



Date : 1 Mar 2022

Our Ref: CD/FSSD/12/02/03/01

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 - 10th BATCH OF AMENDMENTS

SCDF would like to issue the 10th 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

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. Regulated fire safety products/materials or wall-mounted PV installations, please contact CPT Daven Tan at 68481408; and
- b. Waste management and recycling premises involved in processing of flammable liquid waste, please contact MAJ Bryan Ng at 68483560.

Yours faithfully

(transmitted via email)

LTC Tan Chung Yee
for Commissioner
Singapore Civil Defence Force

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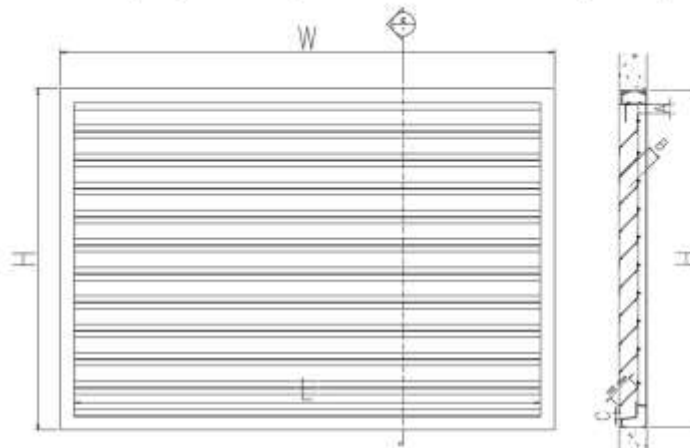
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HQ SINGAPORE CIVIL DEFENCE FORCE, 91 UBI AVENUE 4, SINGAPORE 408827
TEL: 68481467 FAX: 68481490 EMAIL: TAN_Chung_Yee@scdf.gov.sg

S/N	Clause No	Amendment Date	Effective Date	Clause Status	Clause Before Amendment	Clause After Amendment
1	1.1.9	01/03/2022	01/09/2022	New	Nil	<p>Fire safety requirement for storage of flammable particulate solids under Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Class 4.1, 4.2 and 4.3</p> <p>Facilities storing flammable particulate solids classified under Class 4.1 (Flammable solid), 4.2 (Substance liable to spontaneous combustion) and 4.3 (Substance dangerous when contact with water) of the GHS shall comply with SS 667.</p>
2	1.4.49	01/03/2022	01/03/2022	Clarification	<p>External exit staircase</p> <p>“External exit staircase” refers to an exit staircase located outside a building, open to the external space, and that:</p> <ol style="list-style-type: none"> a. is enclosed by parapet walls or railing of not more than 1.1m in height; and b. has at least two adjacent sides or one of its longest sides abutting the external space. 	<p>External exit staircase</p> <p>“External exit staircase” refers to an exit staircase located outside a building, open to the external space, and that:</p> <ol style="list-style-type: none"> a. is enclosed by parapet walls or railing of not more than 1.1m in height; and b. has at least two adjacent sides or one of its longest sides abutting the external space.; and c. is recessed not more than 3m from the building façade.

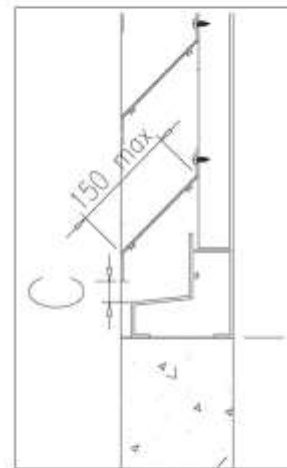
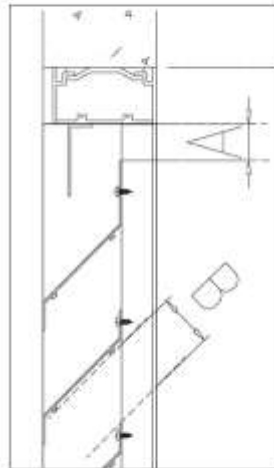
3	1.4.63	01/03/2022	01/03/2022	Clarification	<p>Habitable floor</p> <p>Habitable floor” refers to all floors in a building, including the roof level. The roof level can be taken as non-habitable if it is not used for any purpose/activity other than housing M&E plants/equipment, e.g. lift motors, fire pumps, generators, fire hose reel pumps, water supply pumps, water tanks, cooling towers, solar photovoltaic panels, supply/ exhaust fans with associated ductwork, air-con condensing units, telecommunication equipment, satellite dishes and public warning sirens, etc..</p>	<p>Habitable floor</p> <p>Habitable floor” refers to all floors in a building, including the roof level. The roof level can be taken as non-habitable if it is not used for any purpose/activity other than housing M&E plants/equipment, e.g. lift motors, fire pumps, generators, fire hose reel pumps, water supply pumps, water tanks, cooling towers, solar photovoltaic panels, supply/ exhaust fans with associated ductwork, air-con condensing units, telecommunication equipment, satellite dishes, and public warning sirens, green roofs inaccessible to public and for maintenance access only, etc.</p>
4	1.4.115	01/03/2022	01/09/2022	New	Nil	<p>Ventilation openings</p> <p>“Ventilation openings” refer to fixed natural ventilation openings located in external walls for any space, which shall be unobstructed at all times, and exclude windows or louvres that are openable or operable. The fixed louvres shall consist of a single bank of louvres with blade width not exceeding 150mm, with effective ventilation openings calculated based on the free area calculation stated below:</p>

