

*Statutory Instrument No. 12 of 1981*

**BUILDING CONTROL ACT**  
(Cap. 65:03)

**BUILDING CONTROL REGULATIONS, 1981**

*(Published on 13th February, 1981)*

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† IN EXERCISE of the powers conferred on the Minister of Works and Communications by section 4 of the Building Control Act, the following Regulations are hereby made —

PART I *Preliminary*

Citation	1. These Regulations may be cited as the Building Control Regulations, 1981.
Interpretation	2. In these Regulations, unless the context otherwise requires, – “apparatus” means electrical apparatus including machines, equipment or fittings in which conductors are used or of which they form a part; “appliance” means any device which uses electricity, excluding a light fitting or an independent motor; “basement storey” means a storey which is below the ground storey or, where there is no ground storey, a storey the floor level of which is at some point more than 1m below the finished level of the adjoining ground; “beam” includes a joist, purlin, rafter, rib or truss; “boundary”, in relation to a building or compartment, means the boundary of the plot or lot belonging to the building; “builder” means the person who is or will be responsible for the work on site; “building” means – (a) any building or erection constructed of durable materials (excluding buildings of local traditional construction), whether temporary or permanent, including any fixture, not being a structure or erection exempted under regulation 5, and includes a prospective building; and (b) in relation to an extension, alteration or change of use of a building, only so much of the building as is comprised in the extension or is the subject of the alteration or change of use; “Building Authority” means an authority appointed by the Minister to be responsible in any area for the administration of these Regulations and includes a local authority; “Building Regulations Board” means the Board established under section 3 of the Act; “ceiling” includes a soffit or a rooflight, skylight or other part of a building which is exposed overhead within a room, circulation space or protected shaft; “change of use” shall have the meaning assigned to it in regulation 8; “circuit” means an arrangement of conductors for the purpose of carrying electrical current; “circuit-breaker” means a mechanical device for making or breaking a circuit under normal or abnormal conditions such as those of a short circuit, the circuit being broken automatically; “circulation space” means a space which is solely or predominantly used as a means of access between a room and a protected shaft or between a room or a protected shaft and an exit from the building or compartment; “combustible”, in relation to a material, means the material is not capable of withstanding the non-combustibility test approved by the South African Bureau of Standards or British Standard 476; “compartment” means any part of a building separated from all other parts by a compartment wall or floor, and, for the purposes of these Regulations, if any part of the top storey of a building is within a

- compartment the compartment shall also include any roof space above such part of the top storey;
- “compartment wall” or “compartment floor” means a wall or a floor provided as such under regulation 37;
- “conductor”, in relation to a core or cable, means the conducting portion whether consisting of a single wire or group of wires in contact with each other;
- “construct” means to alter, erect, extend, install or fit, and “construction” shall be construed accordingly;
- “dangerous building” means a building not fit for occupation or which is a danger to the safety of the occupier, owner or public by reason of its structural instability, insanitary condition or verminous state;
- “dead load” means the force due to the static mass of walls, partitions, floors, roofs or finishes, including all other constructions or fixed installations;
- “door” includes any shutter, cover or other form of protection to an opening in a wall or floor of a building or in the structure surrounding a protected shaft whether the door is constructed of one or more leaves;
- “drainage system”, in relation to a building, means a system of pipes and sewers used for the sewerage of a building, including any fitting, appliance or equipment connected therewith;
- “dwelling” means a building or structure used regularly or intermittently for human habitation;
- “earthed”, in relation to a connexion, means effectively connected to the general mass of the earth;
- “electricity point” means a termination of the fixed wiring intended for the attachment of a lighting fitting or of a device for connecting the supply to a current-using appliance;
- “element of structure” means –
- (a) any member forming part of the structural frame of a building or any other beam or column (not being part of a roof structure only);
  - (b) a floor, including a compartment floor, other than the lowest floor of a building;
  - (c) an external wall;
  - (d) a compartment wall;
  - (e) a structure enclosing a protected shaft;
  - (f) a load-bearing wall or part thereof;
  - (g) a gallery;
- “erection of a building” means –
- (a) the construction of a new building;
  - (b) the re-erection of any building or part thereof which has been demolished or burnt down to within 3m of the ground; or
  - (c) the roofing over any open space between a wall or building;
- “excepted building” means –
- (a) a building which is intended to be used wholly for the storage of goods, other than edible goods, or for the accommodation of plant or machinery, and in which any person employed is engaged solely in the general care, supervision, regulation, maintenance, storage or removal of such goods, plant or machinery; and

(b) without prejudice to the generality of the foregoing, a building which is intended to be used wholly for a purpose such that compliance with the provisions of these Regulations would not serve to increase protection to the health of any person employed in that building;

“exit” means a fire-protected route by way of a room or doorway into a passage and thereafter only by way of a passage, including any stairway forming part thereof, by which a person may reach a place of safety, but at no stage by means of a lift, escalator or doorway containing a revolving door, and, in particular, means from –

- (a) any point on a storey of a building, a route from that point;
- (b) any room, a route from the doorway of the room; or
- (c) any flat, a route from the entrance to the flat;

“final exit” means an unenclosed space in the open air at ground level;

“fire-protected route” means a route protected from fire and smoke;

“fire resistance” means that an element of structure shall be capable of resisting the action of fire for the specified period approved by the South African Bureau of Standards or British Standard 476, Part 8, 1972, and “period of fire resistance” shall be construed accordingly;

“fire-stop” means a non-combustible barrier or seal to full thickness of a wall or floor which would prevent or retard the passage of smoke or flame within a cavity or around a pipe or duct where it passes through a wall or floor or between elements of structure, and “fire-stopped” shall be construed accordingly;

“floor” includes –

- (a) a base or structure between the surface of the ground or the surface of any hardcore laid upon the ground and the upper surface of the floor; and
- (b) any part of a floor to be used as a corridor and any balcony used in connexion with a floor;

“foul water” means water contaminated by soil water, waste water or trade effluent;

“fuse” means a device for opening a circuit by means of a conductor designed to melt when an excessive current flows;

“ground storey” means a storey the floor level of which is not more than 1 m at any point below the level of the adjacent finished ground level, or, if there are 2 or more such storeys, the lower or lowest of them;

“habitable room” means a room used or intended to be used for living, eating or sleeping;

“hazardous materials” means any material prescribed as such by any written law and includes explosives, petroleum products and any material involving high risk;

“house” includes any part of a building which is occupied or intended to be occupied as a separate dwelling, and includes a flat;

“insulation” means a suitable non-conducting material enclosing, surrounding or supporting a conductor;

“internal lining” means any material of which the wall or ceiling surface is constructed and any applied finish;

“linked switch” means a switch, the blades of which are linked mechanically so as to make or break all poles simultaneously or in a definite sequence;

“live”, in relation to a conductor, means that under working conditions –

- (a) a difference of voltage exists between the conductor and earth; or
- (b) it is connected to the middle wire, common return wire or neutral wire of a supply system in which that wire is not permanently and solidly earthed;

“live load” means the load assumed to be produced by the intended occupancy or use, including distributed, concentrated, impact and inertia, but excluding wind loads;

“lot” means a piece of land delineated as a lot on a general plan of a township or area filed in the Department of Surveys and Lands;

“manhole” means any chamber constructed on a sewer so as to provide access thereto for inspection and cleaning;

“occupier” means the person in temporary or subordinate possession of a building or any part thereof;

“occupant capacity” shall have the meaning assigned to it in regulation 56;

“opening” means –

- (a) a window, door or other opening;
- (b) any part of an external wall or side of a building which has a fire resistance less than that required by these Regulations; or
- (c) any part of an external wall which has attached or applied to its external surface combustible material of a thickness of more than 1 mm whether for cladding or any other purpose;

“operations” includes any act of construction or demolition of a building or work on a plot;

“owner” means the person for the time being receiving the rent of a building whether on his own account or as agent or trustee for any other person, or who would receive the rent if the building were let to a tenant;

“person” includes a corporation, company or incorporated body;

“place of safety” means an unenclosed space –

- (a) in the open air at ground level; or
- (b) at ground level having sufficient final exits;

“pian area”, in relation to a floor, ceiling or roof, means the area thereof measured in plan;

“plans” means any notice given to or by, and any plan, section, specification or written particulars deposited with, a Building Authority;

“plot” means the parcel of land which belongs or will belong exclusively to the building or to the building and any ancillary structure;

“potable water” means water which is suitable for human consumption;

“protected doorway” means a doorway –

- (a) containing a self-closing fire-door –
  - (i) from a flat or maisonette to an open landing giving access to a stairway forming part of an exit; or
  - (ii) giving access to a protected shaft; or
- (b) leading directly to a place of safety in the open at ground level;

“protected shaft” means a stairway, escalator, chute, duct or other shaft which enables persons, things, or air to pass between different compartments;

“protecting structure” means any wall, floor or structure enclosing a protected shaft, other than –

- (a) a wall which also forms part of an external or compartment wall;

(b) a floor which is also a compartment floor or a floor laid directly on the ground; or

(c) a roof;

“public sewer” means any sewer provided, constructed or maintained by or vested in a Building Authority or the Minister for the time being responsible for local government and lands;

“purpose group” means the designation, under regulation 7, of a building or a part thereof according to its use or intended use;

“sewer”, in relation to a building, means a pipe conveying foul water and which forms part of the sewerage system of that building;

“site”, in relation to a building, means the area of ground covered or to be covered by a building, including its foundations;

“socket outlet” means a device with protected current-carrying contacts intended to be mounted in a fixed position and permanently connected to the fixed wiring of the installation to enable the connexion to it of a flexible cord or cable by means of a plug;

“soil appliance” means a sanitary appliance for the collection and discharge of excreted matter;

“soil pipe” means a pipe conveying soil water to a sewer;

“soil waste pipe” means a pipe for conveying both soil and waste water to a sewer;

“soil water” means water containing excreted matter, whether human or animal;

“spread of flame rating” means that the surface is capable of withstanding for the specified period the test approved by the South African Bureau of Standards or British Standard 476, Part 8, 1972;

“stairway enclosure”, in relation to an exit, means any part of an exit (not being a part within a room) which includes stairway landings and approaches thereto and extends to a place of safety;

“street” includes a public road or footpath or any land reserved for a future public road or footpath, and any drains in connexion therewith;

“subsoil water” means the ground water naturally contained in the subsoil;

“surface of the wall” shall be construed as excluding the surface of any door, door-frame, window, window-frame, fire-place surround, mantel-shelf, fitted furniture or trim;

“switch” means a mechanical device for non-automatically making and breaking a circuit-carrying current not greatly in excess of the rated normal current;

“trade effluent” means liquid, either with or without particles of matter in suspension, which is wholly or in part produced in the course of any trade, industry or research, but does not include soil water or waste water;

“travel distance”, in relation to any point, means the distance to be covered between that point and the nearest protected doorway measured, where the floor is —

(a) divided by fixed seating or any other obstruction, by way of the shortest route along an open gangway; or

(b) not so divided, by way of the shortest route;

“unprotected area”, in relation to an external wall or side of a building, means —

- (a) a window, door or other opening; or
- (b) any part of an external wall which has –
  - (i) a fire resistance less than that specified for the wall; or
  - (ii) combustible material more than 1 mm thick attached or applied to its external face;

“ventilating pipe” means a pipe open to the atmosphere at its highest point which ventilates the sewerage system or any part thereof;

“waste appliance” means a sanitary appliance for the collection and discharge of water used for ablutionary, culinary or other domestic purposes;

“waste pipe” means a pipe for conveying waste water to a sewer;

“waste water” means used water, not being soil water or trade effluent;

“wind loads” means all loads due to the effect of wind pressure or suction;

“work” means the erection, extension or alteration of a building, the execution of any works on site or the making of a change of use, but shall not include any work for which a permit was issued prior to the date of commencement of these Regulations or any work carried out prior to that date.

## PART II Administration

3. Any building which extends into the areas of 2 or more Building Authorities shall, for the purpose of the administration of these Regulations, be treated as if it were wholly within the area of one Building Authority as shall be agreed between the Building Authorities concerned or, failing agreement, as determined by the Minister.

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Building  
Authorities  
Deemed-to-  
satisfy

4. Where any provision of these Regulations prescribes that the use of a particular material, method of construction or specification shall be deemed-to-satisfy the requirements thereof, it shall not be construed as to require any person to necessarily use such material, method of construction or specification.

5. These Regulations shall not apply to any building or part thereof consisting of or ancillary to –

Exempted  
buildings

- (a) a mine or quarry not being a house or a building used as an office, showroom or canteen;
- (b) a movable dwelling including a tent, van or other conveyance used temporarily or intermittently for human habitation;
- (c) a building erected by an organization authorized by the Minister for experiment or research into the behaviour of any material, form of construction or design technique;
- (d) a road, whether public or private, including, in the case of a public road, any bridge on which the road is carried;
- (e) a sewer or water main which is, or is to be, vested in a Building Authority, a Government department or a statutory undertaking;
- (f) an aerodrome runway;
- (g) a railway, electricity or water authority, not being a house or building used as an office, showroom or canteen;
- (h) a building erected by the Ministry;
- (i) a building erected for use by the Botswana Defence Force;
- (j) any temporary structure erected on site by a builder for his use during the construction of a building; or

- (k) a "low cost" or "self help" dwelling house, situated within a township area designated therefor, constructed by or under the control of a local authority or the Botswana Housing Corporation.
- Application** 6. Subject to the provisions of regulation 5, these Regulations shall apply to –
- (a) the construction or demolition of a building;
  - (b) a building in a dangerous condition; and
  - (c) the alteration or extension of a building,
- if the building is within an area specified in the Sixth Schedule or is a commercial building or a place of worship or public assembly.
- Designation of purpose groups** 7. (1) Every building or compartment shall be designated according to its use as falling within one of the purpose groups specified in the Table set out in the First Schedule.
- (2) Where the whole or part of a building is used or intended to be used for more than one purpose, the main purpose of use shall determine the purpose group.
- Change of use** 8. (1) Subject to the provisions of regulation 5, these Regulations shall apply if a change is made or intended to be made in the purpose for which a building or part thereof is used.
- (2) For the purposes of this regulation a change of use shall be deemed to be made if –
- (a) a building or relevant part thereof was –
    - (i) not originally constructed for occupation as a dwelling and is used or intended to be used for such a purpose; or
    - (ii) constructed for occupation by one family and is occupied or intended to be occupied by more than one family and is altered to create separate dwellings; or
  - (b) the purpose group of the building or part thereof, as designated by the Table set out in the First Schedule, is changed.
- (3) In the case of a change of use under subregulation (2) the provisions of these Regulations relating to standards of safety and health shall apply.
- Application for permit** 9. Any person who intends to –
- (a) erect or demolish a building;
  - (b) make any structural alteration or extension to a building; or
  - (c) make any change of use of a building,
- shall, if such work is subject to the provisions of these Regulations, apply to a Building Authority for a permit on the prescribed form and shall give a notice of intention and deposit such plans, sections, specifications or other written particulars required by the Building Authority, such documents to comply with the Annexure set out in the First Schedule.
- Fees** 10. An applicant for a permit under regulation 8 shall, at the time he submits his application, deposit a fee based on the total floor area, all floors contributing and measured inside the enclosing external walls, in accordance with the following scale –

<i>Floor Area (m<sup>2</sup>)</i>	<i>Fee (Pula)</i>
0 – 15	2
16 – 50	4
51 – 150	8
151 – 500	16
501 – 2 000	32
exceeds – 2 000	64.

