

L.N. 5 of 2020

Building (Construction) Regulation

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Building (Construction) Regulation

(Made by the Secretary for Development under section 38(1) of the Buildings Ordinance (Cap. 123))

Part 1

Preliminary

1. Commencement

This Regulation comes into operation on 1 February 2021.

2. Interpretation

In this Regulation—

carriageway (車路) means a part of a private street, cul-de-sac or access road, used or intended to be used by vehicular traffic;

dead load (恆載)—see section 4;

foundation (基礎) means the part of a building, street, building works or street works that—

- (a) is in direct contact with the ground; and
- (b) transmits load to the ground;

imposed load (外加荷載)—see section 5;

inaccessible roof (非開放屋頂)—see section 36(2);

site investigation (地盤勘測), in relation to a site, means investigation of the physical characteristics of the site and includes documentary studies, site surveys and ground investigation;

wind load (風荷載)—see section 6.

Part 2

Requirements for Materials

3. Materials

- (1) All materials used in building works or street works must be—
 - (a) of a nature and quality suitable for their intended use or purpose;
 - (b) adequately mixed or prepared; and
 - (c) applied, used or fixed so as to perform adequately their intended functions.
 - (2) To ensure that subsection (1) is complied with, the materials used must be adequately tested by recognized tests.
-

Part 3

Loads

4. Dead loads

- (1) In this Regulation, a reference to dead load is to be construed according to this section.
- (2) Dead load is a load of permanent nature.
- (3) The dead load of any building, street, building works or street works is, in each case, the total weight of its walls, floors, roofs, finishes, permanent partitions and any other permanent constructions.
- (4) For the purposes of subsection (3), the dead load must be calculated on the basis of the unit weight of the materials derived from reliable data.

5. Imposed loads

- (1) In this Regulation, a reference to imposed load is to be construed according to this section.
- (2) Imposed load is a load other than dead load or wind load.
- (3) The imposed load on any building, street, building works or street works is, in each case, the greatest applied load likely to arise from its intended use or purpose (including forces exerted by the adjacent ground).
- (4) For the purposes of subsection (3), the greatest applied load must be derived from reliable data.

6. Wind loads

- (1) In this Regulation, a reference to wind load is to be construed according to this section.

- (2) Wind load is any load due to the effects of wind pressure or suction.
- (3) The wind load on any building, street, building works or street works must be based, in each case, on its response to the effect of winds from any direction.
- (4) The effect of winds referred to in subsection (3) must be suitably determined by considering the magnitude of winds having a return period of not less than 50 years.

7. **Imposed loads to be applied**

- (1) The minimum imposed load on a building, street, building works or street works must be whichever of the following that produces the greater adverse effect on the building, street, building works or street works—
 - (a) the distributed load specified in column 3 of Table 1 in the Schedule applied uniformly on plan; or
 - (b) either of the following—
 - (i) the concentrated load specified in column 4 of the Table applied on plan over any square with a 50 mm side (or other dimension specified in that column);
 - (ii) the line load specified in column 4 of the Table.
- (2) If the floor of a building is to support partitions but the positions of the partitions are not indicated on the plan of the building, the weight of the partitions—
 - (a) is to be regarded as the distributed imposed load applied uniformly on plan; and
 - (b) in addition to other imposed loads—
 - (i) has to be not less than one-third of the weight per metre length of the partitions uniformly distributed per square metre; and

- (ii) has to be not less than 1 kPa if the floor is used for office purposes.
- (3) If the floor of a building is to support equipment, machinery or displaying items that will result in an imposed load greater than that specified in Table 1, the load of the equipment, machinery or displaying items must be taken into account in determining the imposed load on the floor.

8. Reduction of imposed loads

- (1) Subject to subsections (2), (3), (4) and (5), in determining the total imposed load on a column, pier, wall or foundation (*the member under consideration*), a reduction specified in Table 2 in the Schedule may be applied to the distributed imposed load on the roof and on every floor carried by the member under consideration.
- (2) If a single span of beam supports not less than 45 m² of floor at any level, for the purpose only of designing the beam, a reduction referred to in subsection (3) may be applied to the distributed imposed load on the floor that the beam supports.
- (3) The reduction that may be applied is—
- (a) 5% for each complete 45 m² of the floor that the beam supports; and
 - (b) not more than 20% in total for the floor that the beam supports.
- (4) For factories and workshops designed for a distributed imposed load of 7.5 kPa or more, the total imposed load must not be reduced below the value of the imposed load that is obtained if all the floors had been designed for a distributed imposed load of 7.5 kPa without the reduction specified in Table 2.

- (5) The imposed loads must not be reduced in relation to—
- (a) floors of a building that support the equipment, machinery or displaying items referred to in section 7(3);
 - (b) floors of factories and workshops designed for a distributed imposed load of less than 7.5 kPa;
 - (c) floors used by vehicles;
 - (d) office areas used for storage and filing purposes;
 - (e) forces produced by dynamic effects;
 - (f) floors used for storage purposes; or
 - (g) loads from partitions the positions of which are not indicated on the plan of the building.

