



SCDF

The Life Saving Force

... for a safer Singapore

SINGAPORE CIVIL DEFENCE FORCE



Date : 1 Sep 2022

Our Ref: CD/04/05/01/01

Registrar, Board of Architects
Registrar, Professional Engineers Board
President, Singapore Institute of Architects
President, Institution of Engineers, Singapore
President, Association of Consulting Engineers, Singapore

Dear Sir/Mdm,

AMENDMENTS TO FIRE CODE 2018 - 11th BATCH OF AMENDMENTS

SCDF would like to issue the 11th batch of amendments to the Code of Practice for Fire Precautions in Buildings 2018 (Fire Code 2018). The amendments which were deliberated and accepted by the Fire Code Review Committee are attached as Annex A & Annex B of this circular.

2. Amendments stipulated in this Annexes shall take effect from the dates specified therein. For those amendments that are to take effect at future dates as specified in Annex A, Qualified Persons are encouraged to comply with the requirements before the effective dates. Any proposed plans of fire safety works for new buildings or existing buildings that are submitted to SCDF for approval on or after the effective dates shall be subjected to the amendments made to the Fire Code.
3. Please convey the contents of this circular to members of your Board/ Institution/ Association. This circular is also available in CORENET's e-Info: <http://www.corenet.gov.sg/einfo>.



SCDF – A member of the Home Team

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4. For general queries, you may contact Mr Randy Tan at DID: 68481461 or Mr Tan Yi Yang at DID: 68481734. However, for specific queries relating to edits for:

- a. Access panels for kitchen exhaust duct, please contact MAJ Neo Jin Xiang at 68481449 or CPT Ranneth Tan at 68481933;
- b. Temporary Energy Storage System installation on construction sites, please contact MAJ Tan Ping Hao at 68481410; and
- c. Regulated fire safety products/ materials for roof covering material, please contact CPT Daven Tan at 68481408.

Yours faithfully

(transmitted via email)

LTC Tan Chung Yee
for Commissioner
Singapore Civil Defence Force

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S/N	Clause No	Amendment Date	Effective Date	Clause Status	Clause Before Amendment	Clause After Amendment
1	4.2.2a.(3)(b)	01/09/2022	01/03/2023	Relaxation	A fire engine accessway of at least ¼ length of perimeter (minimum 15m), whichever is greater, shall be provided to access at least one entire façade of each block and shall be located at a distance of at least 2m and at most 10m away from the façade of the building. This is to facilitate rescue with direct access to unit windows (excluding exit staircase, smoke-free approach to exit staircase).	A fire engine accessway of at least ¼ length of perimeter (minimum 15m), whichever is greater, shall be provided to access at least one entire façade of each block and shall be located at a distance of at least 2m and at most 10m away from the façade of the building. This is to facilitate rescue with direct access to unit windows (excluding exit staircase, smoke-free approach to exit staircase). For the purpose of computing the extent of perimeter for fire engine accessway, only the external facade perimeters of residential units are required to be included. Common areas such as corridors/lobbies, lift/ service shafts, exit staircase, landscape areas, etc. can be omitted from the computation.
2	6.6.3b.(1)(d)	01/09/2022	01/03/2023	Relaxation	Emergency power supply a. Emergency b. A standbyfor: (1) homing of lifts during an emergency for: (a) PG II	Emergency power supply a. Emergency b. A standbyfor: (1) homing of lifts during an emergency for: (a) PG II

					<p>(b) mixed-use.....</p> <p>(c) PG III to</p> <p>(d) all basement occupancies;</p>	<p>(b) mixed-use.....</p> <p>(c) PG III to</p> <p>(d) all basement occupancies; (excluding PG I buildings or basements within single household dwelling houses classified as cluster housing within PG II developments).</p>
3	6.6.4c.(1)	01/09/2022	01/03/2023	Relaxation	<p>c. Accessibility and coverage</p> <p>(1) A fire lift shall be located such that the travel distance between the nearest edges of the lift landing door and exit staircase door is not more than 5m. In addition, the exit staircase shall be approached through a fire lift lobby at each storey.</p> <p>(2)</p>	<p>c. Accessibility and coverage</p> <p>(1) A fire lift shall be located such that the travel distance between the nearest edges of the lift landing door and exit staircase door is not more than 5m. In addition, the exit staircase shall be approached through a fire lift lobby at each storey.</p> <p>Exception:</p> <p>(a) For the final discharge of exit staircase at ground level for PG II buildings, the travel distance between the nearest edge of the fire lift landing door and exit staircase door can be</p>