11. (1) A Building Authority shall, within 6 weeks of the receipt of an application under regulation 8, approve, defer or reject the application. Issue of permit

(2) (a) Where a Building Authority is satisfied that the provisions of these Regulations will be complied with, a permit shall be issued.

(b) On the issue of a permit by a Building Authority 2 copies each of the documents submitted with the application for a permit under regulation 8, bearing the stamp of approval and the signature of an authorized officer of the Building Authority, shall be returned to the person to whom the permit was issued.

(c) For use by the Building Authority representative, one copy each of the documents returned under paragraph (b) shall be retained on site during the period of building operations.

(3) Where an application is deferred, the Building Authority shall give reasons therefor and shall, within 10 weeks of the receipt of the application, either approve or reject it.

(4) A permit shall be valid for 24 calendar months from the date of issue; where work is not commenced within that period the permit shall lapse but may, on written application for an extension, be extended for a further 12 calendar months.

12. (1) Where, after perusal of an application for a permit and other documents submitted under regulation 8, a Building Authority is satisfied that the proposed work would contravene or fail to meet the requirements of these Regulations, it shall reject the application. Rejection of permit

(2) Where an application is rejected under subregulation (1), the Building Authority shall give reasons therefor.

13. Approval under these Regulations of an application for a permit under regulation 8 shall not – Title to land and planning approval

(a) convey a title to the land or in any way affect a landlord and tenant relationship; or

(b) imply planning approval of the proposal and, where controls apply, planning permission in writing shall, prior to the commencement of any building operations, be obtained from the relevant authority.

14. (1) Every builder shall, in respect of every building, furnish to the Building Authority concerned – Notices of commencement and completion of certain stages of work

(a) not less than 3 days' notice in writing –

(i) of the date and time at which building operations will commence;

(ii) before the covering of –

(aa) an excavation for a foundation;

(bb) a foundation;

(cc) a damp-proof course; or

(dd) concrete or other material laid over a site; and

(iii) before a drain or sewer to which these Regulations apply will be haunched or covered in any way; and

(b) notice in writing not more than 7 days after the completion of building work.

(2) Any builder who neglects or refuses to give any notice required under subregulation (1) shall at his own expense comply with any notice in writing from a Building Authority requiring him within a reasonable

time to cut into, lay open or demolish so much of the building, including any works or fittings, necessary to enable the Building Authority to ascertain whether or not these Regulations have been complied with.

(3) Where a builder has, in accordance with a notice in writing from a Building Authority to rectify any specified contravention of these Regulations, effected such rectification, he shall within a reasonable time thereafter give notice thereof in writing to the Building Authority.

(4) For the purposes of this regulation "3 days' notice" means full working days and excludes a Saturday, a Sunday or a public holiday.

Inspection

15. (1) An authorized representative of a Building Authority shall have a right of entry –

- (a) at any time during working hours to any site where building operations are in progress to inspect any work during or after construction and to require such tests on the drains, sewers, services, fittings or installations necessary to satisfy himself that the provisions of these Regulations are being complied with; and
- (b) after completion of the work and until a permit to occupy has been issued under regulation 17, at any reasonable time during normal working hours.

(2) Any work, services, fittings or installations which are found to contravene any provision of these Regulations shall be replaced or altered so as to comply therewith.

(3) Any person who hinders an authorized representative of a Building Authority in the performance of his duties under this regulation shall be guilty of an offence.

Sampling of materials

16. (1) An authorized representative of a Building Authority shall be permitted to take samples of any materials to be used in the construction of a building to enable the Building Authority to ascertain whether or not such materials comply with the provisions of these Regulations.

(2) Any person who hinders an authorized representative of a Building Authority in the performance of his duties under this regulation shall be guilty of an offence.

Permit to occupy

17. (1) No person shall occupy or use any part of a new building or the new part of an extended or altered building until it has been inspected for compliance with the provisions of these Regulations by an authorized representative of a Building Authority and a permit to occupy issued.

(2) Subject to a building being in compliance with the provisions of these Regulations, a permit to occupy shall be issued by a Building Authority within 7 days of the receipt of the notice of completion of work.

(3) Where a building is in contravention of any provision of these Regulations, a permit to occupy shall be withheld until such time as the work complies therewith:

Provided that –

- (i) the building or a part thereof may be occupied by an approved number of watchmen;
- (ii) where the building is extensive or comprises 2 or more separate buildings on the same plot, a permit to occupy may be issued in respect of part of the building or an individual building on the same plot.

(4) Where a permit to occupy has been withheld under subregulation (3), the builder shall be informed in writing of the reasons therefor.

18. (1) Where, in the opinion of a Building Authority, any building or structure or part thereof is in such a condition or is used to carry such loads as to be dangerous the Building Authority shall –

Dangerous buildings

- (a) take all reasonable precautions, including the erection of fencing, for the protection and safety of the public;
- (b) give to the owner or, if he cannot be found, the occupier, notice in writing to forthwith take action necessary to remove the danger; or
- (c) apply to a magistrate's court for an order requiring the owner or, if he cannot be found, the occupier to forthwith remedy the defect.

(2) Where an owner or occupier on whom an order has been served under subregulation (1) (c) fails to comply within the time specified in the order, or where the owner or occupier cannot be found, the Building Authority shall undertake the work necessary to render the building safe.

(3) Where a Building Authority is satisfied that due to a structural defect or any other cause the condition of a building is such that it cannot be made safe, it may apply to a magistrate's court for an order requiring the owner or, if he cannot be found, the occupier to vacate the premises and demolish the building within the time specified in the order, and where the owner or occupier cannot be found or fails to comply with the order the Building Authority shall demolish the building.

(4) Any expenses incurred by a Building Authority in carrying out any work necessary under this regulation shall be recoverable from the owner, of the building.

19. (1) Every building used or intended to be used for human occupation shall be provided with a sufficient supply of potable water, having regard to the number of persons occupying or intended to occupy the building or to be employed on the premises.

Water supply

(2) Where it appears to a Building Authority that the provisions of subregulation (1) are not being complied with, it shall reject an application to build until such compliance is effected.

20. (1) Where a builder who has carried out work without a permit or in any other contravention of the provisions of these Regulations receives a notice in writing from a Building Authority requiring him to demolish such work or to make any alteration thereto he shall, within such time as is specified in the notice, comply with the requirements therein, and if he fails so to do the Building Authority may execute the work ordered and recover from the builder the cost of so doing.

Builder to comply with notice to demolish, etc.

(2) Any person who contravenes any provision of this regulation shall be guilty of an offence and on conviction thereof shall be liable to a fine not exceeding P200, and, in the event of the offence continuing, to a further fine not exceeding P20 per day for each day the offence is continued.

21. Compliance with the provisions of these Regulations shall not exempt any person from complying with any law in respect of the construction of any building or the storage or use of hazardous materials.

Compliance with law

22. Any person aggrieved by a decision under these Regulations may, within 60 days of such decision, appeal against a decision of –

Appeals

- (a) a Building Authority, to the Building Regulations Board on a matter within its jurisdiction; or

(b) the Building Regulations Board or a Building Authority, to the High Court on a matter of law.

#### PART III *Materials*

Suitable materials

23. (1) Any materials used —

- (a) in the erection of a building;
- (b) in the structural alteration or extension of a building; or
- (c) for the back-filling of any excavation in connexion with a building or works,

shall be —

- (i) of a suitable quality in relation to the purpose for and conditions in which they are used;
- (ii) adequately sized or prepared; and
- (iii) applied, used or fixed so as adequately to perform the function for which they are designed.

(2) The requirements of subregulation (1) shall be deemed-to-be-satisfied if the use of material or method of mixing or preparing thereof conforms to the South African Bureau of Standards or the British Standards Institute specifying the quality of material and standard of workmanship required.

Special treatment of timber in certain areas

24. Where considered necessary the Minister may require timber products for use in a building in any designated area to be treated against insect attack, and, in such case, a copy of the specification for such treatment, approved by the Minister, shall be available from a Building Authority.

#### PART IV *Preparation of Site and Resistance to Moisture*

Preparation of site

25. (1) The plinth area of a building together with the ground surrounding it to a width of 1 m shall be effectively cleared of turf and other vegetable matter.

(2) Where the dampness or the position of the site of a building renders it necessary, the site shall be effectively drained or such other steps taken as will protect the building against damage from moisture.

(3) Where, during an excavation in connexion with a building, works or fittings, an existing subsoil drain is severed, adequate precautions shall be taken to secure the continued passage of subsoil water through the drain to ensure that no subsoil water entering the drain shall cause dampness to the site of the building.

(4) The requirements of subregulation (1) shall be deemed-to-be-satisfied if all vegetable matter, including any bush or tree root, is removed to a minimum depth of 100 mm or such further depth as may be required by a Building Authority.

Protection of floors next to ground

26. (1) The part of a building next to the ground shall have a floor constructed so as to prevent the passage of moisture from the ground to the upper surface of the floor.

(2) A floor which is next to the ground shall be constructed so as to prevent any part thereof being adversely affected by moisture from the ground.

(3) The requirements of this regulation shall be deemed-to-be-satisfied if —

- (a) where a floor is suspended —
  - (i) there is a minimum space of 150 mm between the underside of the floor and the adjacent finished ground level; and

- (ii) the space has adequate through ventilation on at least 2 sides provided by openings, the minimum area of which on each side is 0,03 m<sup>2</sup> per m of external wall;
- (b) where a floor is a solid floor laid on the ground, it is not less moisture-resistant than a floor comprising a layer of –
  - (i) compacted hardcore or other approved material not less than 100 mm thick; and
  - (ii) concrete not less than 100 mm thick, the floor level of which is at a height of not less than 150 mm above the adjacent finished ground level; and
- (c) where a damp-proof membrane is provided it is –
  - (i) carried up the walls adjoining the floor to the level of the upper surface of the floor or higher;
  - (ii) joined and sealed to any other damp-proof course inserted in a wall, pier, buttress, column or chimney adjoining the floor; and
  - (iii) in a position, where there are damp-proof courses, to ensure that moisture from the ground cannot reach any timber or other material which would be adversely affected by it.

27. (1) Any wall, pier, buttress, column or chimney shall be constructed so as not to transmit moisture from the ground to any material which is used in its construction or to any part, including the inside, of the building which may be adversely affected by moisture.

Protection of walls against moisture

(2) The requirements of subregulation (1) shall be deemed-to-be-satisfied if a construction has a damp-proof course which is at a height of not less than 150 mm above the adjacent finished ground level and is in accordance with the South African Bureau of Standards.

28. Any part of a building which extends below the level of the damp-proof course shall be constructed wholly of materials not likely to be adversely affected by moisture from the ground.

Materials below ground level

29. Every external wall, including a parapet, pier, buttress, column or chimney forming part of an external wall, shall be constructed so as not to transmit moisture from rain to any part of the building which would be adversely affected by moisture and be adequate to resist the penetration of moisture to the inside of the building.

Weather resistance of external walls

30. (1) Where damp-proof courses are inserted in the leaves of any cavity wall constructed of bricks or blocks the cavity shall, unless the structure forming the bottom part thereof complies with the provisions of subregulation (2), extend not less than 150 mm below the level of the damp-proof course.

Prevention of damp in cavity walls

(2) Where in any wall the cavity is bridged otherwise than by –

- (a) a wall tie; or
- (b) a bridging which occurs at the top of a wall in such a position that it is protected by a roof,

a damp-proof course or flashing shall be inserted in such a manner as will prevent the passage of moisture from the outer leaf to the inner leaf of the wall.

31. The roof of every building shall be weatherproof and constructed so as not to transmit moisture due to rain to any internal part of the structure.

Weather resistance walls

#### PART V *Structural Stability*

- Application of Part
32. This Part shall apply to the design and construction of all buildings in which the loads are transmitted through each storey to the foundations and thence to the ground.
- Foundations
33. (1) The general soil conditions and properties shall be explored before any construction work is commenced.
- (2) The foundations of a building shall be –
- (a) designed and constructed so as to sustain safely the combined dead, live, wind or any other load and to transmit that load to the ground in such a manner that the pressure on the ground shall not cause any settlement which may impair the stability of the building or any adjoining works or structures; and
- (b) taken to a depth or designed and constructed as to safeguard the building against damage by swelling, shrinkage or erosion of the subsoil.
- (3) The bearing pressure to be allowed shall be determined on the basis of the shear strength characteristics of the soil or the permissible settlements, whichever gives the lower value.
- (4) Safety against sliding and overturning and the overall stability, particularly in the case of a sloping site or land-slip area, shall be taken into consideration in a design where a structural member is subject to earth pressure.
- (5) Where engineering drawings substantiated by calculations are not provided, –
- (a) the depth to the underside of a foundation shall not, except where rock is encountered, be less than 900 mm below finished ground level;
- (b) in expansive soils, a foundation shall be taken to such a depth that seasonal changes in the water content are of no importance or the structure shall be designed to accommodate any expected movement; and
- (c) where a floor is directly carried by the foundation, a filling of hardcore of not less than 150 mm shall be provided between the underside of the floor slab and the ground surface.
- (6) The design of foundations, including raft foundations, shall be in accordance with Table 1 set out in the Second Schedule.
- (7) The requirements of this regulation shall be deemed-to-be-satisfied if the structural design and construction are in accordance with the said Table 1, the South African Standard Building Regulations or the British Standards Institute, but not partly with one and partly with the other, or, in the case of certain classes of walls, with the Rules set out in the Second Schedule.
- Structure above foundations
34. (1) The structure of a building above the foundations shall, without any deflection or deformation which would impair the stability of or cause damage to the whole or any part of the building, safely sustain and transmit to the foundations the combined dead, imposed, wind or any other load.
- (2) The requirements of this regulation shall be deemed-to-be-satisfied if the structural design and construction are in accordance with Table 1 set out in the Second Schedule, the South African Standard Building Regulations or the British Standards Institute, or, in the case of certain classes of walls, with the Rules set out in the Second Schedule.

PART VI *Structural Fire Precautions*

35. (1) For the purposes of this Part every building or compartment shall be determined as falling within one of the purpose groups specified in Table 1 set out in the Third Schedule.

Determin-  
ation of  
purpose  
group for  
purposes  
of this Part

(2) Where the whole or part of a building is used or intended to be used for more than one purpose, the main purpose of use shall determine the purpose group.