9. Imposed loads—design of protective barrier

- (1) A protective barrier installed to restrict or control the movement of persons must be designed to resist the minimum horizontal imposed loads specified in Table 3 in the Schedule when separately applied (*relevant imposed load*).
- (2) If the wind load is applicable, the protective barrier must be designed to resist the relevant imposed load or the wind load, whichever produces the greater adverse effect.
- (3) A vehicle barrier for a carriageway, floor, driveway or ramp used by vehicles must be designed to withstand the greatest impact force anticipated, subject to the following requirements—
 - (a) the minimum design impact force on a vehicle barrier is to be $[0.5 Mv^2 / (\delta c + \delta b)]$ kN where—

- M is the gross mass in kg of the heaviest vehicle that would be allowed to use the carriageway, floor, driveway or ramp;
- v is the velocity of the vehicle normal to the barrier in metre per second;
- δc is the deformation of the vehicle in mm; and
- δb is the deflection of the barrier in mm; and
- (b) the impact force is to be uniformly distributed over any length of 1.5 m and acting horizontally at the bumper height of the vehicle.

10. Imposed loads—forces produced by dynamic effects

- (1) Forces produced by dynamic effects are considered as additional imposed loads in the design of any building, street, building works and street works.
- (2) Subject to subsection (3), the forces produced by dynamic effects in a factory, workshop or other building for industrial use may be determined on the basis of information about the factory, workshop or building.
- (3) If the forces referred to in subsection (2) are not determined on the basis of information about the factory, workshop or building—
 - (a) for the purpose only of determining the design of slabs and beams—the forces are taken to be an additional vertical imposed load of 2.5 kPa; and
 - (b) for the purpose of determining the design of structural frames and foundations—the forces are taken to be an additional horizontal force (which may be assumed not to act together with the wind load) of 10% of the imposed load specified in paragraph (a), acting simultaneously on the number

of floors (*the number*) that will produce the greatest adverse effect, where the number should be a whole number not less than 0.2 times the total number of floors subject to dynamic effects.

11. Notice as to load

- (1) This section applies to industrial buildings and warehouses.
- (2) A notice stating the designed distributed imposed load of a floor of an industrial building or warehouse must be displayed permanently and conspicuously at—
 - (a) each staircase of every storey of the building or warehouse; or
 - (b) another appropriate place of the building or warehouse.
- (3) If different parts of a floor of the building or warehouse have different designed distributed imposed loads, a notice stating the designed distributed imposed load of each part of the floor must be displayed permanently and conspicuously at that part.
- (4) A notice referred to in subsection (2) or (3) must be legible and made of durable materials.
- (5) In this section—

designed distributed imposed load (設計分布外加荷載), in relation to a floor of an industrial building or warehouse, means the distributed imposed load in terms of weight per square metre, excluding the dynamic effects, for which the floor of the industrial building or warehouse is designed.

12. Overloading

- (1) Subject to subsection (2), any building, street, building works or street works is not to be subject to a load beyond its proper bearing capacity.
 - (2) This section does not apply in relation to any load that may be required for the purpose of testing.
-

Part 4

Requirements for Design and Construction

13. Design methodology

The design for any building, street, building works and street works must be in conformity with—

- (a) the laws of mechanics;
- (b) recognized engineering principles; and
- (c) recognized engineering practices.

14. Strength and serviceability considerations

- (1) This section applies to the structure of any building, street, building works and street works.
- (2) The structure must be capable of—
 - (a) safely sustaining the combination of the dead loads, imposed loads and wind loads; and
 - (b) safely transmitting the loads referred to in paragraph (a) to the ground.
- (3) The structure must be designed and constructed with an adequate factor of safety.
- (4) The design and construction of the structure must not—
 - (a) cause any cracks, deflection, deformation or other movement that may adversely affect the intended use or performance of—
 - (i) the whole or any part of the building, street, building works or street works; or
 - (ii) the whole or any part of any other building, structure, land, street or services;

- (b) cause any damage to—
 - (i) the building, street, building works or street works; or
 - (ii) any other building, structure, land, street or services; or
 - (c) render inadequate the factor of safety of any other building, street, building works or street works.
- (5) The loads referred to in subsection (2)(a) are to be determined in accordance with Part 3.

15. **Stability**

A building, street, building works or street works must be designed and constructed with an adequate margin of safety against instability.