Ventilation opening size for single bank louvres = Free Area = $L [A + C + (B \times n)]$



Elevation

Section C



- A = Min opening distance between the top frame and top blade
- C = Min distance between the sill and bottom blade
- B = Min distance between blades
- n = Number of B openings
- L = Min distance between louvres (sills)

5	2.2.7a.	01/03/2022	01/03/2022	Clarification	No exit, exit staircase or other exit facilities shall be narrower than the minimum width requirement as specified under <i>Table 2.2A</i> . The minimum clear width of an exit door opening shall be not less than 850mm.	No exit, exit staircase or other exit facilities shall be narrower than the minimum width requirement as specified under <i>Table 2.2A</i> . The minimum clear width of an exit/exit access door opening shall be not less than 850mm.
6	2.3.3b.	01/03/2022	01/03/2022	Clarification	External exit staircase (1) An exit staircase can qualify as an external exit staircase if no part of it is recessed more than 3m from the building façade and has: (a) minimum two adjacent sides abutting an external space; or (b) one of its longest sides abutting the external space.	External exit staircase (1) An exit staircase can qualify as an external exit staircase provided it complies with Cl.1.4.49. if no part of it is recessed more than 3m from the building façade and has: (a) minimum two adjacent sides abutting an external space; or (b) one of its longest sides abutting the external space.
7	2.3.9k.	01/03/2022	01/09/2022	Revised/ Clarification	Access control using smart card locking device, magnetic bar and electromechanical locking device (1) Where access control using smart card locking device, magnetic bar or electromechanical locking device are installed at fire-rated door(s) of an exit staircase and smoke-free/fire lift lobby (see also note to <i>Table 6.3A</i>):	Access control using smart card locking device, electromagnetic/ bar and electromechanical locking device (1) Where access control using smart card locking device, electromagnetic bar or/ electromechanical locking device is installed on any at fire-rated door(s) of an exit staircase and smoke-free/fire lift lobby. (see also note to <i>Table 6.3A</i>): exit access door