36. For the purposes of these Regulations —

Measurement

(a) the height of —

- (i) a building or part thereof shall be the height above adjacent finished ground level to a level of half the vertical height of a pitched roof or the top of the walls or parapet, whichever is the higher;
- (ii) a storey, other than the top storey, shall be the vertical measurement from its floor to the floor next above; and
- (iii) the top storey shall be the vertical measurement from the floor to half that measurement between the highest and lowest parts of the roof;

(b) the area of a room, storey or compartment shall be the total floor area bounded by the inner surface of the enclosing walls; and

(c) the cubic capacity of a building or compartment shall be the volume of the space contained within —

- (i) the inner surface of the enclosing walls or, where there is no enclosing wall, the outer edge of the floor;
- (ii) the upper surface of its lowest floor; and
- (iii) the under surface of the roof or ceiling of the highest storey within a compartment;

in computing these measurements no deduction shall be made for the space occupied by any other wall, shaft, duct or structural element.

37. (1) Where in any building or a storey thereof the cubic capacity of the building or the area of a storey exceeds that specified in Table 1 set out in the Third Schedule, the building shall be so divided by compartment walls or floors that the cubic capacity of each compartment or the area of any floor therein shall not exceed that specified in the said Table 1.

Provision of  
compartment  
walls and  
floors

(2) Where the height of a building exceeds 15 m, the building shall be so divided into compartments that the height of —

- (a) the lowest compartment does not exceed 15 m irrespective of the number of floors;
- (b) the compartment next above the lowest does not exceed 9 m; and
- (c) any other compartment does not exceed 6 m:

Provided that this regulation shall not apply to —

- (i) a building of one storey;
- (ii) a building used for assembly only; or
- (iii) any part of a building used wholly as a stairway or lift enclosed to comply with regulation 49.

(3) The following walls and floors shall be constructed as compartment walls and floors —

- (a) a floor in purpose group II (Institutional);
- (b) a wall or floor separating —

- (i) 2 adjoining buildings or parts of one main building occupied or intended to be occupied by more than one family; and
  - (ii) part of a building from any other part of the same building used or intended to be used for a different purpose group; and
  - (c) a floor exceeding 50 m<sup>2</sup> in area over a basement storey.
38. (1) Except where expressly required to the contrary in these Regulations, –
- (a) an element of a building shall be constructed so as to have a period of fire resistance of not less than that specified in Table I set out in the Third Schedule, having regard to the purpose group and dimensions of the building;
  - (b) a load-bearing external wall shall have a period of fire resistance of not less than half-an-hour;
  - (c) every compartment wall or floor which separates a part of a building used for purpose group II (Institutional) or III (Other residential) from any other part used for a different purpose group shall have a period of fire resistance of not less than one hour;
  - (d) an element of structure shall have a period of fire resistance of not less than that which it supports;
  - (e) where the element of structure forms part of 2 or more buildings or compartments the use of which is or is intended to be for different purpose groups, the period of fire resistance of the element shall comply with the greater or greatest of the periods of fire resistance specified.
- (2) For the purposes of this regulation –
- “a building” means the building or, if the building is divided into compartments, the compartment of which the element forms part; and
- “the height of a building” means the height of the building or, where the building is completely divided throughout its height by an imperforate wall of the specified period of fire resistance, the height of that part of the building.
- (3) An element of structure, in respect of the specified period of fire resistance, shall be deemed-to-be-satisfied if it is constructed in accordance with Tables 7, 8 and 9 set out in the Third Schedule or the relevant specification of the South African Bureau of Standards.
39. (1) Every side of a building shall comply with the requirements relating to the limits of permitted openings specified in Table 2 set out in the Third Schedule unless the building is so situated that the side is completely open.
- (2) Every part of an external wall within 1 m of the boundary of a plot shall be constructed wholly of non-combustible material and have the period of fire resistance required by these Regulations and no opening shall be permitted in the wall except that –
- (a) where a wall or a part thereof is located on the boundary of a permanent open space; or
  - (b) where a part of a wall is set back from the boundary, an opening in accordance with the said Table 2 shall be permitted.
- (3) For the purposes of this regulation –
- (a) any part of –

Fire  
resistance

External  
walls

- (i) a roof which slopes at an angle of 70° or more to the horizontal; or
  - (ii) an external wall having a period of fire resistance less than that specified by regulation 36,  
shall be construed as an opening;
  - (b) reference to a building or compartment in relation to an opening means, where the building is –
    - (i) compartmented, the compartment side; or
    - (ii) not compartmented, the side of the building,  
in which the opening is situated;
  - (c) (i) in calculating the percentage of permitted openings in a wall, only so much of the height and length of the wall necessary to enclose completely the intended openings shall be considered; or
  - (ii) where the external wall is at an angle to the boundary, the computed distance therefrom shall be the minimum distance; any setback or recess of 1,5 m or less shall be disregarded, and any setback of more than 1,5 m shall be considered as a separate wall.
40. (1) A compartment wall or floor shall be imperforate except for an opening –
- (a) fitted with a door which complies with regulation 42;
  - (b) for a protected shaft;
  - (c) for a ventilation duct, provided that the space surrounding the duct is fire-stopped and any duct of a greater cross-sectional area than 0,02 m<sup>2</sup> is fitted with an automatic fire-shutter where it passes through a compartment wall or floor;
  - (d) for a pipe –
    - (i) which is not a flue pipe;
    - (ii) which does not exceed 150 mm diameter where the pipe is made of non-combustible material; and
    - (iii) where the space surrounding it is fire-stopped where it passes through the compartment wall or floor; and
  - (e) for a chimney, ventilation duct or duct encasing one or more flues or a refuse duct where the construction is of non-combustible material with a period of fire resistance at least equal to that of the compartment wall or floor and the space surrounding the chimney or duct is fire-stopped.
- (2) Where a compartment wall or floor forms a junction with any other element of structure comprising any other compartment wall or floor, an external wall or any part of a structure enclosing a protected shaft, such elements shall be bonded together or be fire-stopped.
- (3) Where a compartment wall forms a junction with a roof, the junction shall be formed so as to ensure that the effectiveness of the fire resistance of the wall to the horizontal spread of fire is not impaired.
- (4) Combustible material shall not be built into, carried through or across the ends of any compartment wall or floor in such a manner as to render ineffective the resistance of the wall or floor to the effect and spread of fire.
41. (1) A protected shaft shall not be used for any purpose other than as defined in regulation 2 except that where required it may contain –

Requirements for compartment walls and floors

Protected shafts

- (a) a pipe or duct other than those specified in subregulation (6);
  - (b) sanitary accommodation or a washroom or both; or
  - (c) an office on the ground floor, not exceeding 10 m<sup>2</sup>, constructed of non-combustible material, for a porter or caretaker.
- (2) Subject to the provisions of this regulation, every protected shaft shall be completely enclosed.
- (3) A protecting structure required to have a fire resistance of one hour or more shall be constructed wholly of non-combustible material.
- (4) Any wall, floor or other element of structure enclosing a protected shaft which is not part of the protecting structure may contain an opening in accordance with the provisions of these Regulations.
- (5) There shall not be an opening in a protecting structure other than –
- (a) for a pipe the surround of which is fire-stopped;
  - (b) one fitted with a door which has a fire resistance complying with regulation 42; or
  - (c) for a ventilating duct.
- (6) Subject to subregulation (1), a protected shaft containing a stairway, escalator or lift –
- (a) shall not contain a pipe conveying gas or oil or a ventilating duct;
  - (b) may have an opening for the passage of cables operating a lift into a room containing the lift motor, provided that the opening is as small as practicable.
- (7) Where a protected shaft serves or contains a ventilating duct, the duct –
- (a) shall be fitted with automatic fire-shutters in a position such as to reduce as far as practicable the risk of fire spreading to any other compartment; and
  - (b) shall not be constructed of or lined internally or covered externally with any material which may substantially increase the risk.
42. (1) Every door which is required by the provisions of these Regulations to be a fire-door –
- (a) shall swing in the direction of exit;
  - (b) separating a flat or maisonette from a hall, lobby, landing or corridor in common use and fitted in an opening in a protecting structure shall, when fitted in its frame and surrounds, satisfy the requirements of British Standard 476 or the South African Bureau of Standards with respect to freedom from collapse for not less than half-an-hour and resistance to the passage of flame for not less than 30 minutes but with no period of insulation;
  - (c) fitted in an opening in a compartment wall, other than a door referred to in paragraph (b), shall satisfy the requirements of the approved test with respect to freedom from collapse and the passage of flame for the same notional period of fire resistance of the wall but with no minimum period of insulation;
  - (d) shall be fitted with an automatic self-closing device; and
  - (e) shall be fixed to its frame by suitable fittings:
    - Provided that where 2 separate doors are installed it shall be sufficient if those doors together or singly have the specified period of fire resistance.
- (2) The requirements of this regulation shall be deemed-to-be-satisfied if –

Fire-resisting doors

- (a) under subregulation (1) (d), the door is fitted with rising butt hinges; and
- (b) under subregulation (1) (e), no part of the door furniture or hinges is made of combustible material or non-combustible material having a melting point of less than 800° C.

43. (1) Every fire-stop shall be formed and positioned so as to prevent or retard the passage of fire. Fire-stopping

(2) A fire-stop –

- (a) provided around a pipe or duct or in a cavity shall be of non-combustible material and formed so as not to restrict essential thermal movement; or
- (b) formed as a seal between 2 or more elements of structure shall be of non-combustible material.

(3) Every cavity in an element of structure which is continuous throughout the whole or part of the element shall be fire-stopped –

- (a) at the junction with another element of structure or in a roof space; and
- (b) in a position such that there is no continuous cavity without a fire-stop which in any one plane exceeds 8 m in a single dimension or 25 m<sup>2</sup> in area;

but nothing in this subregulation shall prohibit the insertion of combustible material.

(4) The requirements of this regulation shall be deemed-to-be-satisfied if the cavity fire-stop in an element of structure is constructed of timber not less than 40 mm thick.

44. (1) The flame spread classification of any surface of a wall or ceiling shall be not lower than – Restriction on spread of flame over surface of wall or ceiling

- (a) Class 0, in the case of a protected shaft or circulation space; or
- (b) Class 1, in the case of a room or other space;

Provided that if the total area does not exceed one-half of the floor area nothing in this regulation shall prohibit any part of the surface of a wall being a class lower, except for Class 4, than that specified in paragraph (a) or (b).

(2) For the purposes of this regulation “flame spread classification” means that the spread of flame on the surface of a material –

- (a) Class 0 – is not more rapid than where –
  - (i) the material of which the wall or ceiling is constructed is non-combustible throughout;
  - (ii) the material comprises a base or background which is –
    - (aa) non-combustible with a surface film of not more than 1 mm thickness in such a manner that the flame spread classification is not lower than Class 1; or
    - (bb) combustible with a surface layer of not less than 3 mm thickness of non-combustible material in such a manner that the flame spread classification is not less than Class 1 when the back surface is not exposed to air;
- (b) when exposed to an approved test is not greater than –
  - Class 1 – very low flame spread
  - Class 2 – low flame spread
  - Class 3 – medium flame spread
  - Class 4 – rapid flame spread.

(3) The requirements of this regulation shall be deemed-to-be-satisfied if —

(a) the rate of the flame spread on the surface of a material is within the limits approved by British Standard 476 or the South African Standard Building Regulations, 1970; and

(b) the materials used are in general in accordance with the following —

Class 0 surface — Asbestos cement sheets  
 Asbestos insulating board  
 Concrete  
 Plaster  
 Metal sheets finished with oil-based or polymer paint  
 Fibre insulation board) finished with not less  
 Hardboard ) than 3 mm of non-  
 ) combustible surface  
 Compressed straw slabs)

Class 1, 2 or 3 — Wood-wool slab to British Standard 1105  
 surface Fibre insulation board to British Standard 1142 with asbestos felt surface finish on the exposed face  
 Compressed straw slabs with asbestos felt surface finish on the exposed face  
 Fibre insulation board with 3 coats of non-washable distemper  
 Fibre insulation board with one coat of non-washable distemper on a sized board  
 Timber or plywood or fibre insulation board or hardboard painted with a fire retardant paint

Class 4 surface — Medium density hardboard  
 subject to the provisions of this regulation and provided the material is suitably treated Compressed straw slabs  
 Fibre insulation board  
 Timber and plywood weighing less than 0,4 g/cm<sup>3</sup>.

Roofs 45. (1) Every roof shall be constructed and covered and isolated from any adjoining building so as to provide adequate protection against the spread of fire into the building or to an adjoining building.

(2) The requirements of this regulation shall be deemed-to-be-satisfied if —

(a) the covering material complies with Table 3 set out in the Third Schedule;

(b) the minimum distance from the roof to the boundary of the plot measured in the horizontal plane is 12 m or twice the height of the building, whichever is the greater; or

(c) the covering material and form of construction satisfies the requirements of the South African Building Regulations, 1970.

Provision of exits 46. In every building to which these Regulations apply there shall be available from each room and storey not less than the number of exits required to comply with the provisions of regulations 47 and 48.

47. (1) The number of exits available from any room or storey shall be not less than specified in Table 4 set out in the Third Schedule. Number of exits
- (2) Where a room or storey is used or intended to be used for different purposes the minimum number of exits provided shall be in accordance with the greater or greatest occupant capacity.
48. The exits from a room or storey shall be of such a number and so situated that the travel distance from any point in that room or storey shall not exceed 12 m, or, where there is more than one exit and the maximum distance between adjacent exits does not exceed 45 m, 30 m. Travel distance in relation to exits
49. (1) Every exit from a room or storey shall – Requirements as to exits
- (a) lead by a protected route to a place of safety; and
- (b) be independent from any other exit:
- Provided that where the occupant capacity of a room which is not a whole storey does not exceed 100 the exits may give access to a common hall or passage from which escape to a protected doorway is possible in more than one direction.
- (2) Every part of an exit comprising a balcony shall be guarded on each side by a wall, balastrade or railing of not less than 1,2 m in height.
- (3) All glazing in exit corridors shall be not less than 900 mm above floor level.
50. (1) Every exit from a room or storey shall have a minimum unobstructed width throughout its entire length to a place of safety having regard to the occupant capacity specified in Table 5 of the Third Schedule. Width of exits
- (2) Where 2 or more exits join, the width of the combined exit shall be increased to provide for a greater number of persons as specified in the said Table 5.
- (3) An appropriate occupant capacity of a storey in relation to an exit or stairway shall be –
- (a) where the exit or stairway does not serve a higher storey, the storey itself; or
- (b) where the exit or stairway serves a higher storey, the aggregate of the storey itself plus all higher storeys.
- (4) Where there are more than 2 exits or stairways from any storey, the calculation of exit or stairway width shall be based on the number of stairways to be provided less one.
- (5) No part of an exit or stairway from –
- (a) an upper storey shall be of less width than the width of –
- (i) any higher part of the exit or stairway other than a landing; or
- (ii) the doorway giving access to the exit or stairway; and
- (b) a basement storey shall be of a less width than the width of –
- (i) any lower part other than a landing; or
- (ii) the doorway giving access to the exit or stairway.
51. (1) This regulation shall apply to any stairway forming part of an exit which is not a stairway – Enclosure of stairways
- (a) wholly within a maisonette; or
- (b) leading only to an openwork floor or gallery or a catwalk within a room or storey, provided that the occupant capacity of the room served by the stairway or catwalk does not exceed 25 and the provisions of regulations 47 and 48 have been complied with.