16. **Construction methods and procedures**

- (1) In carrying out building works or street works—
 - (a) appropriate construction methods and procedures must be adopted; and
 - (b) appropriate precautionary measures must be taken.
- (2) Without limiting subsection (1), that subsection is not taken to be complied with in relation to a building, structure, land, street or services if—
 - (a) the factor of safety or margin of safety against instability of the building, structure, land, street or services is rendered inadequate;
 - (b) damage is caused to any building, structure, land, street or services; or

- (c) crack, undue deformation or other movement of the whole or any part of the building works or street works (whether in its temporary or permanent state) occurs to the extent that the structure of the works would exceed its acceptable dimensional tolerance.
-

Part 5

Requirements for Site Investigation

17. Site investigation

- (1) This section applies to a site investigation of a site in respect of building works or street works.
 - (2) A site investigation that provides adequate geotechnical and any other relevant data for the design and construction of the works must be carried out in conformity with recognized standards.
-

Part 6

Requirements for Foundations

18. Foundations

- (1) A foundation of a building, street, building works or street works must be capable of—
 - (a) safely sustaining the combination of the dead loads, imposed loads and wind loads from the building, street, building works or street works, and any other loads, exerted on the foundation; and
 - (b) safely transmitting the loads referred to in paragraph (a) to the ground.
- (2) The design and construction of a foundation must take into account—
 - (a) the conditions of the ground on which the foundation rests;
 - (b) its installation method; and
 - (c) the group effects of the foundation system.
- (3) The foundation must be designed and constructed with an adequate factor of safety.
- (4) The design and construction of a foundation of a building, street, building works or street works must not—
 - (a) impair the stability of any other building, structure, land, street or services;
 - (b) cause any damage to any other building, structure, land, street or services; or
 - (c) render inadequate the factor of safety of any other building, structure, land, street or services.

- (5) A site investigation of the relevant site must be carried out in compliance with section 17 before a foundation is constructed.
- (6) The ground on which the foundation of any building, street, building works or street works rests must be capable of safely sustaining the combination of the following loads with an adequate factor of safety—
 - (a) the dead loads of the building, street, building works or street works;
 - (b) the imposed loads on the building, street, building works or street works;
 - (c) the wind loads on the building, street, building works or street works; and
 - (d) any other loads exerted on the foundation.

19. Building Authority may require on-site tests

- (1) If the Building Authority has any doubt as to the design assumption or load carrying capacity of a foundation, the Building Authority may require tests to be carried out on-site.
- (2) The tests may be carried out on the foundation or on the ground on which the foundation rests—
 - (a) by means of imposition of test loads; or
 - (b) by means of any other suitable method.

20. Proof tests on foundation units

- (1) To ascertain the performance of a foundation under load, representative foundation units of the foundation must be adequately tested by proof tests.

- (2) The proof tests may be carried out by means of any of the following methods that is appropriate to the type of foundation—
- (a) imposition of test loads;
 - (b) core drilling of the completed cast-in-place concrete foundation;
 - (c) any other suitable method.
-

Part 7

Requirements for Site Formation Works

21. Site formation works

- (1) Site formation works must be designed and constructed so as to provide an adequate margin of safety of the works and the remainder of the site during and after the construction.
- (2) The design and construction of site formation works must not—
 - (a) cause any damage to any building, structure, land, street or services; or
 - (b) render inadequate the margin of safety of any building, structure, land, street or services.

22. Interpretation—sections 22, 23 and 24

In this section and sections 23 and 24—

minor retaining wall (小型擋土牆) means a retaining wall that meets the following descriptions—

- (a) the difference between the upper ground level, and the lower ground level, next to the wall does not exceed 1.5 m;
- (b) the average inclination of the ground on the upper ground level next to the wall does not exceed 15 degrees to the horizontal; and
- (c) the surcharges from the foundation or any other structures do not impose any loading on the wall;

retaining wall (擋土牆) means a permanent structure on land that retains earth or fill.

23. Retaining wall—design and construction

- (1) A retaining wall must be capable of safely supporting—
 - (a) the earth or fill it retains; and
 - (b) other loads exerted on the wall.
- (2) The design of a retaining wall must—
 - (a) enable the function referred to in subsection (1) to be performed under the most onerous loading conditions during the wall's construction and throughout the service life of the wall;
 - (b) be in conformity with recognized engineering principles; and
 - (c) be based on data from a site investigation of the relevant site carried out in compliance with section 17.
- (3) A retaining wall must be designed with an adequate factor of safety against—
 - (a) sliding;
 - (b) overturning;
 - (c) ultimate bearing failure; and
 - (d) failure on a surface passing beneath the wall.
- (4) The design and construction of a retaining wall must not—
 - (a) impair the stability of any building, structure, land, street or services; or
 - (b) cause any damage to any building, structure, land, street or services.

24. Retaining wall—drainage and other requirements

- (1) This section applies to a retaining wall other than a minor retaining wall.
- (2) The design and construction of a filter of a retaining wall that is placed against soil must—
 - (a) allow water to flow through the filter; and
 - (b) restrain migration of particles from the soil.
- (3) If a drainage system is provided for a retaining wall to reduce any water pressure that may be imposed on the wall, the system must be designed and constructed so that the performance of the system can be maintained throughout the service life of the wall.
- (4) Backfill of a retaining wall must consist of material that can be compacted to form a stable fill.
- (5) To carry away any water seepage or surface water of a retaining wall, there must be, on both the upper ground level and the lower ground level next to the wall—
 - (a) channels of suitable size; or
 - (b) paving.
- (6) The channels or paving referred to in subsection (5) must be laid to an adequate gradient to direct the water to flow into a surface water drain.

