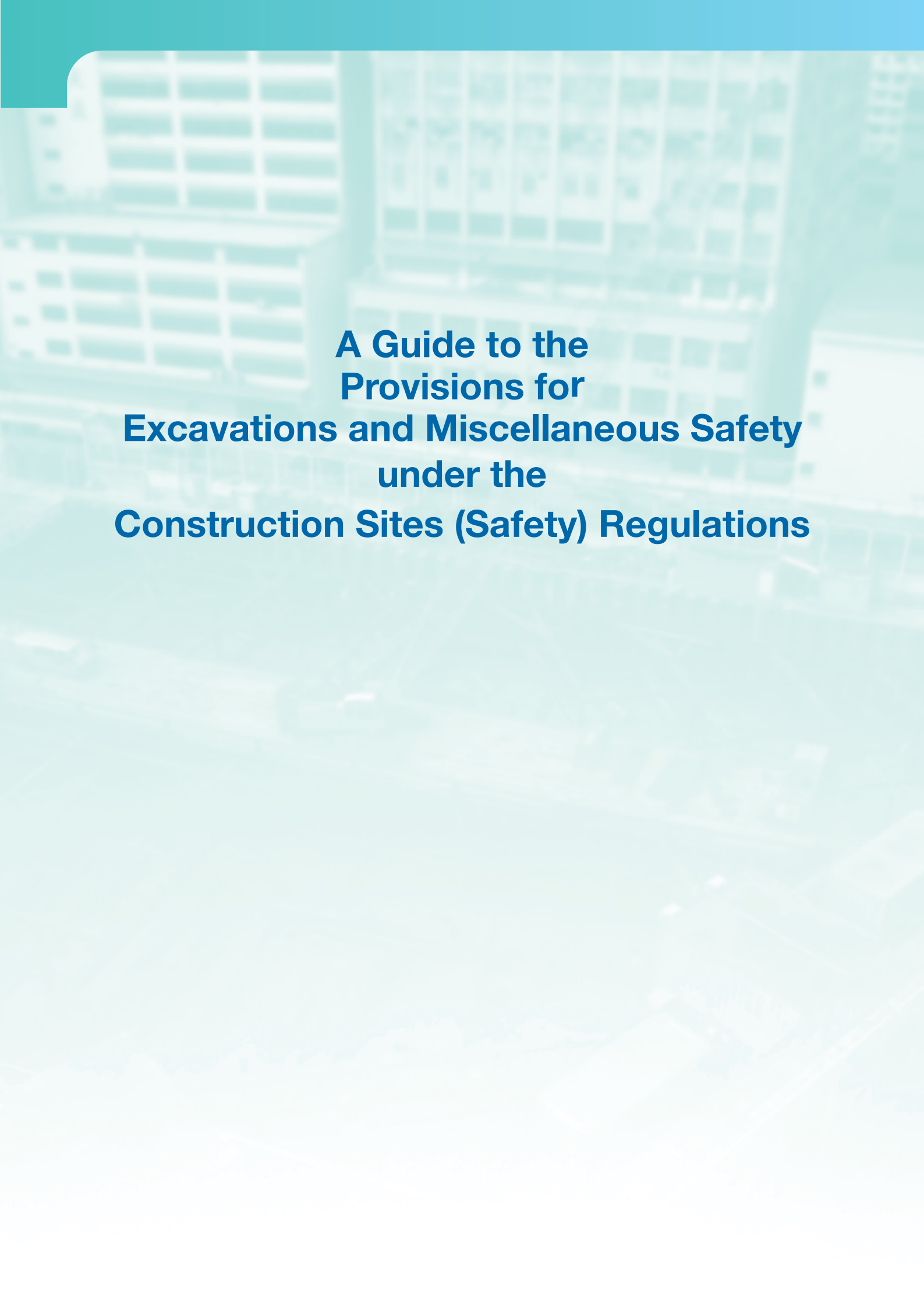


This guidebook is prepared by
The Occupational Safety and Health Branch
Labour Department

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This guidebook is issued free of charge and can be obtained from the offices of the Occupational Safety and Health Branch of the Labour Department. It can also be downloaded from http://www.labour.gov.hk/eng/public/content2_8a.htm. For enquiries about addresses and telephone numbers of the offices, please visit the website of the Labour Department at <http://www.labour.gov.hk/eng/tele/osh.htm> or call 2559 2297.