(2) Every internal stairway forming part of an exit shall be enclosed within a protected shaft and shall be constructed of non-combustible material.

(3) Any building over 3 storeys in height shall be constructed so that an internal escape stairway is located on an external wall with a ventilated vestibule giving access to the stairs through fire resistant doors.

(4) Where between a stairway forming part of an exit and the access to the open air at ground level there is a vestibule forming part of the same exit, the stairway enclosure shall be constructed so as to separate the vestibule from the remainder of the building.

(5) Where any storey is required by these Regulations to have more than one exit, the stairway enclosure provided from that storey shall be constructed and situated so that access can be obtained from any point on the storey to at least 2 stairway enclosures without passing through any other stairway enclosure.

(6) Every stairway enclosure shall –

(a) give access at ground level to a final exit and be separate from any other final exit;

(b) be enclosed by a combination of any of the following –

(i) compartment walls;

(ii) compartment floors;

(iii) external walls;

(iv) the lowest floor of the building; or

(v) the roof of the building,

and, in the case of a building of more than 2 storeys, shall have permanent ventilation at each storey level.

Construction  
of ramp

52. (1) Any ramp forming part of an exit shall be constructed in unbroken flights, each having a uniform slope of not greater than 1 in 10.

(2) A ramp shall be guarded on each side by a wall or secure balustrade or railing to a height of not less than 900 mm measured vertically from the surface of the ramp.

(3) Between any 2 successive flights of a ramp there shall be a landing not less in length in the direction of travel and measured on the centre line of the ramp than in the case of –

(a) a building of purpose group II (Institutional), 2 m; and

(b) any other building, 1,2 m.

Doors  
in exits

53. Every door across an exit from a room or storey, not being an entrance door to a flat, room or space of occupant capacity of less than 10 shall be other than a revolving door and shall –

(a) open in the direction of travel to the open air;

(b) if constructed to open both ways, have a small transparent upper panel of wired glass;

(c) if opening outwards into a passage or landing, be arranged so as not to obstruct the passage when fully open; and

(d) where it is necessary to secure it against entry from outside the building, be capable of being readily opened from the inside although so secured; in the case of a building of purpose group VII (Assembly), the means of securing shall be by bolts which open to pressure from the inside.

54. Adjacent to every building, other than one in purpose group I (Private residential), there shall be available in respect thereof or, if the building is divided into 2 or more compartments, for each compartment an area of cleared ground which —

Access to building for fire-fighting purposes

- (a) shall be not less in length parallel to the building than 4 m or, where the cubic capacity exceeds 2 700 m<sup>3</sup>, 2,5 m for every 100 m<sup>2</sup> of ground floor area, whichever is the greater;
- (b) shall be not less than 3 m in width nearer the building than 5 m or further than 13 m;
- (c) shall be capable of bearing an axle load of 8 tonnes;
- (d) shall be unobstructed vertically; and
- (e) if not comprising a public road, shall be accessible from such a road by means of an access way capable of taking the specified axle load, not less than 4 m wide with a headroom 4 m and the radius of any bend 8,5 m:

Provided that nothing in this regulation shall apply to a building in purpose group VI (Office) or VIII (Storage and General) of not more than one storey and having an area of not more than 40 m<sup>2</sup>.

55. (1) Where —

- (a) in a building (including a building under construction) the floor area of any storey is at a height above ground exceeding 11 m; or
- (b) a building has more than one storey and the floor area of any storey or compartment exceeds 900 m<sup>2</sup>, or, if it is occupied for reasons of purpose group VIII (Storage and General), 230 m<sup>2</sup>,

Provision of fire-mains (where adequate supply of piped water)

fire-mains (dry-riser) with outlets for fire service appliances shall be fixed to the building.

(2) Where in a single storey building the floor area exceeds 900 m<sup>2</sup>, or, if it is occupied for reasons of purpose group VIII (Storage and General), 230 m<sup>2</sup>, ground hydrants suitable for a hose shall be provided outside the building within the boundary of the plot in such positions that no part of the building is further than 60 m from a hydrant when measured along a route external to the building:

Provided that where hydrants are within the distance specified in relation to the perimeter of the building and the main is of adequate diameter for fire-fighting purposes nothing shall prohibit the hydrants being fixed to the Water Authority mains.

(3) Every fire-main or hydrant provided in a building or on a plot in compliance with the provisions of these Regulations shall be 65 mm in diameter with round thread and have its location indicated by a marked plate in accordance with British Standard 750/1964 and 3251.

(4) Any part of a fire-main which is not within a protected shaft shall be enclosed within a duct or enclosure which shall be imperforate except for an opening for access and which, including the access cover, shall have a period of fire resistance of not less than the maximum for any part of the building.

(5) An outlet from a fire-main shall be —

- (a) situated and of such number so that no part of the building is further from an outlet than 60 m and from one storey in height; and
- (b) located on an open balcony or within a protected shaft of an exit.

(6) An inlet to a fire-main shall be so sited that access for a pumping appliance can be obtained to a clear space, in accordance with the provisions of regulation 54, within 18 m and in sight of an inlet and not more than 12 m measured horizontally from any vertical part of the main.

(7) For the purposes of this regulation "fire-main" means a system of pipes of a minimum diameter of 100 mm available for carrying a supply of water for fire-fighting purposes only.

Occupant capacity

56. For the purposes of these Regulations the occupant capacity of a room or storey shall be the number of persons which the room or storey is capable of holding, which shall be computed, —

- (a) in the case of a room or storey of a description specified in Table 6 set out in Third Schedule, by dividing in square metres the area of the room or storey by the occupant load factor; or
- (b) in the case of any other room or storey, by the number of persons the room or storey is designed to hold.

#### PART VII *Standards of Accommodation*

Access

57. (1) Every dwelling shall be provided with access from a public road to —

- (a) at least one entrance door; and
- (b) a refuse collection point serving the dwelling,

by means of a roadway, footpath or passage.

(2) Every part of an access shall be of an unrestricted width of not less than, —

- (a) in the case of a single dwelling, 1 m;
- (b) where it serves 2 dwellings, 1,20 m; or
- (c) where it serves more than 2 dwellings, 1,8 m.

(3) Each access shall be constructed so as to prevent the accumulation of water thereon and provide a safe and adequate surface for pedestrian traffic.

(4) Where vehicular access is provided to any building it shall be of a clear and unrestricted width of not less than 3 m.

Stairs

58. Every stairway shall be constructed so that —

- (a) each flight shall have a uniform rise and going;
- (b) over the whole width —
  - (i) the vertical clearance above the pitch line shall be not less than 2,1 m; and
  - (ii) the clearance measured at right angles to the pitch line shall be not less than 1,5 m; and
- (c) the rise of any step shall be not more than 220 mm and the sum of the going plus twice the rise shall be not less than 550 mm or greater than 720 mm.

Guarding of stairways

59. Every stairway shall be —

- (a) terminated at each end of the flight by a landing not less in length measured horizontally in the direction of travel than the width of the stairway;
- (b) guarded on each side by a wall or secure balustrade or railing extending in height to not less than 800 mm above the pitchline of the stairway; any opening in a balustrade or railing shall be not more than 100 mm measured horizontally; and

(c) provided with at least one handrail securely fixed at a height of not less than 800 mm or more than 1,1 m above the pitchline of the stairway.

60. (1) Every landing and balcony, whether open to the air or not, and every flat roof accessible for use by an occupant shall be guarded on every side by a wall or secure balustrade or railing extending in height to not less than 800 mm above the level of such landing, balcony or roof.

Guarding of landings, balconies and flat roofs

(2) Except for the side giving access to the stairway, the aperture in any floor or roof to which a stairway rises shall be guarded in the manner prescribed by subregulation (1).

(3) Where a door swings towards a stairway, the full arc of its swing shall be over a landing at the top of the stairway.

61. (1) Every dwelling shall be provided with the following minimum accommodation –

Accommodation

- (a) a habitable room;
- (b) a place for the preparation and cooking of food;
- (c) a place of ablution; and
- (d) a water closet or privy,

any or all of which may be in a separate building.

(2) A room used wholly or mainly as a shop or workroom shall not be counted as a habitable room.

(3) Any room, lobby, hall or vestibule which exceeds 2 m in width and 7,5 m<sup>2</sup> in area, other than a room used as a kitchen, bathroom or place of ablution or a room containing a water closet or privy, shall be deemed a habitable room and shall comply with the provisions of these Regulations.

62. The minimum floor area of a room in any dwelling shall be, –

Size of habitable rooms

- (a) where there is one habitable room, 9 m<sup>2</sup>; or
- (b) where there are 2 or more habitable rooms, 7,5 m<sup>2</sup>,

and the shortest horizontal dimension between opposite walls of a habitable room shall be not less than 2 m over 90% of the length.

63. The height of –

Height of room

- (a) a habitable room shall be not less than 2,5 m;
- (b) all other rooms shall be not less than 2,25 m:

Provided that a room shall be accepted under this paragraph where the height of 2,25 m is maintained over 90% of the floor area and the remaining area not less than 1,9 m.

64. Every dwelling shall be provided with a place for cooking and be fitted with –

Place for cooking

- (a) a sink of adequate size;
- (b) at least one fixed draining board having a total area not less than 0,25 m<sup>2</sup>; and
- (c) cooking facilities in the form of –
  - (i) piping, cables or other apparatus to enable a gas, electric or oil cooker to be installed; or
  - (ii) a solid fuel cooker.

65. Where a food store is provided it shall be ventilated to the external air by an opening fitted with a fly-proof cover constructed so as not to impede the free flow of air, and the walls of the store shall have a smooth, internal finish to facilitate cleaning.

Food store

Light and ventilation

66. (1) Every dwelling shall be constructed so as to have, at each storey level, at least 2 external walls which shall each have a window or ventilator, with an openable area of not less than 0,1 m<sup>2</sup>, from a room, kitchen, passage, stairway or landing to the external air:

Provided that nothing in this regulation shall prohibit adequate ventilation being provided by mechanical means.

(2) Every habitable room, workroom, shop or office shall be provided with one or more windows placed in an external wall and of such a size that the aggregate area of all such windows exclusive of any framing shall be not less than 0,5 m<sup>2</sup> or one-tenth of the floor area, whichever is the greater.

(3) The frame of each window serving a habitable room, workroom, shop or office shall be constructed so as to permit the area of opening to be not less than 0,5 m<sup>2</sup> or one-twentieth of the floor area, whichever is the greater.

(4) Each window shall be positioned so that part of the openable area shall extend to a height of not less than 1,8 m.

(5) Every stairway, passage or corridor shall be provided with adequate lighting and ventilation.

(6) Every bathroom, washroom or water closet shall be ventilated to the external air by means of a window, roof light or ventilator having an openable area of 0,1 m<sup>2</sup> or one-twentieth of the floor area, whichever is the greater:

Provided that nothing in this subregulation shall prohibit adequate ventilation being provided by mechanical means.

Bathroom and sanitary facilities

67. (1) Every dwelling shall be provided with –

(a) (i) a bath of rectangular or tub pattern measuring not less than 1,5 m in length;

(ii) a shower cubicle; or

(iii) a place of ablution providing facilities equivalent to subparagraph (i) or (ii); and

(b) (i) a water-closet or privy; and

(ii) a hand washbasin of adequate size:

Provided that nothing in this regulation shall prohibit the use of separate buildings in which to accommodate these facilities.

(2) No bathroom, water closet or privy shall open into a living room or a room used for the preparation of food.

Sanitary facilities for building other than dwelling

68. (1) A sanitary facility shall –

(a) not be situated in any room in which a person, other than a lavatory attendant, is employed to work;

(b) be enclosed on all sides and access arranged so that it does not open directly into any room used as a place of work or business or open to the public; and

(c) be not less in number than required under Tables 1 and 2 set out in the Fourth Schedule.

(2) A water-closet or privy shall be enclosed and covered to the extent necessary to ensure both privacy and protection from the weather for persons using it.

(3) Provision shall be made for ventilating direct to external air in accommodation provided for sanitary purposes.

(4) Where the total number of persons using the facilities exceeds 5, separate accommodation shall be provided for each sex and the entrances to such accommodation shall be clearly marked to show for which sex it has been provided, and, where the facilities for both sexes adjoin, the approaches thereto shall be separate.

#### PART VIII *Soil and Waste Drainage and Sanitary Appliances*

69. (1) Every building intended for human habitation or use shall be provided with suitable and sufficient sanitary conveniences with separate accommodation for persons of each sex and situated and of a type and number which shall conform with Tables 1 and 2 set out in the Fourth Schedule:

Provision  
of sanitary  
conveniences  
in buildings

Provided that nothing in this subregulation shall require separate accommodation to be provided in a building under purpose group I (Private residential), designated in the Table set out in the First Schedule.

(2) For the purposes of this regulation "sanitary conveniences" include a water-closet, urinal, bathroom and washroom.

70. (1) Every building shall be provided with a drainage system for the hygienic and adequate disposal of foul water in accordance with the provisions of these Regulations.

Drainage  
system of  
buildings

(2) (a) A drainage system shall discharge into a public sewer, septic tank, cesspit or other method of disposal approved by a Building Authority.

(b) Where disposal is other than by discharge to a public sewer the works for treatment or disposal shall be –

- (i) not nearer to a building than 5 m;
- (ii) sited so as not to endanger any water supply used for domestic purposes;
- (iii) provided with suitable access for emptying by motorized vacuum tanker;
- (iv) of adequate size and suitable design having regard to the volume and strength of foul water discharging thereto;
- (v) constructed of suitable materials; and
- (vi) provided with suitable arrangements for the discharge of any effluent.

(3) The requirements of this regulation shall be deemed-to-be-satisfied if, where there is no public sewer available, the design, location and construction of any sewage treatment works is in accordance with the specification and plans approved by a Building Authority.