25. Bulk excavation in area number 1 of scheduled areas

- (1) In this section—

bulk excavation (大型挖掘工程) means any kind of excavation except excavation for—

 - (a) ground investigation;
 - (b) public utility trenches;

- (c) drains;
- (d) sewers; or
- (e) pile installation;

cumulative adverse effect (累積不利影響), in relation to area number 1 of the scheduled areas, means the overall adverse effects on the stability of the hillside in the area due to bulk excavation at 2 or more sites in the area.

- (2) Bulk excavation carried out in area number 1 of the scheduled areas must be limited to a level that minimizes the cumulative adverse effect to the area.
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Part 8

Requirements for External Wall, Cladding and Curtain Wall

26. Interpretation—Part 8

(1) In this Part—

cladding (覆蓋層), in relation to a building, means a facing or architectural decoration additional to the structural elements of the building;

curtain wall (幕牆), in relation to a building, means a non load-bearing enclosure of the building that is fixed on to a load-bearing structure of the building;

non-combustible materials (不可燃物料) means materials that pass a recognized non-combustibility test.

(2) In this Part, a structure of a building is load-bearing if it bears a load that is not due to—

- (a) its own weight; or
- (b) wind pressure on its surface.

27. External wall

(1) An external wall of a building must be constructed of materials that are—

- (a) permanent and impervious; and
- (b) non-combustible materials.

(2) Adequate means of access to the outer surface of an external wall of a building or a projection from the wall must be provided for the maintenance or repair of the wall or projection.

28. Cladding

- (1) A cladding of a building must be—
 - (a) constructed of non-combustible materials;
 - (b) of suitable thickness, strength and durability; and
 - (c) fixed and supported in a suitable manner and sequence,
so as to maintain the long-term stability and integrity of the cladding.
- (2) To allow differential movement between a cladding of a building and the structure of the building to which it is attached, the cladding must be permanently provided with a sufficient number of flexible joints horizontally and vertically.
- (3) Suitable metal dowels and fixings must be used to fix the cladding on to a building.
- (4) The metal dowels and fixings referred to in subsection (3) must be—
 - (a) permanently fixed on to the structural elements of the building throughout the service life of the dowels and fixings; and
 - (b) adequately protected against corrosion.
- (5) If the cladding of a building is exposed to weather, adequate means of access to the outer surface of the cladding or a projection from the cladding must be provided for the maintenance or repair of the cladding or projection.

29. Curtain wall—design

- (1) A curtain wall of a building must be capable of—

- (a) safely sustaining the combination of the dead loads, imposed loads and wind loads; and
 - (b) safely transmitting the loads referred to in paragraph (a) to a load-bearing structure of the building, without causing any deflection or deformation that may damage the wall or impair its stability.
- (2) A curtain wall of a building must be designed in conformity with recognized engineering principles relating to the design and structural use of materials.
- (3) To prevent water seepage or condensation from damaging a curtain wall of a building, provision must be made for the collection and discharge of any water seepage or condensed water from the wall.

30. Curtain wall—materials

- (1) A curtain wall of a building must be constructed of non-combustible materials only.
- (2) If any material used in the construction of a curtain wall of a building may be affected by electrolytic or chemical action due to its contact with other materials, the surface of the material must be satisfactorily treated or separated to prevent corrosion.
- (3) The materials used for anchors and fixings in a curtain wall system must be suitable and adequately protected against corrosion.

31. Curtain wall—fixing of supports and maintenance

- (1) A curtain wall support of a building must be fixed on to a load-bearing structure of the building—
 - (a) by a cast-in anchorage in a structural concrete member of the structure; or

- (b) by welding or bolting to a structural steel member of the structure.
 - (2) The fixing of a curtain wall support to a load-bearing structure of a building must not—
 - (a) impair the structural integrity of the member of the structure to which the support is fixed; or
 - (b) adversely affect the performance of the member.
 - (3) Adequate means of access to the outer surface of a curtain wall of a building or a projection from the wall must be provided for the maintenance or repair of the wall or projection.
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Part 9

Protection against Moisture and Water

32. Walls—protection against moisture penetration

A wall of a building that may be in contact with damp must be provided with adequate protection to prevent moisture penetration.

33. Floor and adjoining ground surface

- (1) The ground surface within the external walls of a building must be covered with a suitable material to prevent moisture penetration.
- (2) Adequate means must be provided to prevent ingress of water from the ground surface outside a building to the adjoining floor of the building.
- (3) To carry away any surface water on the ground surface (except in any landscaped area) outside a building, the surface must be provided with paving laid to an adequate gradient to direct the water to flow into a surface water drain.
- (4) If a room of a building is provided with a water supply, the floor of the room must be constructed so as to prevent water penetration.
- (5) The floor of a balcony (including utility platform) and a verandah of a building must be constructed so as to prevent water penetration.