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An aerial photograph of a city grid, showing streets and buildings, overlaid with a semi-transparent teal color. The teal color is darker at the top and fades towards the bottom. In the top-left corner, there is a solid teal shape with a rounded bottom-right corner.

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under the
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Contents

Page

Introduction	3
Interpretation	4
Duties, Offences and Penalties relating to Contractors	6
● Excavation Safety	6
Safety of Excavations	6
Fencing of Excavations	7
Safe Guarding the Edges of Excavations	7
Requirements for Emergency Escape	7
● Machinery Safety	8
Fencing of Machinery	8
Cleaning of Dangerous Machinery by Young Persons	8
● Safety in Operation of Mechanical Equipment	8
Trained and Competent Workmen to Operate Mechanical Equipment	8
● Other Miscellaneous Provisions	9
Prevention of Inhalation of Dust and Fumes	9
Protection of Eyes	9
Use of Electricity	9
Safety Helmets	10
Protection from Falling Materials	10
Lighting of Working Places	10
Projecting Nails	11
Materials Kept on Construction Sites	11
Prevention of Drowning	11
Power to Prohibit Smoking	12
Maintenance of Fire Escapes and Firefighting Appliances	12
Sanitary Conveniences	12
Shelter and Facilities for Meals	12
Keeping of Records	13
Offences and Penalties	13
Duties, Offences and Penalties relating to Competent Persons	14
Examination of Excavation or Earthworks	14
Offences and Penalties	14
Duties, Offences and Penalties relating to Persons Employed	14
Offences by Persons Employed	14
Duties, Offences and Penalties relating to Other Persons	15
Safety Helmets	15
Maintenance of Fire Escapes and Firefighting Appliances	15
Enquiries	16
Complaints	16
Appendix	17
Approved Form on Examination of Excavations and Earthworks	17

Introduction

1. This guidebook outlines the major provisions of Part VI & VII of the Construction Sites (Safety) Regulations in order to let you have an understanding of the relevant safety requirements on excavating operations. It also sets out other safety requirements which may be applicable to such operations. Upon the commencement of the Construction Sites (Safety) (Amendment) Regulation 2003 on 28 November 2003, the duties imposed on a contractor responsible for a construction site at which the aforementioned operations are to be performed are extended to any contractor who has direct control over them. If you wish to know more about the provisions, you can refer to the original text of the Regulations (available on the website of the Department of Justice at <http://www.legislation.gov.hk/eng/home.htm>).

Interpretation

2. In this guidebook, unless the context otherwise requires—

"Competent Person" means a person who is —

- (a) appointed for that purpose by the contractor required by these regulations to ensure that the duty is carried out by a competent person; and
- (b) by reason of substantial training and practical experience, competent to perform the duty.

"Construction Site" means a place where construction work is undertaken and also any area in the immediate vicinity of any such place which is used for the storage of materials or plant used or intended to be used for the purpose of the construction work.

"Construction Work" has the meaning under the Factories and Industrial Undertakings Ordinance (Chapter 59) —

- (a) the construction, erection, installation, reconstruction, repair, maintenance (including redecoration and external cleaning), renewal, removal, alteration, improvement, dismantling, or demolition of any structure or works specified in the Third Schedule;
- (b) any work involved in preparing for any operation referred to in paragraph (a), including the laying of foundations and the excavation of earth and rock prior to the laying of foundations;
- (c) the use of machinery, plant, tools, gear, and materials in connection with any operation referred to in paragraph (a) or (b).

"Contractor" has the meaning under the Factories and Industrial Undertakings Ordinance (Chapter 59), in relation to construction work, means any person or firm engaged in carrying out construction work by way of trade or business, either on his own account or pursuant to a contract or arrangement entered into with another person, including the State or any public body.