71. (1) Every sewer shall be –

Construction  
of sewers

- (a) constructed of pipes, joints and fittings of suitable materials of sufficient durability and adequate strength having regard to the nature of the ground through which the sewer passes, the matter passing through the sewer and the maximum imposed load to which the sewer may be subjected;
- (b) watertight;
- (c) securely jointed, properly supported and protected against damage and laid at such a gradient that foul matter is effectively carried away;

- (d) of adequate size with an internal diameter of not less than 75 mm or of the maximum diameter of any connexion to it, whichever is the greater; and
  - (e) laid in a straight line between points where changes in direction or gradient are necessary.
- (2) The junction between any 2 sections of a sewer having different diameters shall be of a smooth tapered construction.
- (3) Every sewer shall have a manhole –
- (a) at each point where there is a change in direction, gradient or diameter;
  - (b) which shall be positioned so as to ensure that the sewer is readily accessible for inspection and cleaning; and
  - (c) which shall be not more than 45 m from any point of the sewer on firm ground.
- (4) Where a manhole is not provided at the point of connexion of the sewer to the public sewer, a manhole shall be provided at not more than 12 m from that point.
- (5) Every sewer shall, –
- (a) after any jointing material with a setting action has set but before any concrete haunching or encasing is commenced or before the sewer trench has been infilled; and
  - (b) after the sewer has been infilled,
- satisfy the test specified in Table 2 set out in the Fifth Schedule.
- (6) The requirements of this regulation shall be deemed-to-be-satisfied if the pipes, fittings, and construction of a sewer –
- (a) are in accordance with Table 1 set out in the Fifth Schedule; or
  - (b) comply, –
    - (i) in respect of suitability and strength of materials where a sewer is laid in firm ground and –
      - (aa) passes through or under a building, the pipes are of cast iron, steel or concrete and are protected as prescribed in regulation 73;
      - (bb) does not pass through or under a building, the pipes are of cast iron, steel, concrete, salt-glazed earthenware, asbestos cement, pitch fibre or unplasticized PVC;
    - (ii) in respect of the method of jointing, the joints are formed in a manner appropriate to the materials of which the pipe is made and, in the case of concrete or salt-glazed earthenware pipes, may be made with a gaskin steeped in cement grout or tar caulked tightly home so as not to fill more than one-quarter of the total depth of the socket and the remainder of the socket is filled with 1:2 (cement:sand) mortar; and
    - (iii) in respect of gradient and size, the pipes are laid at gradients not flatter than 1 in 50 for pipes between 75 mm and 100 mm internal diameter or 1 in 90 for pipes between 100 mm and 150 mm internal diameter, unless otherwise approved by a Building Authority.

Additional requirements for sewers in or under a building

72. (1) Where a sewer is not constructed outside and clear of the foundations of a building, any part of the sewer within a distance of 1,2 m of the building shall –
- (a) be laid in a straight line; or

- (b) change direction only at a manhole; and
- (c) be suitably supported and strengthened and provision made against settlement of the building or the sewer.

(2) The requirements of this regulation shall be deemed-to-be-satisfied if –

- (a) the whole of the sewer trench where it passes under the foundations is infilled with concrete of a mix 1:4:8 (cement:sand:aggregate); or
- (b) the wall is supported by a lintel or arch positioned so that no load from the wall bears on the sewer.

73. Where a trench for a sewer is not in solid rock and is adjacent to the foundation of a wall and the bottom of the trench is at a greater depth below the foundation than the distance therefrom to the nearer edge of the trench the trench shall, after the sewer is laid, be infilled with concrete of a mix 1:4:8 (cement:sand:aggregate) to that level.

Sewer  
trenches  
near or  
under walls

74. (1) Where one sewer joins another the junction shall be arranged as to be obliquely in the direction of flow and to discharge over the main channel.

Junctions  
and manholes

(2) Where required by a Building Authority, a manhole or other suitable means of access shall be provided at the junction of one sewer with another.

(3) Unless within a manhole, no junction to a sewer shall be opposite another junction.

75. (1) Every manhole shall –

Construction  
of manholes

- (a) be of such a size and form as to permit ready access to the sewer for inspection and cleaning purposes;
- (b) be constructed of brickwork, concrete or other material so as to have adequate strength and durability and be watertight;
- (c) where the depth of the manhole so requires, be fitted with step irons, a ladder or other fitting to provide safe access to the level of the sewer; and
- (d) be fitted with a non-ventilating cover of adequate strength.

(2) The part of a sewer which is within a manhole shall be –

- (a) formed of open channels having a smooth impervious finish, the main channel of which shall be of equal diameter or tapered to the outlet pipe with any branch channel not less in diameter than the sewer it serves; and
- (b) completed with sloped benching suitable to the manhole.

76. Every sewer or section thereof exceeding 6 m in length used for the conveyance of soil water from a building shall be ventilated by a pipe situated as near as practicable to the highest part of the sewer or section ventilated thereby;

Ventilation  
of sewers

Provided that nothing in this regulation shall prevent the ventilation of a sewer by a soil, soil-waste or waste pipe.

77. (1) Every soil, soil-waste, waste or ventilating pipe shall –

Soil, soil-  
waste, waste  
or ventilating  
pipes

- (a) be formed of materials of adequate strength and sufficient durability for its function; and
- (b) have all joints formed in a manner appropriate to the material of which the pipe is made and so that the interior of the pipe shall be free from obstructions.

(2) Every ventilating pipe to a sewer, soil, soil-waste or waste pipe shall be carried upwards to such a height and be positioned so as to

effectively prevent the escape of foul air from any sewer, soil, soil-waste or waste pipe into any building:

Provided that, where a waste pipe discharges into a trap with a suitable cover so that the discharge is effected above the level of the water in such trap but below the level of the cover, the provisions of this subregulation shall not apply to a waste pipe from a waste appliance in the ground storey of a building.

Additional requirements for soil, soil-waste, waste or ventilating pipes

78. Every soil, soil-waste, waste or ventilating pipe shall –
- (a) be of adequate size for its function but shall not have an internal diameter less than 50 mm or the maximum diameter of any connexion to it, whichever is the greater;
  - (b) where it is necessary to change direction, be fitted with a bend forming an obtuse angle of the largest practical radius of curvature and be of the same cross-section throughout the bend;
  - (c) be adequately supported throughout its length without restraining thermal movement;
  - (d) be placed so as to afford reasonable access for maintenance; and
  - (e) be provided with means of access necessary for internal inspection and cleaning;

Provided that, in the case of a soil pipe serving urinals only, the pipe shall be constructed of a material resistant to corrosion and have an internal diameter adequate for the accommodation provided but not less than that specified in Table 1 set out in the Fifth Schedule.

Additional requirements for waste pipes

79. Every waste pipe shall –
- (a) be of adequate size for its function and properly supported without restraining thermal movement; and
  - (b) have a readily accessible trap with an adequate water seal close to the appliance and a means of access for cleaning;

Provided that –

- (i) 2 adjacent sinks or tubs or a sink and tub; or
- (ii) not more than 6 hand washbasins or showers in a fixed range of appliances,

may be served by a common waste pipe not exceeding 5 m in length on which there shall be fitted close to the junction with the last appliance a trap with an adequate water seal and, at both the trap and the higher end of the common waste pipe, a means of access for internal cleaning.

Sanitary appliances

80. Every soil and waste appliance shall –
- (a) be constructed and fitted so as to pass the discharge through an effective trap having a water seal of not less than 50 mm in depth and thence directly to a soil pipe or sewer;
  - (b) be constructed of suitable, durable, impervious and corrosion-resistant material;
  - (c) have a smooth surface resistant to abrasion;
  - (d) be constructed so as to be readily cleansed;
  - (e) be designed so as to function efficiently;
  - (f) be securely fixed and supported in position having regard to thermal movement;
  - (g) have a suitable outlet connexion to the sewerage system graded so as to ensure the efficient discharge of the soil or waste water; and
  - (h) be watertight when assembled and fixed.

**PART IX *Electrical Installations***

81. Nothing in these Regulations shall apply to a conductor, apparatus or appliance —

- (a) forming part of the works of a statutory corporation or other exempted organization; or
- (b) which does not form part of a building or a fixture thereto, or a site electrical system.

82. (1) Every electrical —

- (a) conductor shall be of sufficient size and current rating; and
- (b) apparatus shall be of sufficient power rating,

for the purpose for which it is to be used.

(2) Every live conductor, including that forming part of an apparatus, shall be —

- (a) insulated and where necessary further effectively protected; or
- (b) placed and safeguarded,

so as to prevent danger as far as is reasonably practicable.

(3) Every electrical joint and connexion shall be of proper construction with respect to conductance, insulation, mechanical strength and protection and be accessible for inspection and maintenance.

83. (1) Every electrical circuit and sub-circuit shall be protected against excess current by fuses, circuit-breakers or other similar devices which —

- (a) shall operate automatically at current values suitably related to the safe current ratings of the circuit;
- (b) be of adequate breaking capacity; and
- (c) be suitably located and of such construction as to prevent danger from overheating, arcing or the scatter of hot metal when in action.

(2) Where an earth fault leakage current from a circuit is insufficient to operate the fuse, circuit-breaker or other similar device, the circuit shall be protected by an earth leakage circuit-breaker or equivalent device against the persistence of an earth current liable to cause danger.

(3) No fuse or circuit-breaker, other than a linked circuit-breaker, shall be inserted in a conductor connected to earth, and any linked circuit-breaker inserted shall be arranged so as to break every live conductor.

(4) Every single pole switch shall be inserted in a live conductor only.

84. Where metal work, other than current-carrying conductors, is liable to become charged with electricity in such a manner as to create a danger if the insulation of a conductor should become defective, or if a defect should occur in any apparatus, the metal work shall be effectively earthed in such a manner as to ensure an immediate electrical discharge without danger, or other adequate precautions shall be taken.

85. Effective means, suitably placed for ready operation shall be provided for the immediate disconnexion of voltage from any circuit, sub-circuit or apparatus.

86. (1) Apparatus which requires operation or attention in normal use shall be installed so that adequate means of access and working space are afforded for such operation or attention.

(2) Every part of a building in which apparatus is placed shall be adequately lighted to prevent danger.

Application

Conductors  
and apparatus

Fuses,  
switches and  
circuit-  
breakers

Precautions  
against  
metal  
becoming  
alive

Isolation  
of systems  
and  
apparatus

Isolation of  
apparatus

Connexion of appliances to supply	<p>(3) Every electric motor having a rating exceeding 0,37 kW shall be provided with control apparatus incorporating a suitable device which affords protection against excess current in the motor or in the cables between the device and the motor.</p> <p>87. (1) Every appliance shall be –</p> <p>(a) controlled by means of a switch in addition to any automatic control device and arranged to disconnect the appliance from a live conductor; or</p> <p>(b) connected by means of a plug and socket outlet:</p> <p>Provided that nothing in this regulation shall apply to an electric clock, a bell transformer or other similar appliance fed from a separate extra low voltage circuit.</p> <p>(2) Every heating appliance shall be controlled by a linked switch arranged to break the supply conductors.</p>
Precautions against special conditions	<p>88. (1) Every apparatus or conductor –</p> <p>(a) exposed to weather, corrosive atmosphere or other adverse conditions shall be constructed or protected so as to prevent deterioration or danger arising from such exposure; and</p> <p>(b) which is or is likely to be exposed to flammable surroundings or an explosive atmosphere shall be protected by a flameproof enclosure or be otherwise designed, constructed and installed so as to prevent danger.</p> <p>(2) For the purposes of subregulation (1) a “flameproof enclosure”, in relation to any apparatus or conductor, means an enclosure or casing which will withstand without injury an explosion of a flammable gas which may occur therein and will prevent the transmission of flame such as would ignite any flammable gas which may be present in the surrounding atmosphere.</p> <p>(3) A flammable installation shall be deemed-to-satisfy if in compliance with British Standard C.P. 1003.</p>
Voltages exceeding 200 volts	<p>89. Apparatus and conductors operating at voltages between conductors or to earth exceeding 200 volts shall be completely enclosed in earthed metal which shall be electrically continuous and adequately protected against mechanical damage or constructed, installed and protected so as to prevent danger.</p>
Electrical appliances	<p>90. Every fixed electrical appliance to which these Regulations apply shall be designed, constructed and installed so as to operate efficiently and safely.</p>
Light fittings, apparatus or appliances in room containing bath or shower	<p>91. (1) Every light fitting or other electrical apparatus or appliance in a room containing a fixed bath or shower shall comply with the following requirements –</p> <p>(a) be situated so as to be out of reach of any person in a bath or under a shower;</p> <p>(b) every part of a lamp-holder likely to be touched by a person replacing a lamp shall be constructed of or shrouded in insulating material;</p> <p>(c) every switch or other means of control or adjustment associated with a light or electrical appliance in a room shall be –</p> <p>(i) of a type operated by an insulating pull-cord switch; or</p> <p>(ii) placed in an accessible position outside and immediately adjacent to the normal access door of the room:</p>

Provided that nothing in this regulation shall prohibit the provision in a room of a shaver supply unit which —

- (i) complies with British Standard 3052:1958;
- (ii) is situated out of reach of a person in a bath or under a shower;
- (iii) has the earth terminal earthed in compliance with regulation 84; and
- (iv) has its secondary circuit isolated from both the supply mains and earth.

(2) In a room containing a bath or a shower no provision shall be made for the use of an electrical portable appliance other than a shaver.

92. (1) With the exception of a building comprising a house or part thereof, every building or part thereof to which these Regulations apply shall, on a wall beside the main switch for that building or part thereof or at some other suitable place, display a schematic diagram in a permanent form and of suitable size showing the main distribution circuit and control of the wiring of the building.

Wiring diagrams and distribution boards

(2) Every switch or current breaker the purpose of which is not obvious shall be labelled to indicate the apparatus it controls.

93. In every building or part thereof in which electricity is installed for lighting —

Electric lighting

- (a) the system shall include at least one terminal point for lighting in every room having a floor area of 2 m<sup>2</sup> or more and in every bathroom, water-closet, entrance vestibule, hall, passage and stairway terminal landing; and
- (b) every light at a stairway terminal landing shall, unless automatic switching devices are installed, be controlled by switches at such landing and at any other terminal landing thereon.

94. (1) In every building or part thereof where electricity points are installed the electricity points shall be provided in such a manner as to be safe and efficient under normal conditions of use for the attachment and use of any portable apparatus or appliance.

Electricity points

(2) All socket outlet points shall be shuttered in compliance with the British Standards Institute.

(3) This regulation shall be deemed-to-be-satisfied if the design and installation of the electrical system complies with the Electricity (Supply) Regulations, 1977.

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#### PART X *Scaffolds and Means of Access, Excavations and Demolition*

95. (1) Adequate, suitable and safe scaffolds shall be provided and used for all work which cannot be done safely on or from any part of a building, a permanent structure or a ladder.

Provision of scaffolds and means of access

(2) Sufficient means of access shall, so far as is reasonably practicable, be provided and used at every place where any person is required to work.

96. No scaffold shall be erected or be substantially altered or added to or be dismantled except under the immediate supervision of a responsible person having adequate experience of such work.