						<p>extended to at most 10m. Where the travel distance between the nearest edge of the fire lift landing door and exit staircase door exceeds 5m, additional signage shall be displayed prominently at the fire lift lobby to indicate the location of exit staircase door. This exception is not applicable to PG II mixed occupancy buildings.</p> <p>(2)</p>
4	6.6.6	01/09/2022	01/03/2023	Relaxation	<p>Homing of lifts</p> <p>c. For buildings</p> <p>(1) For buildings</p> <p>(2) Smoke/heat detectors</p>	<p>Homing of lifts</p> <p>c. For buildings</p> <p>(1) For buildings</p> <p>(2) Smoke/heat detectors</p> <p>(3) The above requirements on homing of lifts need not be applied to residential buildings under PG I or lifts serving within single household dwelling houses classified as cluster housing within PG II developments.</p>
5	6.6.7d.(2)	01/09/2022	01/03/2023	Revised/ Clarification	Provisions for lift rescue	Provisions for lift rescue

				<p>d. Car emergency doors</p> <p>(1) When car</p> <p>(2) When car</p> <p>(a) The horizontal distance between cars shall not exceed 750mm.</p> <p>(b) The dimension of</p> <p>(c) Car emergency doors ...</p> <p>(d) Car emergency doors</p> <p>(e) Car emergency doors</p> <p>(f) A set of detachable bridging plate and handrail, painted in bright yellow, shall be provided and secured to each emergency door. The plate shall have an anti-slip surface and means shall be provided to prevent accidental dropping of the plate and handrail into the lift well during deployment.</p> <p>(g) The detachable bridging plate shall have a minimum</p>	<p>d. Car emergency doors</p> <p>(1) When car</p> <p>(2) When car</p> <p>(a) The horizontal distance between cars shall not exceed 750mm. comply with the requirements of SS 550.</p> <p>(b) The dimension of</p> <p>(c) Car emergency doors ...</p> <p>(d) Car emergency doors.....</p> <p>(e) Car emergency doors</p> <p>(f) A set of detachable bridging plate and handrail, painted in bright yellow, shall be provided and secured to each emergency door. The plate shall have an anti-slip surface and means shall be provided to prevent accidental dropping of the plate and handrail into the lift well during deployment. A portable/ movable bridge or a bridge integrated into</p>
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					<p>loading capacity of 200kg and shall not weigh more than 10kg. The maximum loading capacity shall be clearly marked on the top-face of the plate. Means shall be provided to prevent the plate and handrail from slipping off when deployed.</p> <p>(h) Each car emergency door shall be provided with an electrical contact, the opening of which will render the lift inoperable. A safety feature to prevent the lift from operating when the bridging plate or the handrail is deployed shall also be provided.</p>	<p>the car complying with the requirements of SS 550 shall be provided.</p> <p>(g) The detachable bridging plate shall have a minimum loading capacity of 200kg and shall not weigh more than 10kg. The maximum loading capacity shall be clearly marked on the top-face of the plate. Means shall be provided to prevent the plate and handrail from slipping off when deployed.</p> <p>(g) Each car's emergency door shall be provided with an electrical contact electrical safety device, the opening of which will render the lift inoperable. A safety feature to prevent the lift from operating when the bridging plate or the handrail is deployed shall also be provided.</p>
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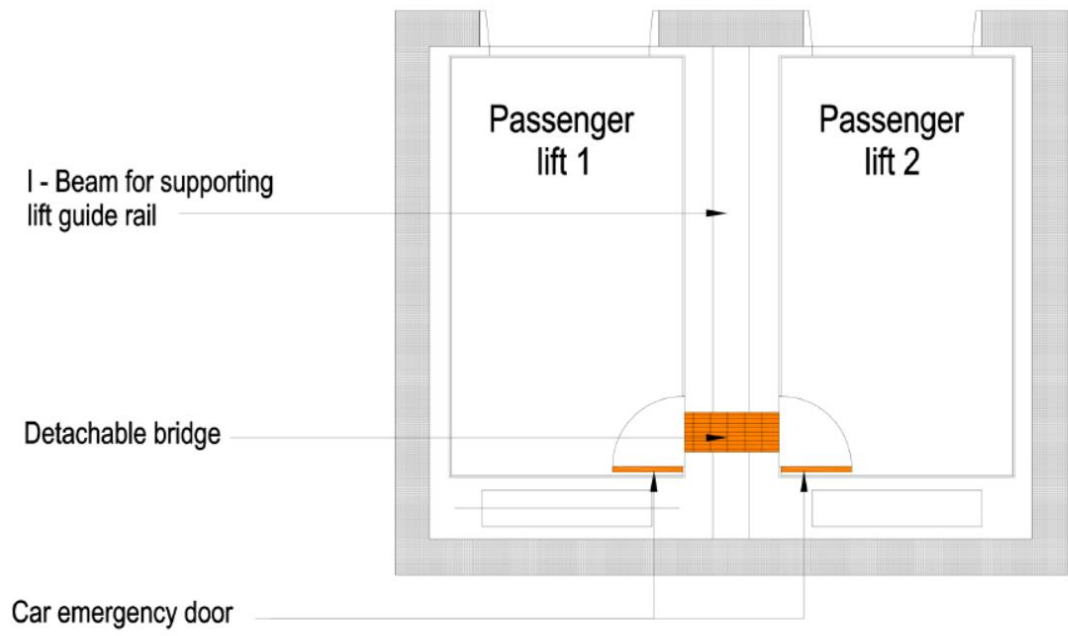