"Dangerous Part" means any part of machinery or plant specified in the First Schedule and any combination of such parts in the Factories and Industrial Undertakings (Guarding and Operation of Machinery) Regulations (Chapter 59Q).

"Direct Control" in relation to any construction work, excavation, operation, or erection, substantial addition, alteration or dismantling of scaffold, means control over the way the construction work, process, excavation, operation, or erection, substantial addition, alteration or dismantling of scaffold, as the case may be, is carried out.

"Lifting Appliance" means a crab, winch, pulley block, or gin wheel used for raising, or lowering and a hoist, crane, sheerlegs, excavator, dragline, pile driver, pile extractor, or overhead runway.

"Lifting Gear" means a chain sling, rope sling or similar gear, and a ring, link, hook, plate clamp, shackle, swivel or eyebolt.

"Maintained" means maintained in an efficient state, in efficient working order and good repair.

"Mechanical Equipment" includes any bulldozer, compactor, dumper, excavator, grader, loader, locomotive, lorry, scraper, truck and any mobile machine which is used for the handling of any material on a construction site.

"Plant" includes any plant, equipment, gear, machinery, apparatus, or appliance, or any part thereof.

"Prime Mover" means any engine, motor, or other appliance, which provides mechanical energy derived from –

- (a) steam or electricity;
- (b) the combustion of fuel; or
- (c) any other sources.

"Structures or Works Specified in the third Schedule" has the meaning under the Factories and Industrial Undertakings Ordinance (Chapter 59) –

- (a) Any building, edifice, wall, fence, or chimney, whether constructed wholly or partly above or below ground level.
- (b) Any road, motorway, railway, tramway, cableway, aerial ropeway or canal.
- (c) Any harbour works, dock, pier, sea defence work, or lighthouse.
- (d) Any aqueduct, viaduct, bridge, or tunnel.
- (e) Any sewer, sewage disposal works, or filter bed.
- (f) Any airport or works connected with air navigation.
- (g) Any dam, reservoir, well, pipeline, culvert, shaft or reclamation.
- (h) Any drainage, irrigation, or river control work.
- (i) Any water, electrical, gas, telephonic, telegraphic, radio, or television installation or works, or any other works designed for the manufacturing or transmission of power or the transmission or reception of radio or sound waves.
- (j) Any structure designed for the support of machinery, plant, or power transmission lines.

"Transmission Machinery" means any shaft, wheel, drum, pulley, system of fast and loose pulleys, coupling, clutch, driving belt, or other device, by which the motion of a prime mover is transmitted to or received by any plant.

"Used" or "In Use" in relation to any plant, means used or in use in construction work.

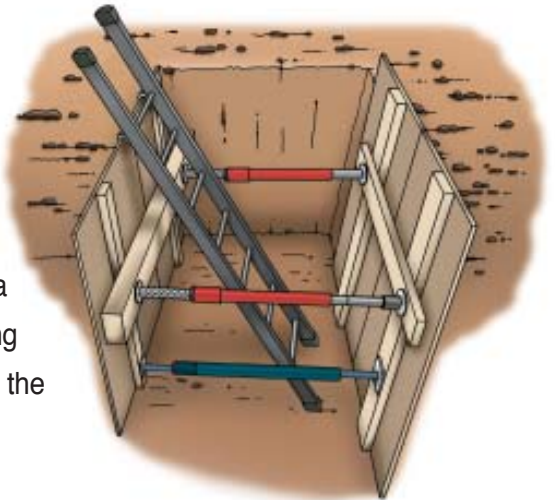
"Workman" means a person engaged in construction work.

Duties, Offences and Penalties relating to Contractors

Excavation Safety

Safety of Excavations – Reg. 39

3. A structure made of suitable timber or other suitable material in connection with the excavating or earthworking operations shall be erected as soon as may be necessary after the commencement of the operations so as to prevent workmen employed on the site from being endangered by a fall or displacement of earth, rock, or other material (including waste material and debris) adjacent to or forming the side of the excavation or earthwork.