Supervision

97. Every scaffold or part thereof shall be —

- (a) of good construction, of suitable and sound material and of adequate strength for the purpose for which it is to be used; timber

Construction, material and maintenance

	<p>shall be stripped of bark and any metal part shall be free from corrosion or other patent defect likely to affect its strength, and be in good condition; and</p> <p>(b) properly maintained and kept fixed, secured, constructed or placed in position so as to prevent, as far as is practicable, accidental displacement.</p>
Standards, uprights, ledgers and putlogs	<p>98. (1) Standards or uprights shall be —</p> <p>(a) vertical or lean slightly towards the building or structure; and</p> <p>(b) spaced not more than —</p> <p>(i) 2 m apart in masons' heavy duty scaffolds;</p> <p>(ii) 2,5 m apart in bricklayers' or putlog scaffolds; and</p> <p>(iii) 3 m apart in painters' or light duty scaffolds.</p> <p>(2) Ledgers shall be as nearly as possible horizontal and securely fastened, without nails, to the uprights.</p> <p>(3) Putlogs shall be straight and securely fastened, without nails, to the tops of the ledgers or to the uprights.</p>
Support and stability	<p>99. (1) Every scaffold shall be securely supported or suspended, be sufficiently and properly strutted or braced to ensure stability and, unless it is properly designed and constructed as an independent and stable scaffold, be securely anchored to the building or structure.</p> <p>(2) Loose bricks, drain pipes, deformed or unsound drums or other unsuitable materials shall not be used for the construction or support of any scaffold extending to more than 1 m above the ground or floor on which it is erected.</p>
Trestle scaffolds	<p>100. (1) No trestle scaffold shall be used —</p> <p>(a) where it is constructed of more than one tier;</p> <p>(b) where it has a working platform more than 3 m above the ground or floor on which it is erected; or</p> <p>(c) unless each trestle rests on firm or level ground or flooring.</p> <p>(2) No trestle scaffold shall be erected on a —</p> <p>(a) scaffold platform unless the trestles or uprights are adequately secured or braced to prevent displacement; or</p> <p>(b) suspended scaffold.</p> <p>(3) Any timber trestle or cross member or rung used to support a platform shall be securely mortised or notched in the upright and shall not depend for its support solely on nails, screws, spikes or other similar fixing.</p>
Cantilever or jib scaffold	<p>101. No cantilever or jib scaffold shall be used unless it is securely fixed and anchored from the inside.</p>
Working platforms and working stages	<p>102. (1) Every working platform from which a person may fall more than 2 m shall be closely boarded and planked and be at least 500 mm wide:</p> <p>Provided that, subject to the provisions of subregulation (2), where a platform is used for the deposit of materials it shall be at least 1 m wide.</p> <p>(2) The proviso to subregulation (1) shall not apply to —</p> <p>(a) a working platform on the outside of any sloping roof;</p> <p>(b) the platform of a suspended scaffold or of a trestle scaffold; or</p> <p>(c) a platform under a roof and supported by roof members and used only for the purpose of painting or glazing or other light work.</p>

103. (1) Every board or plank which forms part of a working platform shall be not less than –

(a) 250 mm wide or, in the case of boards or planks exceeding 50 mm in thickness, 200 mm wide;

(b) where the distance between successive putlogs or supports exceeds –

(i) 1 m but does not exceed 2 m, 45 mm in thickness;

(ii) 2 m but does not exceed 3 m, 55 mm in thickness;

(iii) 3 m, 75 mm in thickness:

Boards and planks in working platform, gangway or run

Provided that, in the case of a platform used by one man only engaged on light work and on which materials are not deposited, these provisions shall not apply.

(2) Every board or plank which forms part of a working platform, gangway or run shall rest securely and evenly on its supports and not project beyond its end support to a distance exceeding 4 times its thickness.

104. Every side of a working place or platform, being a side thereof from which a person may fall more than 2 m, shall be provided with a suitable, strong guard rail to a height of at least 1 m and with toe boards up to a height of not less than 200 mm:

Guard rails and toe boards at working place

Provided that the provisions of this regulation shall not apply to trestle scaffolds.

105. (1) Every gangway or run from any part of which a person may fall more than 2 m shall be closely boarded, planked or plated and at least 500 mm wide:

Construction and use of gangway or run

Provided that where any such gangway or run is used for the passage of materials it shall be at least 1 m wide.

(2) All planks forming a gangway or run shall be fixed and supported so as to prevent undue or unequal sagging.

106. All gangways, runs or stairs from which a person may fall more than 2 m shall be provided with suitable, strong guard rails at or as near as possible to a height of 1 m above the gangway, run or stairs.

Guard rails for gangway, run or stairs

107. (1) Every ladder shall –

Ladders

- (a) be of good and rigid construction, of sound material and adequate for the purpose for which it is used and have evenly spaced rungs not more than 300 mm apart;
- (b) have a firm and level footing and shall not stand on loose bricks or other loose packing;
- (c) be secured where necessary to prevent undue swaying or sagging;
- (d) be equally and properly supported on each upright;
- (e) be fixed securely at its top point of rest; and
- (f) where fastening at the top point of rest is impracticable, have a person stationed at the foot to prevent slipping:

Provided that, where a ladder is securely placed so as to prevent it from slipping or falling, paragraphs (e) and (f) shall not apply to a ladder less than 4 m in length and which is not used as a means of communication.

(2) Timber ladders of less than 6 m in length and constructed by a contractor or other person for his own use shall comply with the requirements of subregulation (1) (a).

(3) No ladder shall be used which has a missing or defective rung or a rung which depends solely for its support on nails, screws, spikes or other similar fixing.

(4) Where a ladder is used as a means of communication, the ladder shall rise, or adequate handholds shall be provided, to a height of at least 1 m above the place of landing.

Openings in  
roofs, floors  
or walls

108. (1) Every accessible opening in a roof or floor of a building, working platform, working place, gangway or run, and every accessible opening in a wall which is less than 300 mm above a floor, working platform, working place, gangway or run, being an opening through which a person may fall more than 2 m, shall be fitted with –

(a) a covering to prevent the fall of persons, materials or tools through the opening; or

(b) suitable, strong guard rails to a height of at least 1 m above the edge of the opening together with suitable toe boards at least 200 mm high.

(2) Where work is carried out on or over open joisting, the joisting shall be covered to the extent necessary to afford safe access or foothold and to prevent any person falling through the joisting.

Roof work

109. (1) Where work is carried out on the outside of a roof which has a pitch of more than 34° or is slippery –

(a) sufficient and suitable crawling ladders or boards, which shall be properly secured, shall be provided and used; and

(b) arrangements shall be made to prevent any person on the roof from falling more than 1,5 from the edge of the roof.

(2) Where workmen work or pass on, over or near any roof, covering or ceiling of glass or asbestos cement or other fragile material through which a person may fall more than 2 m –

(a) suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, shall be provided and used; or

(b) effective measures shall be taken to prevent the falling of any person through the roof, covering or ceiling.

Safety of  
excavations

110. (1) No side of any excavation or earthwork shall be undercut unless adequate and suitable support is provided for such undercutting:

Provided that this subregulation shall not apply to any necessary undercutting made by a mechanical shovel or other mechanical appliance where effective steps are taken to ensure that no person can be injured should the overhang collapse.

(2) No side of any excavation, opening in the ground, pit or earthwork in rock, soft rock, alluvial soil, gravel, clay, ashes, debris or any other type of ground shall exceed 2,5 m in height or, in the case of trenches less than 1,5 m wide, 2 m in height unless it is securely and sufficiently timbered or shuttered to prevent danger to any employed person from a fall or dislodgment of the material forming the side of or adjacent to the excavation, opening in the ground, pit or earthwork, and excavated material shall not be placed within such distance of the edge of an excavation that its weight may cause or contribute to the collapse thereof:

Provided that the provisions of this subregulation shall not apply to any side of an excavation, opening in the ground, pit or earthwork which is worked in terraces or benches of less than 2,5 m in height or at a safe

angle of slope or batter not less than the angle of repose of the material being excavated or worked.

111. Every accessible part of an excavation, opening in the ground, pit or earthwork into or down the side of which an employed person may be liable to fall a vertical distance of more than 2 m shall be provided with a suitable barrier to a height of at least 1 m and as close as is reasonably practicable to the edge of the excavation, opening in the ground, pit or earthwork.

Fencing of excavations, etc.

112. In every excavation, opening in the ground, pit or earthwork sufficient means of access and exit shall be provided for persons employed therein.

Access

113. (1) Demolition operations shall be carried out under the immediate supervision of a responsible person adequately experienced in the operations concerned.

Demolition of buildings and structures

(2) Immediately prior to and during demolition operations –

- (a) no electric cable or apparatus which may be liable to be a source of danger, other than a cable or apparatus used for the operation, shall remain electrically charged; and
- (b) precautions shall, where necessary, be taken by adequate shoring or otherwise to prevent the accidental collapse of any part of a building or any adjoining building.

(3) Every place where demolition operations are in progress shall be fenced so as to prevent the approach of any unauthorized person or the risk of injury to such person.

#### PART XI *Rodent and Ant-proofing of Buildings*

114. Every building to be used for the storage of food or for the preparation, processing or sale of foodstuffs shall be designed to restrict the access of rodents and birds and, in particular, –

Rodent-proofing of commercial buildings

- (a) if constructed of timber, all outer doors shall be adequately protected by metal sheeting or mesh and hung so that no gap exceeds 10 mm;
- (b) in a ground floor or floor below that level, all windows, ventilators or opening parts, including the frames thereof, shall be protected with metal meshwork, the openings in which shall not exceed 10 mm;
- (c) all external pipes fixed to walls shall be provided with rat-guards;
- (d) the roof shall be constructed so as to prevent as far as is practical the entry of rodents into the roof space;
- (e) where the walls or roofs are constructed of corrugated sheeting, the sheeting shall be firmly fixed so that rodents cannot pass thereunder; and
- (f) where any cable, pipe, wire or duct passes through a wall, floor or roof, the apertures through which it passes shall be sealed against the passage of rodents.

115. A Building Authority may require that a building site and foundations be treated with a poison or repellent in order to inhibit the access of termites to timber within the building or any part thereof.

Ant-proofing of buildings

#### PART XII *Heat Producing Appliances using Bottled Gas Fuel*

116. (1) In any building where bottled gas is used to fuel any heating appliance –

Gas cylinder installations, etc.

- (a) a bottle or cylinder in excess of 9 kg capacity containing the liquified gas supply shall be located outside the building at ground level;
  - (b) the use of flexible hose shall be restricted to flexible connexions between the gas container and any collection manifold or plumbing point on the external wall and between the gas cock and any movable appliance within the building, and the maximum length of the flexible hose shall not be more than 900 mm;
  - (c) each plumbing connexion shall be terminated with a gas cock and hose nipple for use with a movable appliance and, in the case of –
    - (i) fixed equipment, an isolating cock shall be provided within 500 mm of the gas pipe entry to the appliance; or
    - (ii) intermediate pressure distribution, shall be positioned so as to allow for the removal of the low pressure regulator to the appliance for maintenance.
- (2) Where pilot light failure may occur, an appliance with an automatic light device shall be provided with thermo-couple protection.
- (3) Subject to subregulation (1), a gas cylinder installation shall comply with South African Bureau of Standards 087, Part 1, 1975.

#### PART XIII *Revocation*

117. The Building Control Regulations, 1964, are hereby revoked.

Revocation  
of G.N. 8  
of 1964

FIRST SCHEDULE (regs. 7 (1), 8 (2) (c) and 69 (1))

TABLE

Designation of Purpose Groups

Group	Description	<i>Purpose for which building or compartment is intended to be used</i>
I	Private residential	Dwellinghouses exceeding 50 m <sup>2</sup> of floor area. The premises may include, additionally, consulting rooms for any person providing a professional or scientific service, provided that the aggregate of these does not exceed 50 m <sup>2</sup> of floor area
II	Institutional	Homes for old people or children, schools for the handicapped, hospitals, nursing homes, sanatoria, prisons
III	Other residential	Residential sections of schools, colleges and clubs; hotels, motels, lodging and boarding houses, holiday chalets and other accommodation not covered by Groups I and II
IV	Office	Offices, laboratories, studios and premises used for professional and scientific purposes where the floor area so used exceeds 50 m <sup>2</sup>
V	Factory	Any premises where manual labour is employed in making, altering or processing any article including those associated with building, engineering (civil, mechanical or electrical), paper and printing, clothing, food and agriculture, chemical and allied industries, and items incidental to any industry.
IV	Shop	Shop, shop premises or any premises used for trade, including the sale of food or drink to members of the public for immediate consumption or any premises to which the public has access for the purpose of a service.
VII	Places of assembly	Whether public or private, where persons congregate for pleasure, recreation, education, worship, or work, including theatres, cinemas, churches, mosques, public halls, exhibition buildings, grandstands, stadia or canteens.
VIII	Storage and General	Places for the storage, deposit or packing of goods and materials (including vehicles) and any other premises not comprised in Groups I to VII.

## ANNEXURE

(regs. 8 and 9)

### SUBMISSION OF NOTICES AND DEPOSIT OF PLANS

#### 1. General

Any notice or plan, section, specification or other particular required to be submitted or deposited under these Regulations shall be as follows –

- (a) a notice or other particular shall be submitted in writing;
- (b) a drawing shall be on suitable and durable material and executed or reproduced in a clean and intelligible manner;
- (c) a plan, section or other drawing shall be to a scale of not less than 1:100 or, if the building is so extensive as to render a smaller scale necessary, not less than 1:200; a block plan shall be to a scale of not less than 1:1 000; and a key plan not less than 1:2 000; the scale to be indicated on each plan, section or other drawing and on each block plan together with the north point;
- (d) each notice, plan, section or other drawing shall bear the name and address of the applicant and shall be signed by that person or by his authorized agent;
- (e) 3 copies of each document shall be delivered, by post or by hand, to the office of the Building Authority concerned; and
- (f) a plan or other document shall be submitted to establish that any work done complies with the provisions of these Regulations.

#### 2. Erection of a building

The following details shall be submitted by a person intending to erect a building –

- (a) a notice of intention to erect a building;
- (b) a block plan showing –
  - (i) the size and position of the proposed building and its relationship to any adjoining building;
  - (ii) the boundaries of the site and the size and position of any building within the boundaries; and
  - (iii) the width and position of any street adjoining the site;
- (c) where it is not sufficiently clear from the block plan, a key plan showing the position of the site;
- (d) a plan of the proposed building, to enable the Building Authority to determine whether or not the proposed work will comply with its requirements, detailing –
  - (i) floors and windows;
  - (ii) a section of each storey;
  - (iii) the level of the site and any adjoining street;
  - (iv) the position of the damp-proof courses;
  - (v) the dimensions of the foundations, roof, floor, walls, windows and other parts of the proposed structure;
  - (vi) the intended use of each room;
  - (vii) the precautions to be included in the structure for protection against fire;
  - (viii) the position of any water or earth closet or privy or of any cesspool, septic tank or well;
  - (ix) the line of drainage and the size, depth and inclination of each drain or sewer and the means to be provided for ventilation, inspection and cleansing; and
  - (x) the position and level of the outfall of any drain or sewer and the means of disposal of liquid waste.