Diagram 6.6.7d.(2) : Car emergency doors - Deployment of bridging plate

6	7.1.13c.	01/09/2022	01/03/2023	Revised/ Clarification	<p>Kitchen exhaust duct</p> <p>(1) A kitchen exhaust duct running outside a building shall not be located within 3m of any unprotected openings. This separation distance can be reduced to 1.5m if the unprotected opening is on the same plane as the duct. (See <i>Diagram 7.1.13c.(1) - 1 and 2</i>)</p> <p>(2) Where the distances mentioned above cannot be achieved, a fire resistant</p>	<p>Kitchen exhaust duct (KED)</p> <p>(1) A kitchen exhaust duct KED running outside a building shall not be located within 3m of any unprotected openings. This separation distance can be reduced to 1.5m if the unprotected opening is on the same plane as the duct. (See <i>Diagram 7.1.13c.(1) - 1 and 2</i>)</p> <p>(2) Where the distances mentioned above cannot be achieved, a fire-resistant</p>
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					<p>construction having at least ½-hr fire resistance shall be placed between the duct and the unprotected opening. (See <i>Diagram 7.1.13c.(2)</i>)</p> <p>(3) A non-fire-rated kitchen exhaust duct shall not be located above an LPG storage cabinet, unless they are separated from LPG cylinders by a minimum of 2-hr fire-rated masonry construction above and beside the cylinders. (See <i>Diagram 7.1.13c.(3)</i>)</p> <p>(4) The kitchen exhaust duct shall be located at least 3m from any unprotected LPG cylinders. Non-fire-rated kitchen exhaust duct shall be located at least 600mm from the vapouriser or any liquid-phase LPG pipeline. (See <i>Diagram 7.1.13c.(4)</i>)</p>	<p>construction having at least ½-hr fire resistance shall be placed between the duct and the unprotected opening. (See <i>Diagram 7.1.13c.(2)</i>)</p> <p>(3) A non-fire-rated kitchen exhaust duct KED shall not be located above an LPG storage cabinet, unless it is separated from the LPG cylinders by a minimum of 2-hr fire-rated masonry construction above and beside the cylinders. (See <i>Diagram 7.1.13c.(3)</i>)</p> <p>(4) The kitchen exhaust duct KED shall be located at least 3m from any unprotected LPG cylinders. Non-fire-rated kitchen exhaust duct KED shall be located at least 600mm from the vapouriser or any liquid-phase LPG pipeline. (See <i>Diagram 7.1.13c.(4)</i>)</p> <p>(5) Access panels for KED</p> <p>KED shall be provided with openings via access panels to facilitate inspection and maintenance, which shall comply with the following:</p> <p>(a) Access panels shall be provided to allow the interior of the duct to be viewed without the assistance of tools, to facilitate</p>
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						<p>thorough cleaning. The access panels shall not be obstructed by suspended ceilings, cable routes, pipes or other installations.</p> <p>(b) Access panels shall be located at the sides of the duct.</p> <p>(c) Access panels are not required at the duct entry, duct discharge, or sections of the duct which are fire-rated or protected with fire-rated enclosure. Excluding these exempted areas, access panels shall be provided at the following locations:</p> <p>(i) at changes of ducting direction;</p> <p>(ii) if fire extinguishing systems are provided, to facilitate installation and servicing of the fire extinguishing systems;</p> <p>(iii) within 900mm of each side of exhaust fan assemblies;</p> <p>(iv) at least 40mm from all outside edges of the duct or welded seams; and</p>
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						<p>(v) in addition to compliance with subclause (i) to (iv), access panels shall be located at maximum 3m intervals for horizontal ducting, and at the top and bottom of sections of vertical ducting which runs solely at the building exterior.</p> <p>(d) Access panels shall be conspicuously marked with the following wording: ACCESS PANEL – DO NOT OBSTRUCT. The lettering shall be at least 25mm in height, in a colour contrasting with the background.</p>
7	7.1.13d.	01/09/2022	01/03/2023	Revised/ Clarification	<p>Maintenance</p> <p>All kitchen exhaust systems shall be properly maintained. The entire (interior and exterior) exhaust duct and kitchen hood shall be degreased and cleaned at least once every 12 months. The work shall be carried out by a specialist and the records of cleaning and degreasing shall be kept by the owner/operator for verification by the authority having jurisdiction. This</p>	<p>Maintenance</p> <p>All kitchen exhaust systems shall be properly maintained in accordance with the following:</p> <p>(1) The entire (interior and exterior) exhaust duct and kitchen hood shall be degreased and cleaned at least once every 12 months.</p>