34. Roof

- (1) The roof of a building must be designed and constructed so as to make it weatherproof.

- (2) Adequate means must be provided to prevent ingress of water from the roof of a building to the adjoining floor.
 - (3) Adequate means of access to the roof of a building or a projection from the roof must be provided for the maintenance or repair of the roof or projection.
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Part 10

Requirements for Fire Safety

35. Fire resisting construction

A building must be designed and constructed so as to, in case of fire—

- (a) inhibit the spread of fire within the building and to the buildings nearby;
 - (b) provide adequate resistance to the spread of fire and smoke—
 - (i) between different buildings; and
 - (ii) in the building between different uses;
 - (c) maintain the stability of the building to—
 - (i) allow adequate time for safe evacuation;
 - (ii) allow adequate time for rescue and firefighting operation; and
 - (iii) avoid any consequential damage to the buildings nearby; and
 - (d) provide adequate resistance to the spread of fire over the roof of the building to any other building having regard to the location of the building.
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Part 11

Requirements for User Safety

Division 1—Protective Barrier

36. Application—Division 1

- (1) This Division does not apply to—
 - (a) a stage in an assembly hall;
 - (b) a vehicle parking bay for loading and unloading of goods;
 - (c) an inaccessible roof;
 - (d) an inaccessible area; or
 - (e) any space (other than an accessible roof) within domestic premises for occupation by 1 family.
- (2) In this section—

inaccessible area (非開放地方) means an area that—

- (a) is not intended to be used for human occupation; and
- (b) is intended to be only accessible to personnel for maintenance or repair works;

inaccessible roof (非開放屋頂) means a roof that—

- (a) is not intended to be used for human occupation; and
- (b) is intended to be only accessible to personnel for maintenance or repair works.

37. Provision of protective barrier

- (1) A protective barrier must be provided at the edge of a balcony, verandah, floor, roof, staircase, landing or projection to restrict or control the movement of persons, objects and vehicles.
- (2) If the difference between 2 adjacent levels (whether or not within a building) exceeds 600 mm, a protective barrier must be provided at the higher level to restrict or control the movement of persons, objects and vehicles.

38. Protective barrier—design and construction

A protective barrier required under section 37 must be designed and constructed so as to—

- (a) prevent a person or object from falling, rolling, sliding or slipping through the gap of the barrier; and
- (b) prevent a person from climbing over the barrier.

Division 2—Lift and Escalator**39. Application and interpretation—Division 2**

- (1) This Division applies to a building in which a lift or escalator is installed or is to be installed other than—
 - (a) an amusement device, including an amusement ride as defined by section 2(1) of the Amusement Rides (Safety) Ordinance (Cap. 449);
 - (b) a belt, bucket, scoop or roller conveyor or any similar machine;
 - (c) a hoist, including a skip hoist, used mainly for charging furnaces or similar appliances;

- (d) a hoist used solely for lifting or feeding material directly into a machine or used solely for both of those purposes;
- (e) a lift the height of travel of which does not exceed 3.5 m and that—
 - (i) does not pass through any floor; and
 - (ii) is used solely for the carriage, stacking, loading or unloading of any goods or materials or any 2 or more of those purposes;
- (f) a lift the height of travel of which does not exceed 3.5 m and that—
 - (i) does not pass through any floor; and
 - (ii) is used solely for raising motor vehicles;
- (g) a lift that is provided, in connection with a building under construction, solely—
 - (i) for carrying persons employed in the construction of the building;
 - (ii) for carrying materials used in connection with the construction of the building; or
 - (iii) for carrying persons referred to in subparagraph (i) and materials referred to in subparagraph (ii);
- (h) a ramp that is connected to a wharf or pier;
 - (i) a stage or orchestra lift;
- (j) a stairlift with a guided carriage for use by persons (whether or not with a wheelchair) that travels substantially along the direction of a flight of stairs; or
- (k) a lifting platform for carrying persons with a disability (whether or not with a wheelchair) if—
 - (i) the platform travels between different levels; and

- (ii) the difference between the highest and lowest of the levels does not exceed 2 m.

(2) In this Division—

associated equipment or machinery (相聯設備或機械), in relation to a lift or escalator, has the meaning given by section 2(1) of the Lifts and Escalators Ordinance (Cap. 618);

restricted space (限進空間) means—

- (a) in relation to a lift—the lift shaft and the space containing the associated equipment or machinery of the lift; or
- (b) in relation to an escalator—the space containing the associated equipment or machinery of the escalator.

40. **Design and construction in connection with lift and escalator**

- (1) A building must be designed and constructed so as to—
 - (a) provide adequate structural strength, space, protection, access and ventilation for the safe operation, inspection and maintenance of a lift or escalator; and
 - (b) ensure that the restricted space of a lift or escalator is inaccessible except for inspection, maintenance, repair or rescue.
- (2) If a lift or escalator is added to a building after the completion of the building, the design and construction relating to the addition must comply with subsection (1).