3. Extension or alteration

The following details shall be submitted by a person intending to make an extension or alteration to a building –

- (a) a notice of intention to extend or alter a building;
- (b) a plan of the proposed site and the extension or alteration;
- (c) where it is not sufficiently clear from the plan submitted under paragraph (b), a key plan showing the position of the site;
- (d) in the case of an extension, a plan, section or other particular to establish the relationship between the proposed extension and the existing building; and
- (e) the use of the existing building.

4. Change of use

The following details shall be submitted by a person intending to make a change of use of a building or part thereof –

- (a) a notice of intention to make, and description of, the proposed change in the purpose of use;
- (b) a block plan showing the size and position of the building and its relationship to any adjoining building; and
- (c) where it is not sufficiently clear from the block plan, a key plan showing the position and location of the site.  
the position and location of the site.

5. Demolition

(1) The following details shall be submitted by a person intending to demolish a building or part thereof –

- (a) a notice of intention to demolish;
- (b) a block plan showing the size and position of the building and its relation to any adjoining building;
- (c) where it is not sufficiently clear from the block plan, a key plan showing the position and location of the site.

(2) Every proposal to demolish shall be accompanied by a detailed description of the operation showing the precautions to be taken to ensure the safety of the public and of any adjoining building.

(3) Where only part of a building is to be demolished, the work shall be carried out in such a manner that the remainder of the building is structurally safe.

6. Public safety

A Building Authority may require the erection of such fencing, hoarding or protected walkways as it may deem necessary to protect the public from injury by falling objects from a building or from machinery being used, and the watering of arisings to prevent nuisance from dust or any other measures to be taken in the interest of public safety and health.

7. Additional requirements

If insufficient information is submitted to establish that any work done or proposed work does or will not comply with the provisions of these Regulations, a Building Authority shall call for additional information.

SECOND SCHEDULE (regs. 33 (7) and 34 (2))

**RULES RELATING TO THE STRUCTURAL STABILITY OF WALLS**

**1. Application**

These Rules shall apply to a wall which —

- (a) forms part of a storey of a building other than a basement storey;
- (b) is constructed of bricks or blocks properly bonded and solidly put together with mortar or of stone, flints or other burnt or vitrified material laid otherwise than in horizontal beds or courses and jointed in mortar; and
- (c) has at each end a pier, buttress or buttressing wall.

**2. Interpretation**

For the purposes of these Rules —

“base” means the underside of the part of a wall which rests on the footings or foundation or other structure carrying the wall;

“buttressing wall” means a wall, including a return wall, which gives a lateral support to any other wall (hereinafter referred to as a “supported wall”) and which —

- (a) is not less in length from a supported wall at any level than two-and-a-half times its thickness, or 550 mm or one-sixth of its height measured from that level to the top, whichever is the greater;
- (b) has no opening or recess nearer to the point of junction with a supported wall than a distance of not less than two-and-a-half times its thickness or 550 mm, whichever is the greater;
- (c) is bonded or otherwise securely tied to a supported wall; and
- (d) is an internal load-bearing wall as specified in rule 9 or, in any other case, has a thickness of at least one-half of that specified by rule 7 or 8; the minimum thickness shall be not less than 100 mm unless it forms part of a house and the supported wall is not more than 6 m high and 10 m long, in which case its thickness shall be not less than 75 mm;

“separating wall” means a wall or part thereof common to 2 adjoining buildings.

**3. Loading**

Any load carried by a wall to which these Rules apply shall be properly distributed in accordance with the requirements of Table 1.

**4. Strength of bricks or blocks**

(1) Bricks or blocks used in any wall to which these Rules apply shall —

- (a) be composed of burnt clay, siliceous sand and cement or lime or crushed siliceous rock and lime or concrete;
- (b) have an aggregate volume of solid material of not less than 50% of the total volume of the brick or block calculated from its overall dimensions; and
- (c) have a resistance to crushing of not less than, if the bricks or blocks are solid, 10 N/mm<sup>2</sup>, or, hollow, 5 N/mm<sup>2</sup>, of gross horizontal area.

(2) For the purposes of this rule a brick or block shall be deemed to be —

- (a) solid, if the aggregate volume of solid material is not less than 75% of the total volume of the brick or block calculated from the overall dimensions; and
- (b) hollow, if the percentage of solid material falls below 75%.

**5. Heights of storeys and walls**

(1) The height of a storey or wall shall be the height of —

- (a) the ground storey, measured from the base of the wall; or

- (b) an upper storey, measured from the underside of the floor to the underside of the floor next above or, if there is no such floor, the top of the wall or, in a storey comprising a gable, to half the gable height.
  - (2) The height of a separating wall comprising a gable shall be measured from the base of the wall to the base of the gable and any other wall comprising a gable shall be measured from its base to half the gable height.
  - (3) A wall not comprising a gable shall be measured from its base to the highest part excluding any parapet not exceeding 1,2 m in height.
6. Length of walls
- (1) The length of a wall shall be divided into separate lengths by a pier, buttress or buttressing wall and shall satisfy the following requirements –
    - (a) a pier or buttress shall –
      - (i) extend upwards from the base of the wall to within a distance from the top equal to 3 times the least thickness thereof;
      - (ii) at any level, project from the wall for a distance of not less than twice the thickness thereof at that level; and
      - (iii) have a width of not less than 200 mm; and
    - (b) a buttressing wall shall be as defined in rule 2.
  - (3) Measurements of length of walls shall be made from and to the centre of a pier, buttress or buttressing wall.
7. Thickness of certain external and separating walls (see Table 2)
- (1) This rule shall apply to an external or separating wall which forms part of a building –
    - (a) of one storey; or
    - (b) of 2 storeys or more if the imposed load on each floor above the ground floor is less than 3 Kn/m<sup>2</sup>,
 and does not exceed 12 m in height.
  - (2) The thickness of a wall –
    - (a) shall be not less than that specified in Table 2 except that –
      - (i) where the thickness specified is less than one-sixteenth part of the storey height, the thickness of the wall shall be increased for at least one-quarter of its length to a minimum of one-sixteenth of the storey height and be distributed along the length of the wall so as to carry safely the load transmitted thereto; and
      - (ii) where the wall is built with pier distributed along its length and having a pier at each end, the thickness of the wall shall be determined at any height by dividing the cross-sectional area of the wall at that height by the length of the wall, but no part of a wall between piers shall be of a thickness less than 200 mm; and
    - (b) beneath any storey shall not be less than the part thereof which it supports.
  - (3) Where a wall is constructed of stone, flints or other approved burnt or vitrified material, the thickness shall not be less than one-and-one-third times the thickness required for a wall of bricks or blocks.
8. Thickness of other external and separating walls where the floor loading exceeds 3 k/N/m<sup>2</sup> (see Table 3).
- (1) This rule shall apply to an external or separating wall which –
    - (a) forms part of a building other than that specified in rule 7;

- (b) does not exceed 12 m in height; and
  - (c) has a height and does not exceed in length that specified in Table 3.
- (2) Subject to rules 9 and 10, the thickness —
- (a) of an external or separating wall constructed of bricks or blocks shall not at any level be less than 300 mm:

Provided that the wall at the topmost storey of the building shall have a thickness of not less than 200 mm;

- (b) of the intermediate parts of the wall between the base and 5 m below the top shall be not less than the thickness which would be obtained if the wall were built solidly throughout the space between straight lines drawn on each side joining the thickness at the base to the thickness at 5 m below the top (see explanatory diagram); and
- (c) of the wall, for not less than a quarter of its length, in any storey shall be not less than one-fourteenth part of the height:

Provided that where any part of the wall has a thickness of less than one-fourteenth part of the height of the storey those parts of the wall which are of the thickness required shall be distributed so as safely to carry the loads transmitted to them and the thickness of the wall beneath that storey shall be not less than that of the wall it supports.

- (3) Except at the level of a lateral support, no offsets shall be made in the wall between its base and top.

- (4) In the case of a wall constructed of stone, flints or other burnt or vitrified material, the thickness of the wall shall be not less than one-and-a-third times of that required for a wall constructed of bricks or blocks.

9. Thickness of certain internal load-bearing walls

An internal load-bearing wall, other than a separating wall or a wall within a dwelling having one or 2 storeys, shall have a thickness of not less than one-half of that required by rule 7 or 8 for an external or separating wall of the same height and twice the length.

10. Thickness of certain external or separating walls for pier construction.

Where an external or separating wall is built with piers distributed throughout its length and one at each end, the mean thickness of the wall, that is, the horizontal section area of the wall and piers divided by the length of the wall, shall be not less than the thickness required by rule 7 or 8 and the thickness of the wall between the piers not less than 200 mm.

11. Cavity walls

(1) This rule shall apply to a wall constructed as a cavity wall of two leaves, each leaf being constructed of bricks or blocks complying with rule 4.

(2) Leaves shall be securely tied together with approved ties being placed at distances apart not exceeding 900 mm horizontally and 450 mm vertically and, if the leaves are not connected by a bonded joint, there shall be provided, as near as practicable to an opening, a tie to every 300 mm of height.

(3) A cavity shall be not less than 50 mm or more than 75 mm in width and leaves not less than 100 mm in thickness.

(4) The overall thickness of a wall shall be not less than that specified under subrule (3) or that which would be required for a solid wall under rule 7 or 8 as increased by the width of the cavity.

(5) Nothing in subrule (3) or (4) shall prohibit the construction of a wall having an inner leaf of not less than 75 mm where —

- (a) the wall forms part of a private dwelling having one storey or the upper storey of a dwelling having 2 storeys;

- (b) the inner leaf has a length and a height not exceeding 8 m and 3 m respectively or, if the wall is a gable wall, 5 m;
- (c) all courses are put together with a mortar which is not weaker than cement-lime mortar made in the proportion by volume of one part of cement, 2 parts of lime and not more than 9 parts of fine aggregate; and
- (d) there are not less than twice the number of wall ties than are required under subrule (2) and the roof is supported partly by the outer leaf.

12. Parapet walls

The thickness of any parapet wall shall not be less than 200 mm nor greater than the thickness of the wall on which it is carried, and its height shall not exceed 6 times its thickness.

13. Openings and recesses

Adequate means of supporting a superstructure shall be provided over every opening or recess and the number, size and position of such opening or recesses shall be such as not to impair the stability of any part of the wall.

14. Chases

(1) A vertical chase shall not be made in any brick or solid wall to a depth greater than one-third of the thickness of the wall or leaf of a cavity in which the chase is formed and, where hollow brick construction is used, the blocks shall be filled solid with concrete as the block-laying proceeds.

(2) A horizontal chase shall not be made in any brick or solid block wall to a depth greater than one-fifth of the thickness of the wall or leaf of a cavity wall in which the chase is formed, and, where hollow block construction is used, the blocks shall be filled solid with concrete as the block-laying proceeds.

(3) The number, size and position of any chases shall be such as not to impair the stability of the wall.

15. Overhang

The extent to which any part of a wall overhangs the part beneath it shall be such as not to impair the stability of any part thereof.

TABLE 1 (regs. 33 (6), (7) and 34 (2))

Item	British Standards Specification or Code of Practice	South African Standard Building Regulations, 1970
Loads and forces		
(a) dead loads	CP3 Chapter V Part I 1967	Chapter 3
(b) imposed loads	CP3 Chapter V Part I 1967	Chapter 3
(c) wind loads	CP3 Chapter V Part II 1972	Chapter 3
Foundations		
(a) all	CP 2004 1972	Chapter 4
(b) building with not more than 4 storeys	CP 101 1972 CP 114 Part II 1969	Chapter 4 Chapter 4
(c) reinforced concrete		Chapter 4
Structure above foundation in		
(a) structural steelwork	BS 449 Part 2 1969	Chapter 6
(b) reinforced concrete	CP 114 Part 2 1969	Chapter 5
(c) prestressed concrete	CP 115 Part 2 1969	Chapter 5
(d) precast concrete	CP 116 Part 2 1969	Chapter 5
(e) brick, blocks or plain concrete	CP 111 Part 2 1970	Chapter 5
(f) brick or block walling	Rules specified in this Schedule	Chapter 8

TABLE 2

Thickness of certain external walls and separating walls

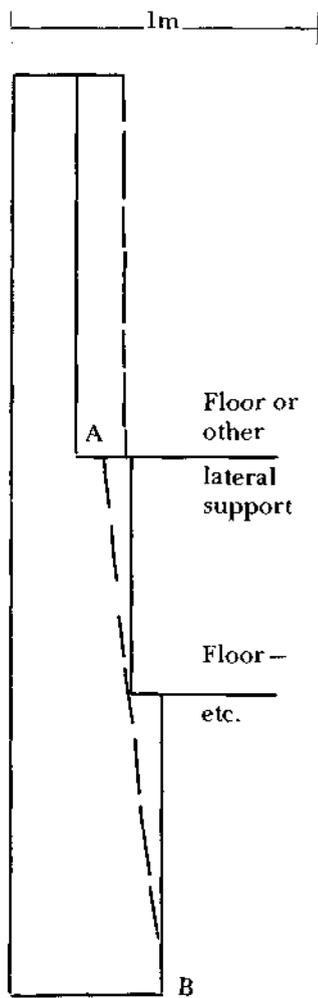
Height	Length	Thickness
Not exceeding 3 m	Any length	200 mm for the whole of its height
Exceeding 3m but not exceeding 9m	Not exceeding 9m	200 mm for the whole of its height
Exceeding 3m but not exceeding 9m	Exceeding 9m	300mm from the base for the height of one storey and 200mm for the rest of its height
Exceeding 9m but not exceeding 12m	Not exceeding 9m	300mm from the base for the height of one storey and 200mm for rest of its height
Exceeding 9m but not exceeding 12m	Exceeding 9m	300 mm from the base for the height of 2 storeys and 200 mm for the rest of its height

TABLE 3

Thickness of other external and separating walls

<i>Height of wall</i>	<i>Length of wall</i>
Not exceeding 7,5 m	no limit
Exceeding 7,5 m but not exceeding 9 m	13,5 m
Exceeding 9 m but not exceeding 12 m	10,5 m

H(3) EXPLANATORY DIAGRAM



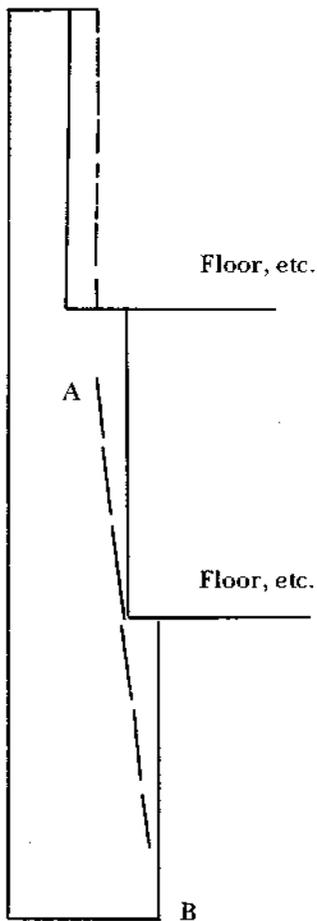
Base, say 500 mm.