					requirement shall be included in the Fire Safety Instruction Manual.	(2) The work shall be carried out by a specialist and the records of cleaning and degreasing shall be kept by the owner/ operator for verification by the authority having jurisdiction. This requirement shall be included in the Fire Safety Instruction Manual.
8	9.6.7	01/09/2022	01/03/2023	New	Nil	<p>Electrical transformer room in underground structures</p> <p>a. Scope</p> <p>This set of fire safety requirements is applicable to electrical distribution transformer room located within underground structures e.g. consumer or power grid substation.</p> <p>b. General requirements</p> <p>(1) Compartment size and depth limits</p> <p>(a) The AFA of each transformer room shall not exceed 250m².</p> <p>(b) The depth of the transformer room shall not exceed 9m below the average grade level and not more than one level below grade level.</p>

						<p>(2) The transformer oil shall be tested to ASTM D 92 or ISO 2592 standard and with the fire point exceeding 300°C.</p> <p>(3) The underground structure housing the transformer shall not be sited within 15m of an exit staircase shaft.</p> <p>(4) Provision to contain spillage of transformer insulating liquid shall be provided.</p> <p>(5) Firefighting systems</p> <p>(a) Automatic fire alarm system</p> <p>(i) An automatic fire alarm system shall be provided for the electrical transformer room.</p> <p>(ii) The fire alarm system for the underground transformer room shall be a dedicated zone, linked to the building fire alarm system. A summary fire alarm status (alarm/ fault) shall be provided to the</p>
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						<p>main fire alarm panel in the building development.</p> <p>(b) Fire suppression system</p> <p>Automatic fire suppression system such as automatic sprinklers, foam-water sprinklers or water mist shall be provided for the electrical transformer room.</p>
9	10.1.1e.(4)(b)	01/09/2022	01/03/2023	Revised/ Clarification	Locations of ancillary fixtures and fittings, e.g. vaporiser, regulators, emergency shut-off valve, change-over valves, remote cut-off device, knock-out pot, pipe entries, etc..	Locations of ancillary fixtures and fittings, e.g. vaporisers, regulators, emergency shut-off valves, change-over valves, remote cut-off devices, knock-out pots, pipe entries, droppers, etc.
10	10.3.2	01/09/2022	01/03/2023	New	Nil	<p>Temporary Energy Storage System installation on construction sites</p> <p>ESS installation on construction sites shall be located outdoors and comply with all the following requirements:</p> <p>a. Cl.10.3.1d. on compartmentation shall be applicable;</p> <p>b. All ESS installations shall be located at the ground level and sited close to the boundary line adjacent to any public road or any internal driveway</p>