4. Every part of the excavation or earthwork where workmen are employed shall be examined by a competent person at least once in every period of 7 days after the commencement of the excavation or earthwork until it is completed or abandoned.

5. No further work in respect of the excavation or earthwork shall be carried on until a report in the approved form has been signed by, and obtained from, a competent person in respect of the examination, or in respect of any further examination that may be necessary.

6. A report in the approved form obtained from a competent person shall –

(a) contain the prescribed particulars; and

(b) include a statement to the effect that the excavation or earthwork, and every structure erected for the purpose is safe and secure.



This regulation shall not apply in the following conditions –

(a) having regard to the nature and slope of the sides of the excavation or earthwork and other circumstances, no fall or dislodgment of earth, rock, or other material is liable to occur so as to –

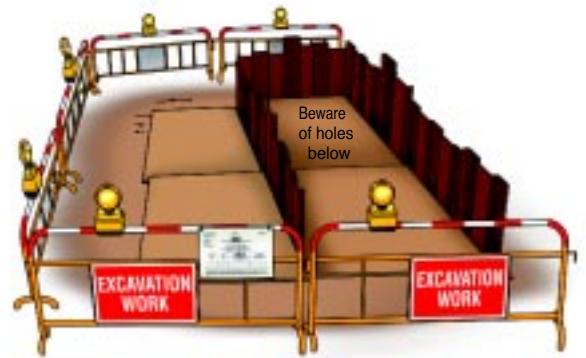
(i) bury or trap a workman or other person employed in or near the excavation or earthwork; or

(ii) strike any such workman or person from a height of more than 1.2 metres;

(b) other precautions which are reasonably adequate to ensure safety to a workman actually engaged in the erection of any structure or in rendering any excavation or earthwork safe, or to a person engaged in examining any such structure, are taken.

Fencing of Excavations – Reg. 40

7. When a workman or other person lawfully on the site is liable to fall a distance of more than 2 metres into or down the side of the excavation, shaft, pit or opening in the ground, those places shall be –
- (a) erected with a suitable barrier as close as is reasonably practicable to the edge; or
 - (b) securely covered.



This regulation shall not apply to any part of an excavation, shaft, pit or opening while (and to the extent to which) –

- (a) the absence of such barrier and covering is necessary for the access of persons or for the movement of plant or equipment or materials; or*
- (b) it has not yet been practicable to erect such barrier or covering since the formation of that part of the excavation, shaft, pit or opening.*

Safe Guarding the Edges of Excavations – Reg. 41

8. No material shall be placed or stacked close to the edge of the excavation, shaft, pit, or opening in the ground so as to endanger any person who is working in it.
9. No load or plant shall be placed or moved near the edge of the excavation, shaft, pit or opening in the ground if it is likely to cause the side of those places to collapse and thereby endanger any person.

Requirements for Emergency Escape – Reg. 41A

10. Where there is reason to apprehend danger from rising water or from an irruption of water or material to persons employed in an excavation, shaft, tunnel, pit or opening in the ground, adequate means shall be provided, so far as practicable, to enable such person to reach positions of safety in the event of emergency.



Machinery Safety

Fencing of Machinery – Reg. 44

11. The following parts of machinery –

- (a) every flywheel and moving part of prime mover;
- (b) every part of transmission machinery; and
- (c) every dangerous part of other machinery (whether or not driven by mechanical power)

are effectively guarded unless they are in such a position or of such construction as to be as safe to every workman on the construction site as they would be if they were effectively guarded.

12. Effective guarding can be achieved by one or more of the following methods—

- (a) an automatic guard;
- (b) a fixed guard;
- (c) an interlocking guard;
- (d) a trip guard;
- (e) a two-hand control device.

Cleaning of Dangerous Machinery by Young Persons – Reg. 46

13. No young person (aged 15 to 17) shall be permitted to clean any dangerous part of a machinery or plant while the machinery or plant is in motion by the aid of any mechanical power.

Safety in Operation of Mechanical Equipment

Trained and Competent Workmen to Operate Mechanical Equipment – Reg. 45

14. Mechanical equipment shall only be operated by a workman who is –

- (a) at an age of 18 years or above; and
- (b) trained and competent to operate it, or if the workman is not so qualified, he is operating it under the supervision of another worker who is so qualified.