Top: 5 m Storey height  
Thickening  $\frac{5}{14}l = 357$  mm

1. Thickness  $t = 200$  mm +  
thickening for  $\frac{1}{4}l$  to  $h/14 = 357$  mm

2. Middle storey  
 $t = 300$  mm min  
wall inside line AB to be  
solid but  
(a) offsets to be only at  
positions of lateral  
supports and  
(b) wall to be of not less  
thickness than that which  
it supports

3. Ground Storey  
as for 2.



Top: 4 m. storey height  
Thickening  $\frac{1}{4}l = 285$  mm.

1. Thickening = 357 mm  
for  $\frac{1}{4}l$   
remainder = 200 mm.
2. Middle storey  
min.  $t = 300$  mm.  
Assuming 300 mm is OK  
from loading calculations  
Wall inside line AB to be  
solid on
  - (a) offsets to be only at  
positions of lateral  
supports and
  - (b) wall to be of not less  
thickness than that  
which it supports
3. Ground Storey  
as for 2.

Note: Separating walls may have lateral supports on both sides.

THIRD SCHEDULE  
TABLE 1

(reg. 37 (1))

MINIMUM PERIOD OF FIRE RESISTANCE

A. Buildings other than single storey buildings

Purpose group	Maximum dimensions			Minimum period of fire resistance (in hours) for elements of structure forming part of:	
	Height (in m)	Floor area (in m <sup>2</sup> )	Cubic capacity (in m <sup>3</sup> )	Ground or upper storey	Basement storey
I Private residential (houses including flats and maisonettes – (a) up to 3 storeys (b) more than 3 storeys)	–	450	no limit	0,5	1,00
	–	no limit	no limit	1,0	1,5
II Institutional	18	1 400	6 000	1,0	1,5
	28	2 000	no limit	1,0	1,5
	over 28	2 000	no limit	1,5	2,0
III Other residential	9	1 000	3 000	0,5	1,0
	18	1 500	6 000	1,0	1,5
	no limit	2 000	5 500	1,5	2,0
IV Office	9	500	no limit	0,5	1,0
	18	no limit	3 500	1,0	1,5
	28	5 000	1 400	1,5	2,0
	no limit	no limit	no limit	2,0	2,5
V Factory	9	no limit	1 700	0,5	1,0
	18	no limit	4 250	1,0	1,5
	28	no limit	8 500	1,5	2,0
VI Shop	9	500	no limit	0,5	1,0
	18	no limit	3 500	1,0	1,5
	no limit	2 000	7 000	1,5	2,0

VII Assembly	9	500	no limit	0,5	1,0
	18	no limit	3,500	1,0	1,5
	28	5 000	14 000	1,5	2,0
	no limit	no limit	no limit	2,0	2,0
VIII Storage and General	9	300	no limit	0,5	1,0
	18	no limit	1 700	1,0	1,0
	28	no limit	3 500	1,0	2,0
	no limit	1 000	no limit	2,0	2,5

**B. Single storey buildings**

Purpose group	Maximum floor area (in m <sup>2</sup> )	Minimum period of fire resistance (in hours) for elements of structure	
		above ground	below ground
I Private residential	no limit	0,5	1,0
II Institutional	3 000	0,5	1,0
III Other residential	3 000	0,5	1,0
IV Office	2 000	0,5	1,0
	4 000	1,0	1,5
V Shop	2 000	0,5	1,0
	3 000	1,0	1,5
IV Factory	2 000	0,5	1,0
	3 000	1,0	1,5
VII Assembly	3 000	0,5	1,0
VIII Storage and General	no limit	1,0	1,5
	500	0,5	1,0
	1 000	1,0	1,5
	1 500	1,5	2,0

TABLE 2

(reg. 39)

## Permitted Openings in External Walls

Height of wall (m)	Length of wall (m)	Minimum distance (in m) from external face of wall to site boundary when the proportion of openings in wall is –			
		Less than 20%	20% to 30%	30% to 50%	50% or more
10	10	1,5	2,0	3,5	5,5
	20	2,0	2,5	4,5	7,5
	30	2,0	2,5	5,0	9,0
	40	2,0	2,5	5,5	9,5
	50	2,0	3,0	5,5	10,0
	60	2,0	3,0	5,5	11,0
	80	2,0	3,0	5,5	11,5
15	10	2,0	2,5	4,0	6,5
	20	2,5	4,0	6,5	10,5
	30	3,0	4,0	7,5	12,00
	40	3,0	4,5	8,0	13,5
	50	3,5	5,0	8,5	15,00
	60	3,5	5,0	8,5	15,5
	80	3,5	5,0	9,0	17,0
20	10	2,0	3,0	4,5	7,5
	20	3,0	4,5	7,5	12,5
	30	4,0	5,5	9,0	14,5
	40	4,5	6,0	10,0	16,5
	50	4,5	6,5	11,0	18,0
	60	4,5	6,5	11,5	19,5
	80	4,5	6,5	12,0	21,0
25	10	2,0	3,0	5,0	8,0
	20	3,5	5,0	8,0	13,0
	30	4,0	6,0	9,5	15,5
	40	4,5	6,5	11,0	18,0
	50	5,0	7,0	12,0	19,5
	60	5,0	7,5	12,5	21,0
	80	5,0	7,5	13,5	23,5
30	10	2,0	3,0	5,0	8,5
	20	3,5	5,0	8,5	14,0
	30	4,0	6,0	10,00	17,0
	40	5,0	7,0	11,5	19,0
	50	5,5	7,5	12,5	21,0
	60	5,5	8,0	13,5	22,5
	80	6,0	8,5	14,5	25,0

1. Where any part of an external wall is designated an "opening" due to combustible material being attached to it as cladding, the area of the opening shall be deemed to be one-half the area of the cladding.
2. No account shall be taken of any opening which –
  - (a) is not more than 0,1 m<sup>2</sup> and is at least 1,5 m from any similar opening;
  - (b) is not more than 1 m<sup>2</sup> (or, if there is more than one, the aggregate area) and is at least 4 m from any other opening other than one covered by subparagraph (a); or
  - (c) is in an extended wall of a protected shaft.

**TABLE 3** (reg. 35)  
**Acceptable Roof Coverings**

1. Pitched roofs:
  - (a) slates, either natural or asbestos cement;
  - (b) slabs of natural stone; or
  - (c) tiles of burnt clay or concrete.
2. Pitched or flat roofs:
  - (a) corrugated sheets of galvanized steel, aluminium composite steel and asbestos, asbestos cement, pvc coated steel; or
  - (b) sheets of aluminium, copper or zinc or vitreous enamelled steel.
3. Flat roofs:
  - (a) 2 layers of bitumen or felt covered with a 12 mm layer of natural stone chippings;
  - (b) bitumen with bedded tiles of a non-combustible material;
  - (c) mastic asphalt; or
  - (d) butyl rubber.

**TABLE 4** (reg. 47)  
**Number of Exits**

<i>Occupant capacity of room or storey</i>	<i>Number of exits</i>
1 – 60	1
61 – 600	2
601 – 1 000	3
1 001 – 1 400	4
1 401 – 1 700	5
1 701 – 2 000	6
2 001 – 2 250	7
2 251 – 2 500	8
2 501 – 2 700	9
over 2 700	one additional exit for every 300 persons or part thereof

**TABLE 5**  
**Minimum Width of Stairways and Exits**

(reg. 50)

<i>Number of persons</i>	<i>Total width of stairway or exit (in m)</i>
0 – 50	0,90
51 – 150	1,20
151 – 200	1,80
201 – 225	2,10
226 – 250	2,40
251 – 275	2,70
276 – 300	3,00

Where the number of persons exceeds 300 but does not exceed 600, the width of the stairway or exit shall be increased by 0,30 m for each additional 25 persons or part thereof.

**TABLE 6**  
**Occupant Capacity of Buildings**

(reg.56)

<i>Description</i>	<i>Notional area per person in m<sup>2</sup></i>
Assembly hall (movable seating or none)	0,5
Bar (public and lounge)	0,5
Bedroom	4,0
Bowling alley and billiard hall	9,3
Canteen	1,0
Club	0,5
Common room	1,1
Concourse	0,7
Conference and committee rooms	1,1
Crush hall and queuing lobby	0,7
Dance hall	0,7
Dining room	1,0
Dormitory	4,6
Enquiry room	3,7
Factory shop floor, workroom and storage	4,6
Grandstand (no fixed seating)	0,5
Kitchen	9,3
Library, museum, art gallery	4,6
Mess room	1,0
Office: (a) multiple occupation	5,1
(b) individual room	3,7
Reading room	1,9
Restaurant	1,0
Shop: (a) Ordinary consumer goods	1,9
(b) more expensive or exclusive trades, e.g. carpets	7,0
Stadium (no fixed seating)	0,5
Staff room	1,1
Studio (radio, television, film, recordings)	1,4
Writing room	1,9

TABLE 7

(reg. 38)

## Notional Periods of Fire Resistance — Walls

Materials and construction	Minimum thickness (in mm), excluding plaster, for a period of fire resistance of (in hours):									
	Loadbearing					Non-loadbearing				
	4	2	1,5	1	0,5	4	2	1,5	1	0,5
Reinforced concrete, min cover to main reinforcement of 25 mm, plastered or unplastered	180	100	100	75	75	—	—	—	—	—
Brickwork of clay, concrete or sandlime bricks, unreinforced, plastered or unplastered	200	100	100	100	100	170	100	100	75	75
Blockwork of solid concrete blocks of Class 1 aggregate: (a) plastered	150	100	100	100	100	100	75	75	75	50
(b) unplastered	150	100	100	100	100	150	75	75	75	50
Blockwork of solid concrete blocks of Class 2 aggregate, plastered or unplastered	—	100	100	100	100	150	100	100	75	50
Blockwork of hollow concrete blocks of Class 1 aggregate: (a) plastered	—	100	100	100	100	150	100	65	75	75
(b) unplastered	—	100	100	100	100	150	100	100	100	75
Blockwork of hollow concrete blocks of Class 2 aggregate: (a) plastered	—	—	—	—	—	150	150	125	125	100
(b) unplastered	—	—	—	—	—	150	150	125	125	125

Notes: 1. (a) Class 1 aggregate means foamed slag, pumice, blastfurnace slag, pelleted flay ash, crushed brick and burnt clay products, including expanded clay, well burnt clinker and crushed limestone;

(b) Class 2 aggregate means flint gravel, granite and all crushed natural stone other than limestone;

2. Reference to plaster means:

(a) sand-cement or sand gypsum plaster 12 mm thick;

(b) in the case of an external wall, 1 m or more from the boundary, the plaster applied on the internal face only; or

(c) in the case of any other wall, the plaster applied to both faces.

TABLE 8

(reg. 38)

Notional Period of Fire Resistance --  
Reinforced Concrete Columns

Construction and Materials	Minimum dimension of concrete column without finish (in mm) for a fire resistance of (in hours):				
	4	2	1,5	1	0,5
Without plaster	450	300	250	200	150
With 12 mm cement sand or gypsum sand plaster on mesh reinforcement fixed around column	300	225	150	150	150
With 3 mm hard drawn steel wire Fabric of maximum pitch 150 mm in each direction, placed in concrete cover to main reinforcement	300	225	200	150	150
With limestone aggregate	300	225	200	200	150
Built into any compartment wall with no part of the column projecting beyond either face of the wall, and without plaster	180	100	100	75	75

TABLE 9

(reg. 38)

Notional Periods of Fire Resistance --  
Reinforced Concrete Beams

Construction and materials	Minimum concrete cover without finish to main reinforcement (in mm) for a fire resistance of (in hours):				
	4	2	1,5	1	0,5
Without plaster	63	45	35	25	12
With 12 mm cement sand or gypsum sand plaster on mesh reinforcement fixed around beam	50	30	20	12	12

FOURTH SCHEDULE

(reg. 68, 69 (1))

Sanitary Facilities to be Provided

TABLE 1

For Female or Males where Urinal Accommodation is not Provided

Number of persons regularly using the accommodation	Minimum number of water closets or privies required
1 to 15	1
16 to 30	2
31 to 50	3
51 to 75	4
76 to 100	5
exceeding 100	5 with the addition of one for every 25 persons by which the total exceeds 100

TABLE 2

(reg. 68, 69 (1))

For Males where Urinal Accommodation is Provided

Number of males regularly using the accommodation	Number of water closets or privies	Number of urinals
1 to 15	1	—
16 to 20	1	1
21 to 45	2	1
46 to 75	3	2
76 to 100	4	3
exceeding 100	4	4
with the addition of one water closet or one privy alternately for every unit of 25 persons by which the total exceeds 100		

FIFTH SCHEDULE

(reg. 71 (6), 78)

TABLE 1

Minimum Internal Diameters of Traps

Type of appliance	Minimum internal diameter (in mm)
Domestic appliances:	
Bidet	32
Sink	38
Washbasin	32
Bath	38
Shower-bath tray	38
Wash-tub	50
Floor drain	38
Non-domestic appliances:	
Bar well	32
Drinking fountain	19
Hotel or canteen sink	38
Urinal, bowl	32
Urinal, stall: 1 or 2	50
3 or 4	63
5 or 6	75

TABLE 2

(reg. 71 (5))

Test for Sewers

The drain or section of a sewer to be tested shall be suitably plugged at its lower end and filled with water at a pressure equivalent to a head of 1.5 m of water at the highest part of the drain or section thereof under test. The test shall be arranged so that a pressure equivalent to a head of water of 2.4 m of water is not exceeded at any point in the drain or section under test. After sufficient time has elapsed to permit the absorption of water by the pipes and joints the pressure shall be restored to that equivalent to a head of 1.5 m of water. The test shall be deemed-to-be-satisfied if the drain maintains that pressure for a minimum period of 10 minutes immediately thereafter.

Construction on a Site on or over  
which a Public Utility Service is Located

Notwithstanding the plans and proposals being in accordance with these Regulations, an application for a building permit to erect a new building or extend an existing building on any site over which, at an elevated level or on or below ground level, a public utility service is routed shall be rejected unless the Building Authority is satisfied that having regard to all known circumstances it would be proper to approve such application with or without conditions.

**SIXTH SCHEDULE**

(reg. 6)

Specified Areas

Francistown Township  
Gaborone Township  
Ghanzi Township  
Jwaneng Township  
Kasane Township  
Lobatse Township  
Orapa – the area within the security fence.  
Selebi-Phikwe Township

MADE this 3rd day of February, 1981.

**C.W. BLACKBEARD,**  
*Minister of Works and Communications.*

*L2/7/24 II*