						<p>that is accessible by firefighting appliances. If the ESS is sited more than 100m away from the public road, a private hydrant shall be provided;</p> <p>c. ESS installation shall be protected and locked against tampering and accidental damage by non-combustible fencing of height not less than 1.8m;</p> <p>d. Setback distance of 3m measured between the ESS installation and the fencing shall be provided. No combustible items shall be located within this 3m separation space;</p> <p>e. Approved types of fire extinguishers of at least 2 numbers of 55A shall be provided;</p> <p>f. An approved fire extinguishing system effective against ESS fire, shall be provided; and</p> <p>g. Ventilation requirement for ESS installation shall be in accordance with <i>Cl.7.1.15</i>.</p>
11	Appendix 2 – 4.12	01/09/2022	01/03/2023	Revised/ Clarification	Kitchen exhaust ducts	Kitchen exhaust ducts

					<p>The building owner/ MCST/ tenant/ operator shall ensure that the entire kitchen exhaust system, including those within individual restaurant/ F&B outlet shall be properly maintained. The entire (interior and exterior) exhaust duct and kitchen hood shall be degreased and cleaned at least once every 12 months. The work shall be carried out by a specialist and the records of cleaning and degreasing shall be kept by the relevant parties for verification by the authorities having jurisdiction and the SCDF.</p>	<p>a. The building owner/ MCST/ tenant/operator shall ensure that the entire kitchen exhaust system, including those within individual restaurant/ F&B outlet shall be properly maintained. The entire (interior and exterior) exhaust duct and kitchen hood shall be degreased and cleaned at least once every 12 months. The work shall be carried out by a specialist and the records of cleaning and degreasing shall be kept by the relevant parties for verification by the authorities having jurisdiction and the SCDF.</p> <p>b. The building owner/ MCST/ tenant/ operator shall verify that the maintenance records state the name and contact number of the maintenance company, method of cleaning, and the date of inspection or cleaning. Photographic evidence of the cleaning, with date and time stamps, shall be incorporated in the report.</p> <p>c. Following the conduct of maintenance for the entire kitchen exhaust system, the building owner/ MCST/ tenant/operator shall verify that the cleaning contractor has prominently affixed a maintenance label (e.g. at the</p>
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						<p>anchor tenant of the coffeeshop, or at the cashier of a restaurant or food stall), at least A5-sized, displaying the following information:</p> <ol style="list-style-type: none"> (1) Date of last cleaning (in DD/MM/YY format) (2) Name and Unique Entity Number (UEN) of the maintenance company (3) Method of cleaning (e.g. manual scraping, chemical wash, mechanical brush, radio-controlled robot, etc.) (4) Date when the next cleaning is due (in DD/MM/YY format)
12	<u>Table 1.4B</u>	01/09/2022	01/03/2023	Revised/ Clarification	Existing <u>Table 1.4B</u>	See <u>Annex B</u> (affected portions of <u>Table 1.4B</u>)
13	<u>Table 6.4A</u>	01/09/2022	01/03/2023	Revised/ Clarification	Existing <u>Table 6.4A</u>	See <u>Annex B</u> (affected portions of <u>Table 6.4A</u>)
14	<u>Table 11A</u>	01/09/2022	01/03/2023	Revised/ Clarification	Existing <u>Table 11A</u>	See <u>Annex B</u> (affected portions of <u>Table 11A</u>)

TABLE 1.4B : OCCUPANCY LOAD FACTORS

FUNCTIONAL SPACES	OCCUPANCY LOAD FACTOR (m ² /person)	REMARKS
Amusement park	1	excluding machine areas
Apartments, residential	15	calculated on accessible floor areas of the unit
Area of refuge		
<i>ambulatory care centre</i>	1.4	
<i>custodian care facility</i>	1.4	
<i>hospital</i>	2.8	
<i>hospital</i>	0.56	for area of refuge without patient accommodation
<i>nursing care facility</i>	2.8	
<i>nursing care facility</i>	0.56	for area of refuge without patient accommodation
<i>supervisory care facility</i>	0.56	
Archive room		
<i>reading area</i>	5	
<i>stack area</i>	10	
Atrium floor	3	
Audio visual area	3	
Auditorium/ theatre		
<i>With individual fixed seating</i>	1.5	occupant load can be based on number of fixed seating
<i>With fixed bench seating</i>	-	occupant load based on 0.45m of length of the benches per person
Audio visual control room		
<i>theatres/ cinemas/ concert halls</i>	5	
Backpacker hotel	3	accessible floor area of each room (including living area, toilet, etc.). Max. 20 persons per room Max. 20 persons per room (including living area, toilet, etc.)
Ball room	1.5	
Banking hall	3	
Bar/ pub	1	accessible floor area
Bath room	---	non-simultaneous
Bazaar	5	
Billiards room	5	
Book/ general storage	30	
Bowling alley	1	excluding bowling lanes
Business centre/ office	10	
Cafeteria	1.5	
Canteen	1.5	including staff canteen
Car parking area	30	