15. No person under 18 years of age is employed to give signals to the operator of the equipment.

Other Miscellaneous Provisions

Prevention of Inhalation of Dust and Fumes – Reg. 42

16. Where any construction work involves the grinding, cleaning, spraying, mixing, or working of any material which causes dust or fumes to be given off of a character and extent likely to be injurious to the health of workmen employed in the work, all reasonable steps as are necessary to prevent the inhalation of the dust or fumes by workmen shall be taken by –

- (a) providing adequate ventilation;
- (b) provision and use of suitable respirators; or
- (c) provision of other effective means.



Protection of Eyes – Reg. 43

17. Where there is carried on any process which results in particles of material or dust being produced in such a manner as to be likely to enter or damage the eyes of any workman engaged in the process, the following measures shall be taken –

- (a) suitable goggles or effective screens are provided for the protection of the workman; and
- (b) the workman uses the goggles or screens so provided, as the case may be.



Use of Electricity – Reg. 47

18. Where workmen are liable to come into contact with any live electric cable or apparatus, such measures (whether by rendering the cable or apparatus electrically dead or otherwise), both before the commencement of the work at the site and during its progress, as will prevent them from being endangered by the cable or apparatus shall be taken.

19. Where there is any electrically charged overhead cable or apparatus, such precautions, by the provision of adequate and suitably placed barriers or other means, as will prevent the cable or apparatus from being a source of danger to workmen employed on the site (whether as a result of a lifting appliance coming into contact with the cable or apparatus or otherwise) shall be taken.

Safety Helmets – Reg. 48(1) & 48(1A)

20. Each workman employed on the construction site shall be provided with a suitable safety helmet.
21. All reasonable steps shall be taken to ensure that no workman remains on the construction site unless he is wearing a suitable safety helmet.



Protection from Falling Materials – Reg. 49

22. Precautions as are necessary to prevent any workman working at any place on a construction site from being struck by any falling material or object shall be taken.
23. In the construction site which involves the use of scaffolding materials, tools or other objects and materials, steps shall be taken to ensure that they are –
 - (a) not thrown, tipped or shot down from a height where they are liable to cause injury to any person on or near the site; and
 - (b) where practicable, properly lowered in a safe manner by means of a lifting appliance or lifting gear.
24. All reasonable steps as are necessary to protect workmen employed at the site from falling or flying debris shall be taken where –
 - (a) proper lowering of a load is impracticable; or
 - (b) any part of a building or other structure is being demolished or broken off.



Lighting of Working Places – Reg. 50

25. Where any workman is required or authorized (whether expressly or implied) to –
 - (a) work in any place on a construction site;
 - (b) use any approach to that place;
 - (c) be in any part of the construction site where raising or lowering operations are in progress; or
 - (d) be in the vicinity of any dangerous opening (whether in the ground or in a structure),the place, approach, part or opening shall be adequately and suitably lit to the extent necessary to secure that workman's safety.



Projecting Nails – Reg. 51

26. No timber or material with projecting nails or other sharp objects being a source of danger to workmen employed in the construction site shall be used or left on the site.

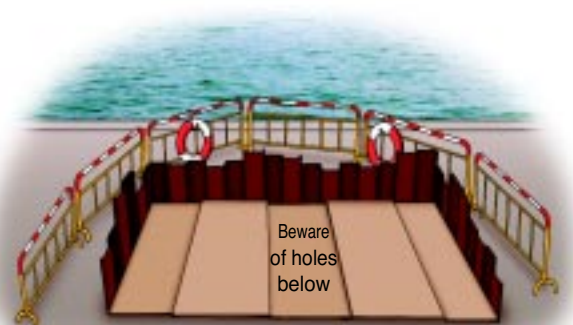


Materials Kept on Construction Sites – Reg. 52

27. All passageways at the following places shall be kept clear of loose materials which are not required for immediate use –
- (a) platforms;
 - (b) gangways;
 - (c) floors; and
 - (d) other places.
28. Materials being kept or stored shall not be –
- (a) insecurely stacked in a place where they may be dangerous to workmen being employed; and
 - (b) stacked in such a way as to overload and render unsafe any floor or other part of a building or structure.