41. Warning notices on use of lift and escalator

- (1) A notice must be displayed permanently at a conspicuous location of a door or other form of access to the restricted space of a lift or escalator in a building, to caution against—
 - (a) the danger of entering the restricted space; and
 - (b) the danger of interfering with the operation of the lift or escalator.
 - (2) A notice must be displayed permanently at a conspicuous location of every entrance of a lift to caution against using a lift when there is a fire.
 - (3) A notice referred to in subsection (1) or (2) must be legible and made of durable materials.
-

Part 12

Miscellaneous

42. Ground treatment

- (1) If a ground treatment is to be carried out to improve the load carrying capacity of a ground, adequate proof of the suitability of the method and materials to be used for the treatment must be given to the Building Authority.
- (2) If a ground treatment has been carried out on a ground, the Building Authority may require adequate tests of the ground to be carried out.
- (3) If a ground treatment may affect any building, structure, land, street or services, adequate precautionary measures must be taken.

43. Well

- (1) A well associated with a building or building works must not be sunk or reopened except with the permission of the Building Authority.
- (2) The design, construction and operation of a well must not—
 - (a) impair the stability of any building, structure, land, street or services; or
 - (b) cause any damage to any building, structure, land, street or services.
- (3) A well must not be sunk in the vicinity of a septic tank, cesspool, sewage sump or in a contaminated ground.
- (4) A well must be provided with adequate means to prevent surface water or sullage water from getting into the well from its top opening.

- (5) A well must be properly lined to prevent contamination.
- (6) If a well is likely to be adversely affected by accumulation of particles, a suitable filter must be provided.
- (7) A well must be designed and constructed so as to prevent unauthorized entry.

44. Chimney and flue

- (1) This section applies to a chimney and flue—
 - (a) the internal diameter, breadth or width of which exceeds 200 mm; or
 - (b) the height of which exceeds 3 m.
- (2) A chimney of a building—
 - (a) must be constructed, positioned or shielded so as to prevent ignition of any part of the building or any other building; and
 - (b) must be constructed so as to ensure that the temperature of its outer surface would not reach a level that may cause any danger to a person in or near the building.
- (3) A flue of a building, whether installed inside or outside the building—
 - (a) must be constructed, positioned or shielded so as to prevent ignition of any part of the building or any other building; and
 - (b) must be positioned or shielded so as to minimize the risk of accidental damage to the flue and the danger to a person in or near the building.

(4) To prevent a fire in a building, a flue must terminate at a position so that the products of combustion will not enter the windows or openings, fresh air inlets, mechanical ventilation inlets or exhausts of the building or any other building.

(5) In this section—

chimney (煙囪) means—

- (a) a structure that performs the same functions as a flue; or
- (b) a structure enclosing a flue or flues;

flue (煙道) means a duct through which products of combustion pass or are intended to pass before reaching the open air;

products of combustion (燃燒產物) include—

- (a) smoke;
- (b) fumes from a stove, oven or any other cooking apparatus; and
- (c) vitiated air.

45. **Fireplace**

A hearth or fireplace recess in a building must be constructed so as to prevent a fire in the building or any other building.

46. **Habitation by vermin**

A building must be constructed so as not to provide a place of habitation for vermin.

47. **Duct**

If the size of a duct allows a person to enter the duct, the duct—

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Section 47

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- (a) must be fitted with an access opening to allow a person to enter it; and
 - (b) must be constructed so as to bear the weight of the person.
-

Schedule

[ss. 7, 8 & 9]

Calculations in relation to Imposed Loads**Table 1****Minimum Imposed Loads**

Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
1	Floors for—		
	(a) domestic uses	2	2
	(b) dormitories	2	2
	(c) private sitting rooms, bedrooms and toilet rooms in hotels, motels and guesthouses	2	2

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(d) wards, bedrooms and toilet rooms in hospitals, nursing homes and residential care homes for elderly persons	2	2
	(e) bathrooms (load from Jacuzzi to be assessed separately), pantries and kitchens in domestic premises	2	2