Annex B

Changing room	---	non-simultaneous
Children playground	5	with including playground equipment
Classroom	1.5	
Computer classroom	1.5	
Club room	1.5	
Concourse	3	
Conference room	1.5	
Consultant room	5	
Common room	1.5	
Computer room	5	
Corridors	---	non-simultaneous
Crematoria	1.5	
Dance studio	5	
Department store	5	
Deposit/ strong room	30	
Design studio	5	
Detention room	3	
Dining area		
<i>Hawker centre</i>	1.5	
<i>Fast food outlet</i>	1	
Discotheque	1	accessible floor area (including dine & dance area)
Dormitory	4.2	Bedroom only, excluding living area, toilet, etc.
Examination room	5	
Exposition/ Trade fair area	1.5	
Fast food outlet	1	
Filing room/store	10	
Foyer		
<i>Bus/ Airport/ Ferry terminal or station</i>	1.5	
Fitness club/ centre	5	
Function room	1.5	

Annex B

Gallery	<i>exhibits</i>	2.5	
	<i>choir</i>	1.5	
	<i>prayer</i>	1.5	
	<i>seating</i>	1.5	occupant load can be based on number of fixed seating
	<i>trading</i>	1.5	
	<i>viewing</i>	1.5	
	<i>surgical viewing</i>	3	
General storage		30	
Goods storage		30	
Grandstand/ seating area		1.5	
Guestroom/ accommodation unit		15	<ul style="list-style-type: none"> • Accessible floor area of each room (including living area, toilet, etc.) Min. 2 persons per room or 15m ² /person, whichever is higher
Gymnasium		3.5	
Health club/ centre		5	
Hobby room		1.5	
Housekeeping		10	
Indoor games room		1.5	
Indoor sport hall	<i>school with multi-purpose hall</i>	3	
	<i>school without multi-purpose hall</i>	1	
Karaoke lounge		1.5	accessible floor area of the lounge (including dine & dance areas)
Kitchen/ service area		10	
Laboratory	<i>healthcare occupancy</i>	20	
	<i>schools/colleges/tertiary institutions</i>	5	
Laundry	<i>with machine operation</i>	15	
Lecture room		1.5	
Library room	<i>stack area</i>	10	
	<i>reading area</i>	5	
Lighting control room	<i>theatres/ cinemas/ concert halls</i>	5.0	
Loading/ unloading area		4 per bay	
Lobby		---	non-simultaneous
Locker room		---	non-simultaneous
Lounge		2.5	
Machine/ printing room		10	
Maisonettes, residential		15	calculated on accessible floor areas of the unit
Mechanical plant room		30	
Meeting room		1.5	
Mortuary		30	

Annex B

Multi-purpose hall/ room <i>school/colleges</i>	1	
Multi-purpose sports hall <i>public sport complex</i>	3	
<i>public swimming complex</i>	3	
<i>stadium</i>	3	
Night club	1.5	accessible floor area (including dine & dance area)
Nursing station	10	
Office <i>Admin/general</i>	10	
<i>ancillary</i>	7.5	
<i>director/manager</i>	15	
<i>drafting</i>	5	
Operation theatre	7.5	
Orchestral Pit	1.5	
Out-patient waiting area	1.5	
Packing/distribution area	10	
Passenger arrival/departure areas <i>Bus/ Airport/ Ferry terminal or station</i>	1.5	
Patient accommodation <i>intensive care</i>	20	
<i>room</i>	10	max 2 beds
<i>ward</i>	10	
Pedestrian linkways <i>with commercial activities</i>	2	aboveground or underground
<i>without commercial activities</i>	---	non-simultaneous
Pharmacy <i>staff area</i>	10	
<i>public waiting area</i>	2	
Prayer hall	1.5	
Pre-function room	---	non-simultaneous
Production area	10	automated or non-automated
Projection room <i>theatres/ cinemas/ concert halls</i>	5	
Promotion area	1.5	
Pub <i>space behind counter</i>	10	calculated on accessible floor area
<i>other areas</i>	1	
Reading room	5	
Reception area	3	
Recreation room	1.5	
Refreshment area	1.5	
Restroom	---	non-simultaneous
Restaurant	1.5	
Roof	---	access for maintenance only