Prevention of Drowning – Reg. 52A

29. Where a construction site is situated on, or adjacent to, water into which a workman is liable to fall with risk of drowning –
- (a) suitable rescue equipment shall be provided and kept in an efficient state; and
 - (b) measures to arrange for the prompt rescue of any such person in danger of drowning shall be taken.



30. Where there is a special risk of such a fall from land or from a structure adjacent to or above the water or from a floating stage, secure fencing to prevent such a fall shall be provided.

Any fencing provided under this provision may be removed or remain unerected for the time and to the extent necessary for the access of persons or the movement of materials.

Power to Prohibit Smoking – Reg. 53

31. The Commissioner may by order in writing prohibit smoking and the use of naked lights where any flammable liquid or any mixture containing any such liquid or any substance or thing is used or intended to be used in a construction site which involves danger from fire.
32. A contractor shall take such steps to enforce the prohibition as the Commissioner may by notice direct.

Maintenance of Fire Escapes and Firefighting Appliances – Reg. 54(1) & 54(1A)

33. The following places shall be maintained in good condition and free from obstruction—
 - (a) all the means of escape in case of fire; and
 - (b) all firefighting appliances provided.

Sanitary Conveniences – Reg. 55

34. Latrine and washing conveniences provided shall be —
 - (a) sufficient and suitable; and
 - (b) afford proper separate accommodation for persons of each sex where persons of both sexes are or are intended to be employed.



Shelter and Facilities for Meals – Reg. 66

35. The contractor responsible for a construction site shall provide at the site —
 - (a) a room or covered area where workmen can shelter during inclement weather;
 - (b) a supply of wholesome drinking water; and
 - (c) if facilities for obtaining meals are not available in the vicinity of the site, or if the Commissioner so directs, a room or covered area where workmen can take meals and one or more stoves on which hot meals can be prepared.

If a room or area provided for the purposes of workmen taking meals affords shelter from inclement weather, a contractor shall not be required to provide a separate room or covered area for the purposes of taking shelter.

Keeping of Records – Reg. 67

36. Every contractor shall keep the certificates and reports in respect of any test, inspection or examination carried out on any plant, excavation or earthwork –
- (a) at the construction site where the plant is located or the excavating or earthworking operations are being carried on; or
 - (b) at his/her office (or at his/her principal office for having more than one office) if –
 - i. the construction work at the site will be completed within a period of less than 6 weeks from its commencement; or
 - ii. the construction work at the site has been completed; or
 - iii. the equipment has ceased to be located at the construction site.
37. A contractor shall –
- (a) at all reasonable times, make available for inspection by any occupational safety officer who requests to see the certificates and reports required to be kept by him/her; and
 - (b) on being requested to do so by an occupational safety officer within such period (being not less than 7 days) as may be specified in the request, deliver to the occupational safety officer a copy of, or an extract from, any certificate or report required to be kept by him/her.
38. Any such certificates or reports may, unless the Commissioner has previously directed to the contrary, be destroyed or otherwise disposed of after the expiration of 6 years from the date on which they were received.

Offences and Penalties – Reg. 68 and 69

39. A contractor shall be guilty of an offence and liable to –
- (a) a fine of \$200,000 and to imprisonment for 12 months for contravening regulation 40(1);
 - (b) a fine of \$200,000 for contravening any of the provisions of regulations 39(1) or 39(2), 41, 41A, 47 or 49;
 - (c) a fine of \$50,000 for contravening any of the provisions of regulation 42, 43, 44(1) or 44(2), 45(1) or 45(2), 46(1) or 46(1A), 48(1) or 48(1A), 50, 51, 52, 52A(1) or 52A(2), 53(2), 54(1) or 54(1A);
 - (d) a fine of \$10,000 for contravening any of the provisions of regulation 66(1), 67(1), 67(2) or 67(3);
 - (e) a fine of \$50,000 for wilfully and without reasonable cause doing anything likely to endanger himself/herself or others.