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
2	(1) Floors for—		
	(a) medical consulting or treatment rooms	2.5	3
	(b) hospital operating theatres and X-ray rooms	2.5	3
	(2) Floors for—		
	(a) laboratories	3	4.5
	(b) light workrooms with neither central power-driven machines nor storage	3	4.5
	(c) offices for general use	3	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(d) rooms for lightweight electrical and electronic installations	3	4.5
	(e) rooms for meters and not for storage	3	4.5
	(f) pantries in offices or non-industrial workplaces	3	4.5
(3)	Floors for—		
	(a) banking halls	4	4.5
	(b) kitchens and laundries not in domestic premises	4	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(4) Floors for projection rooms	5	4.5
3	(1) Floors for childcare centres and kindergartens	2.5	3
	(2) Floors for—		
	(a) billiard rooms and bowling alleys	3	4.5
	(b) classrooms, lecture rooms, tutorial rooms, computer rooms and reading rooms without book storage	3	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(c) internet computer services centres	3	4.5
	(d) dance practice rooms	3	4.5
	(e) leisure, recreational and amusement areas that cannot be used for assembly purposes	3	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(f) massage rooms, sauna rooms and bath houses (load from water pools and fountains, or the like, to be assessed separately)	3	4.5
	(3) Floors for—		
	(a) assembly areas with fixed seating ⁽¹⁾	4	4.5
	(b) chapels, churches and places of worship with fixed seating ⁽¹⁾	4	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(c) columbaria (other than areas for niches)	4	4.5
	(d) restaurants, nightclubs, lounges, bars, canteens, fast food shops and dining rooms not in domestic premises	4	4.5
	(e) cafes, mahjong parlours and amusement game centres	4	4.5
(4)	Floors for—		
	(a) art galleries and museums	5	4.5
	(b) grandstands	5	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(c) public halls	5	4.5
	(d) theatres and cinemas ⁽⁴⁾	5	4.5
	(e) concert halls	5	4.5
	(f) conference rooms and waiting rooms	5	4.5
(5)	Floors for—		
	(a) assembly areas without fixed seating ⁽¹⁾	5	4.5
	(b) dance halls and discotheques	5	4.5
	(c) footbridges between buildings	5	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(d) footpaths, terraces, plazas and areas used for pedestrian traffic	5	4.5
	(e) open areas in gardens (including short grass turf suitable for foot traffic)	5	4.5
	(f) karaoke establishments	5	4.5
	(g) gymnasia	5	4.5
	(h) refuge floors	5	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(i) ice rinks (weight of ice to be assessed separately), ball courts and golf driving ranges	5	4.5
	(6) Floors for stages and television studios used as stages	7.5	9
4	Floors for department stores, supermarkets, markets and shops for display and sale of merchandise	5	4.5

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
5	(1) Floors for—		
	(a) library rooms with book storage (excluding library stack rooms)	5	4.5
	(b) offices for storage and normal filing purposes	5	4.5
	(2) Floors for—		
	(a) stack rooms in bookstores and libraries	3.5 for each metre of storage height ⁽²⁾ but not less than 10	to be determined according to the weight of storage material, but not less than 9

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
	(b) cold storage	5 for each metre of storage height ⁽²⁾ but not less than 15	to be determined according to the weight of storage material, but not less than 9
	(c) paper storage in printing plants	8 for each metre of storage height ⁽²⁾	to be determined according to the weight of storage material, but not less than 9
	(d) battery rooms and uninterruptible power supply rooms	10 for each metre of storage height ⁽²⁾	to be determined according to the weight of storage material, but not less than 9

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Column 1	Column 2	Column 3	Column 4
			Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
Class	Use	Distributed load in kPa to be applied uniformly on plan	
	(e) refuse storage or general storage other than those specified in (a), (b), (c) or (d) immediately above, including storage in warehouses	2.5 for each metre of storage height ⁽²⁾	to be determined according to the weight of storage material, but not less than 9
(3)	Floors for plant rooms, boiler rooms, fan rooms, motor rooms and the like	7.5	9
(4)	Floors for factories, workshops and other buildings or parts of buildings of similar category for industrial use—		

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Column 1	Column 2	Column 3	Column 4
			Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
Class	Use	Distributed load in kPa to be applied uniformly on plan	
	(a) for light weight loads	5	9
	(b) for medium weight loads	7.5	9
	(c) for heavy weight loads	10	9
	(d) for printing plants	12.5	9
6	Areas for car parking, carriageways, floors, driveways and ramps used by vehicles—		
	(a) for vehicles not exceeding 3 000 kg gross weight	3	20 to be applied on plan over any square with a 200 mm side (instead of a 50 mm side)

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Column 1	Column 2	Column 3	Column 4
			Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
Class	Use	Distributed load in kPa to be applied uniformly on plan	
	(b) for vehicles exceeding 3 000 kg gross weight	to be determined according to recognized engineering principles	to be determined according to recognized engineering principles
7	(1) Inaccessible roofs with a slope—		
	(a) of 5° or less	2	1.5
	(b) greater than 5° but of 20° or less	0.75	1.5
	(c) greater than 20° but less than 40°	linear interpolation from 0.75 to 0 according to the slope	1.5
	(d) of 40° or greater	0	1.5

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Column 1	Column 2	Column 3	Column 4
			Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
Class	Use	Distributed load in kPa to be applied uniformly on plan	
	(2) Roofs (other than inaccessible roofs or roofs for use of Class 1, 2, 3, 4, 5 or 6) with a slope—		
	(a) of 20° or less	2	1.5
	(b) greater than 20° but less than 40°	linear interpolation from 2 to 0 according to the slope	1.5
	(c) of 40° or greater	0	1.5
	(3) Canopies	0.75 ⁽³⁾	1.5 ⁽³⁾
8	(1) Floors for utility platforms	same as the floors to which they give access, but not less than 4	line load of 2 kN per metre length to be applied along the outer edge