Annex B

Roof garden/roof terrace, private	---	non-simultaneous part of individual residential unit
Roof garden/ roof terrace, public <i>health/ exercise corner</i>	5	with exercise equipment
<i>jogging track/designated foot path ≤ 3m in width</i>	3	
<i>planter box <300mm high</i>	1.5	
<i>planter box ≥ 300mm</i>	---	fully covered with trees/shrubs
<i>planter box ≥ 300mm & ≤ 500mm high</i>	1.5	turf
<i>planter box >500mm high</i>	---	without step/ramp access
<i>sunken/ elevated water feature <300mm in depth/height</i>	3	permanent or fixed structure
<i>sunken/elevated water feature ≥ 300mm in depth/ height</i>	---	permanent or fixed structure
<i>sunken planting area</i>	---	fully covered with trees/shrubs
<i>sunken planting area</i>	1.5	turf
<i>other areas</i>	1.5	
Server room	30	
Seminar room	1.5	
Serviced apartment	15	per unit
Service area	10	
Shop	5	
Showroom	5	
Sick room	---	non-simultaneous
Skating rink		
<i>rink area</i>	3	
<i>spectator area</i>	1.5	
Sleeping quarters	6	
Snack bar	1.5	
Society room	1.5	
Spa	5	include areas for weight training, aerobics, massage, sauna/ steam bath and whirlpools
Squash court	2 per court	
Staff office	10	
Storage area	30	
Staff canteen	1.5	
Staff lounge	3	
Staff quarters	15	min. 2 persons per room or 15m ² /person, whichever is higher
Stage, back	3	
Stage, front		
<i>schools/ colleges/ tertiary institutions</i>	3	
<i>theatres/ cinemas/ concert halls</i>	-	non-simultaneous

Annex B

Storage/ store room	30	
Student bedroom	15	min. 2 persons per room or 15m ² /person, whichever is higher
Swimming pool		
<i>condominium/ apartment</i>	5	
<i>hotel</i>	---	
<i>private club</i>	---	
<i>public sports complex</i>	2.5	
<i>public swimming complex</i>	2.5	
<i>serviced apartment</i>	---	
Swimming pool deck		
<i>condominium/ apartment</i>	10	
<i>hotel</i>	10	
<i>private club</i>	10	
<i>public sports complex</i>	5	
<i>public swimming complex</i>	5	
<i>serviced apartment</i>	10	
Supermarket	5	
Therapy centre	10	
Ticketing office	10	
Toilet	---	non-simultaneous
Trading floor	2	
Training area		
<i>public sports complex</i>	3	
<i>public swimming complex</i>	3	
<i>stadium</i>	3	
<i>others</i>	3	
Treatment room	5	
Visitors lounge	3	
Waiting area	3	
Warden's accommodation	15	
Workshop		
<i>institutional</i>	5	
<i>industrial</i>	10	

Note:

- All functional spaces shall be computed based on accessible floor area for the calculation of occupant load, unless specifically exempted under the “Remarks” column.
- The functional spaces stated above are non-exhaustive. Usage of other occupancy load factor is only allowed if permitted by SCDF.

**TABLE 6.4A COMPARTMENTATION REQUIREMENTS
FOR SPECIAL PURPOSE ROOMS IN BUILDINGS**

Usage	Non-sprinkler protected building		Sprinkler-protected building		
	Compartmentation (2a)	Door rating (2b)	Compartmentation (3a)	Door rating (3b)	Sprinkler (3c)
Store room ⁽¹⁾	1 hr	1 hr	N	N	S
AHU room ⁽³⁾	N	N	N	N	S
Kitchen ⁽²⁾	1 hr	½ hr	1 hr	½ hr	S
Boiler room (oil fired)	2 hr	2 hr	1 hr	1 hr	S
Low voltage switch room	B	B	B	B	Ex
High voltage switch room	B	B	B	B	Ex
Transformer room	2 hr	2 hr	1 hr	1 hr	ExS
Oil tank room	2 hr	2 hr	1 hr	1 hr	S
Generator room	2 hr	2 hr	1 hr	1 hr	S
A/C plant room	2 hr	2 hr	1 hr	1 hr	S
Electric lift motor room	2 hr	2 hr	2 hr	2 hr	Ex
Hydraulic lift motor room	2 hr	2 hr	1 hr	1 hr	S
Essential fan room	2 hr	2 hr	1 hr	1 hr	S
Electrical room	2 hr	2 hr	2 hr	2 hr	Ex
Battery room ⁽⁶⁾	2 hr	2 hr	2 hr	2 hr	ExS ⁽⁵⁾
Sprinkler/ Wet riser tank room	B	B	B	B	S
Fire pump room	B	B	B	B	S
Fire Command Centre	2 hr	2 hr	2 hr	2 hr	S
Telecommunication/ Non-essential equipment room ⁽⁴⁾	N	N	B	B	Ex
			N	N	S