Duties, Offences and Penalties relating to Competent Persons

Examination of Excavation or Earthworks – Reg. 39(3)

40. A competent person carrying out an examination or further examination in respect of the excavation or earthwork shall –
- (a) make a report, which contains the prescribed particulars, in the approved form;
 - (b) sign the report; and
 - (c) deliver forthwith the report to the contractor concerned.

Offences and Penalties – Reg. 70

41. A competent person who has delivered to a contractor any report which is to his/her knowledge false as to a material particular shall be guilty of an offence and liable to a fine of \$200,000 and to imprisonment for 12 months.
42. A competent person who having carried out an examination on excavations or earthworks fails or refuses to deliver forthwith, or within a reasonable time thereafter, to the contractor concerned a report of an examination on excavations or earthworks shall be guilty of an offence and liable to a fine of \$50,000.

Duties, Offences and Penalties relating to Persons Employed

Offences by Persons Employed – Reg. 69

43. Any workman engaged in construction work who wilfully and without reasonable cause does anything likely to endanger himself/herself or others shall be guilty of an offence and liable to a fine of \$50,000.

Duties, Offences and Penalties relating to Other Persons

Safety Helmets – Reg. 48(2) & 71(1)

44. No person shall enter a construction site unless he is wearing a suitable safety helmet. Any person who contravenes this regulation shall be guilty of an offence and liable to a fine of \$10,000.

Maintenance of Fire Escapes and Firefighting Appliances – Reg. 54(2) & 71(2)

45. No person shall wilfully alter, damage, obstruct or otherwise impair any means of escape in case of fire, or firefighting appliance.
46. Any person who contravenes –
- (a) any order made under regulation 53(1); or
 - (b) regulation 54(2),
- shall be guilty of an offence and liable to a fine of \$10,000.

Enquiries

If you wish to enquire about this guidebook or require advice on occupational safety and health, you can contact the Occupational Safety and Health Branch through:

Telephone : 2559 2297 (auto-recording after office hours)
Fax : 2915 1410
E-mail : enquiry@labour.gov.hk

Information on the services offered by the Labour Department and on major labour legislation is also available at <http://www.labour.gov.hk>.

You can also obtain information on the various services provided by the Occupational Safety and Health Council through its telephone hotline at 2739 9000.

Complaints

If you have any complaints about unsafe workplaces and practices, please call the Labour Department's occupational safety and health complaint hotline at 2542 2172. All complaints will be treated in the strictest confidence.

(規例第 39(2)條)
[reg. 39(2)]

表格四 FORM 4

建築地盤(安全)規例
挖掘及泥土工程
每週檢驗結果報告
本表格乃由勞工處處長為施行建築地盤(安全)規例第 39(2)條而認可

Construction Sites (Safety) Regulations

EXCAVATIONS AND EARTHWORKS REPORTS OF RESULTS OF WEEKLY EXAMINATIONS

Form approved by the Commissioner for Labour for the purposes of
regulation 39(2) of the Construction Sites (Safety) Regulations

業主或承辦商姓名或名稱
Name or Title of Employer
or Contractor

建築地盤地址
Address of Site

開始施工日期
Work Commenced Date

說明或所在地點 Description or location (1)	檢驗日期 Date of examination (2)	檢驗結果 註明該項挖掘或泥土工程及建 築建立的構築物是否安全穩固 Result of examination. State whether excavation or earthwork and structure erected in connection therewith is safe and secure (3)	檢驗人員簽署及職銜 Signature and designation of person who made the examination (4)

任何合資格檢驗員或合資格的人，如向承辦商交付他明知有任何要項屬虛假的證明書或報告，即屬犯罪；一經定罪，可處罰款二十萬元及監禁十二個月。
Any competent examiner or competent person who delivers to a contractor a certificate or makes a report which is to his knowledge false as to a material particular shall be guilty of an offence and shall be liable on conviction to a fine of \$200,000 and to imprisonment for 12 months.
CSSR-F4