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Column 1	Column 2	Column 3	Column 4
Class	Use	Distributed load in kPa to be applied uniformly on plan	Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
(2)	Floors for—		
	(a) balconies	same as the floors to which they give access, but not less than 3	line load of 2 kN per metre length to be applied along the outer edge
	(b) stairs, landings and corridors	same as the floors to which they give access, but not less than 3 and not more than 5	4.5

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Column 1	Column 2	Column 3	Column 4
			Concentrated load in kN to be applied on plan over any square with a 50 mm side (or other dimension specified in this column), or line load in kN per metre length
Class	Use	Distributed load in kPa to be applied uniformly on plan	
	(c) projecting window hoods, air conditioner hoods (lower and upper slabs) and air conditioner platforms	—	line load of 1.5 kN per metre length to be applied along the outer edge
	(d) maintenance catwalks	—	1 at 1 m centre

Notes:

- (1) Seating is regarded as fixed if the removal of the seating and the use of the relevant space for other purposes are unlikely.
- (2) **Storage height** (儲存高度) means the height of the space between the floor and a physical constraint to the height of storage formed by—
 - (a) a ceiling;
 - (b) a soffit of a floor;

- (c) a roof; or
 - (d) any other obstruction.
- (3) The minimum imposed loads to be applied for canopies do not take into account uncontrolled accumulations of construction materials that may occur during maintenance or repair.
- (4) **Cinema** (電影院) means a building or part of a building that is designed for cinematographic displays.

Table 2

Reductions of Total Distributed Imposed Loads

Column 1	Column 2	
	Percentage reduction of total distributed imposed loads on every floor (including the roof) carried by the member under consideration	
	(%)	
Number of floors (including the roof) with loads qualifying for reduction carried by the member under consideration	Classes 1, 2, 3, 4 and 7 of Table 1	Factories and workshops under Class 5(4) of Table 1 with distributed imposed load of not less than 7.5 kPa
1	0	0
2	5	10
3	10	20

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Column 1	Column 2	
	Percentage reduction of total distributed imposed loads on every floor (including the roof) carried by the member under consideration	
		(%)
Number of floors (including the roof) with loads qualifying for reduction carried by the member under consideration	Classes 1, 2, 3, 4 and 7 of Table 1	Factories and workshops under Class 5(4) of Table 1 with distributed imposed load of not less than 7.5 kPa
4	15	25 maximum
5	20	25 maximum
6	25	25 maximum
7	30	25 maximum
8	35	25 maximum
over 8	40 maximum	25 maximum

Table 3**Minimum Horizontal Imposed Loads on Protective Barriers to Restrict or Control Movement of Persons**

Column 1	Column 2	Column 3	Column 4	Column 5
Item	Category	Line load to be applied ⁽¹⁾ (kN/m)	Uniformly distributed load to be applied on the infill between floor and top rail (kPa)	Concentrated load to be applied on any part of the infill between floor and top rail (kN)
1.	Areas where congregation of people is not expected	0.75	1	0.5
2.	Areas where people may congregate but overcrowding is not expected	1.5	1.5	1.5
3.	Areas susceptible to overcrowding	3	1.5	1.5

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Note:

- (1) The line load is to be applied at—
- (a) a height of 1.1 m above the floor level; or
 - (b) the top edge of the protective barrier,
- whichever is the lower.

Michael WONG Wai-lun
Secretary for Development

6 January 2020

Explanatory Note

This Regulation replaces the Building (Construction) Regulations (Cap. 123 sub. leg. B). It mainly provides for the performance requirements in relation to the design and construction of a building, street, building works and street works.

2. The Regulation is divided into 12 Parts and a Schedule.
3. Part 1 provides for the commencement and interpretation of the Regulation.
4. Part 2 deals with the requirements for materials used in building works and street works.
5. Part 3 sets out the requirements relating to dead loads, imposed loads and wind loads. Tables 1, 2 and 3 in the Schedule set out the relevant figures to be applied in calculating imposed loads. It also requires a notice stating the designed distributed imposed load of a floor to be displayed in certain buildings. Part 3 further disallows overloading of buildings etc.
6. Part 4 sets out the requirements relating to the design methodology, strength and serviceability, stability, and construction methods and procedures.
7. Part 5 relates to site investigations in respect of building works and street works.
8. Part 6 deals with the requirements for foundations. It also provides for the carrying out of on-site tests and proof tests in relation to foundations.

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9. Part 7 sets out the requirements for site formation works, retaining walls and bulk excavation.
10. Part 8 deals with the requirements for external walls, cladding and curtain walls.
11. Part 9 deals with protection against moisture and water penetration.
12. Part 10 sets out the requirements in relation to fire resisting construction.
13. Part 11 relates to user safety and consists of 2 Divisions. Division 1 deals with protective barriers. Division 2 deals with lifts and escalators being installed or to be installed in a building.
14. Part 12 provides for the requirements relating to ground treatments, wells, chimneys and flues, fireplaces, preventing places for habitation by vermin and ducts.