Note:

The fire resistance rating stipulated in this table shall be the minimum.

N = no specific requirement on compartmentation/ door rating.

B = compartmentation and door rating of the special purpose room shall not be less than the fire resistance of the elements of structure of the building where the room is located.

S = Sprinkler system has to be extended into such rooms.

Ex = Sprinkler system is exempted from the corresponding area provided the area is fitted with an automatic fire alarm system installed according to ~~SS-CP-10~~ **SS 645**.

⁽¹⁾ = Requirements stated herein apply to store room which is required to be compartmentalised.

⁽²⁾ = Requirements stated herein apply to kitchens in hotel, restaurant, coffee house or other similar places where the preparation of food is required. However, special considerations will be given to the followings:

(a) kitchens where “open flame” cooking appliances are NOT used, or

(b) kitchens where all the cooking facilities are fitted with approved extinguishing systems.

⁽³⁾ Where AHU rooms are vertically stacked, each AHU room shall be separated by a compartment floor at every level. In the case of AHU serving more than one compartment, fire dampers shall be provided in air ducts at penetration through the compartment wall and floors, see *Cl.7.1.8*.

Annex B

⁽⁴⁾ = Requirements stated herein apply to non-essential equipment rooms such as a PABX/MDF room, potable water tank/pump, ejector room, Police Equipment Room (PER) or Electronics Parking System (EPS) room etc.

⁽⁵⁾ = Water mist system can be considered in lieu of conventional automatic fire sprinkler system.

⁽⁶⁾ = This requirements of compartmentation shall apply to any room that is designated as a battery room or of Threshold Stored Energy exceeded the limits stated in *Cl.10.3.1e.*. This does not apply to battery used in consumer products such as laptop, phone, etc.

TABLE 11A: LIST OF REGULATED FIRE SAFETY PRODUCTS & MATERIALS

S/N	Products / Materials	Acceptable Standards	Certification Scheme	Surveillance Regime	
				Testing	Factory/Site Inspection
35.	Roof covering material ⁽⁹⁾	<p>35.1 For non-fire-rated roof covering material</p> <p>(a) BS 476-4 or BS 476-11 or BS 476-7 or BS 476-6 & BS 476-7 or EN 13501-1 or ASTM E108</p> <p>For plastic roof covering, refer to <i>CI 3.15.19</i> for the testing requirements</p>	Scheme 2	<p>Annual surveillance test shall only require material testing and adopt the same test standards that were adopted for the material testing at the point of CoC listing</p> <p>For plastic roof covering, annual surveillance test shall be based on <i>CI 3.15.19</i></p>	Not applicable
		<p>35.2 For fire-rated roof covering material</p> <p>(a) BS 476-22 with material testing in accordance with BS 476-4/ BS 476-11/ EN 13501-1 (min. Class A2) or EN 1364-2 with material testing in accordance with EN 13501-1 (min. Class A2) or</p>	Scheme 5 (DoCs issued)	<p>Annual surveillance test shall only require material testing, and adopt the same test standards that were adopted for the material testing at the point of CoC listing</p>	<p>Factory inspection to be conducted at least once annually and Site inspection to be conducted for every 3500m²</p>

Annex B

S/N	Products / Materials	Acceptable Standards	Certification Scheme	Surveillance Regime	
				Testing	Factory/Site Inspection
		<p>AS 1530-4 with material testing in accordance with:</p> <ul style="list-style-type: none"> (i) BS 476-4/ BS 476-11/ EN 13501-1 (min. Class A2) or (ii) EN 13501-1 (min. Class A2) if fire resistance test is using plate-thermocouple 			