					<p>(a) the activation of the building fire alarm or sprinkler system shall automatically unlock the door. It shall remain unlocked until the building fire alarm system has been manually reset; and</p> <p>(b) in addition, the door shall be arranged to unlock from a manual override device located within the occupancy space, 1.2m above the floor and within 1.5m of the exit door jamb. The manual override device shall be readily accessible and clearly identified by a sign that reads “Emergency Door Release”. The mechanism to unlock the door shall be fail-safe type.</p> <p>(2) Access control belonging to tenanted spaces</p> <p>Where access control belonging to tenanted spaces are installed with smart card locking device, magnetic bar, electromechanical locking device and the like to prevent unauthorised access, such locking mechanism shall be arranged to</p>	<p>and/or exit door, excluding revolving doors and doors to residential units, such doors shall comply with the requirements stipulated in <u>Table 2.3.9k.(1) - 1</u> & <u>Table 2.3.9k.(1) - 2</u>.</p> <p>(a) the activation of the building fire alarm or sprinkler system shall automatically unlock the door. It shall remain unlocked until the building fire alarm system has been manually reset; and</p> <p>(b) in addition, the door shall be arranged to unlock from a manual override device located within the occupancy space, 1.2m above the floor and within 1.5m of the exit door jamb. The manual override device shall be readily accessible and clearly identified by a sign that reads “Emergency Door Release”. The mechanism to unlock the door shall be fail safe type.</p> <p>(2) Access control belonging to tenanted spaces</p>
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					<p>unlock from a manual override device in accordance with <i>Cl.2.3.9k.(1)(b)</i>. The manual override device serves as a means for occupant to get out of the occupied space during a fire emergency. Any form of staff access control facilitating daily operation shall not be considered as a substitute for manual override device. <i>Cl.2.3.9k.(1)(a)</i> is not applicable to tenanted spaces.</p> <p>(3) Where doors opening into a passenger lift lobby are provided with access control and locked after normal operation hours, the lobby shall be designed to have direct access to at least one exit staircase to prevent any occupant from being trapped in the lobby when the lifts are recalled to the 1st storey or other designated floor during fire emergency or building power failure. Alternatively, a two-way communication system shall be available inside the lift lobby for use by trapped occupants to call for help. The two-way communication system shall be linked to the FCC and/or building control room which shall be manned 24 hours.</p>	<p>Where access control belonging to tenanted spaces are installed with smart card locking device, magnetic bar, electromechanical locking device and the like to prevent unauthorised access, such locking mechanism shall be arranged to unlock from a manual override device in accordance with <i>Cl.2.3.9k.(1)(b)</i>. The manual override device serves as a means for occupant to get out of the occupied space during a fire emergency. Any form of staff access control facilitating daily operation shall not be considered as a substitute for manual override device. <i>Cl.2.3.9k.(1)(a)</i> is not applicable to tenanted spaces. Where the escape route is allowed permitted to go through another occupied space in accordance with <i>Cl.2.2.12b.</i>, the exit access door within the tenant unit for escape purpose shall release when the alarm on that floor activates.</p> <p>(3) Where doors opening into a passenger lift lobby are provided with access control and are locked after normal operation hours, the lobby shall be designed to have direct access to at least one exit</p>
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						<p>staircase to prevent any occupant from being trapped in the lobby when the lifts are recalled to the 1st storey, or other designated floor during fire emergency or building power failure. Alternatively, a two-way communication system shall be available inside the lift lobby for use by trapped occupants to call for help. The two-way communication system shall be linked to the FCC and/or building control room which shall be manned 24 hours.</p>
8	2.3.91.	01/03/2022	01/09/2022	Revised/ Clarification	<p>Staircase re-entry</p> <p>(1)</p> <p>(2)</p> <p>(3)</p> <p>(4) Staircase doors permitting re-entry into the building, shall be identified with a signage “Re-entry door” of at least 50mm lettering height on the staircase side of the staircase door.</p> <p>(5) Where locking is required for doors of smoke-free lobby, fire lift lobby or exit staircase on the re-entry floor, they shall be fitted with an electro-</p>	<p>Staircase re-entry</p> <p>(1)</p> <p>(2)</p> <p>(3)</p> <p>(4) Staircase-Exit doors permitting re-entry into the building, shall be identified with a signage “Re-entry door” of at least 50mm lettering height on the staircase side of the staircase exit door.</p> <p>(5) Where locking is required for doors of smoke-free lobby, fire lift lobby or exit staircase on the re-entry floor,</p>

					<p>mechanical locking device complying with <i>Cl.2.3.9k.(1)</i>. For re-entry floor, manual override device shall be provided on both sides of the door.</p> <p>Note: Where the doors of exit staircases, smoke-free lobbies or fire lift lobbies are provided with one-way locking device or electromechanical lock, a signage, though not mandatory, should be provided to warn occupants that they would not be able to re-enter the floor should they exit from it. The signage should be positioned at the entrance into exit staircase, smoke-free lobby or fire lift lobby.</p>	<p>they shall be fitted with an electromagnetic/ electromechanical locking device complying with <i>Cl.2.3.9k.(1)</i>. For re-entry floor, manual override device shall be provided on both sides of the door.</p> <p>Note: Where the doors of exit staircases, smoke-free lobbies or fire lift lobbies are provided with one-way locking device or electromechanical lock, a signage, though not mandatory, should be provided to warn occupants that they would not be able to re-enter the floor should they exit from it. The signage should be positioned at the entrance into exit staircase, smoke-free lobby or fire lift lobby.</p> <p>(6) All non-re-entry floors shall be identified with a sign to show the designated re-entry floors on the staircase side of the exit door.</p>
9	2.3.9m.	01/03/2022	01/09/2022	New	Nil	<p>Warning signage for exit doors with one-way lock</p> <p>Where one-way locking devices or electromagnetic/ electromechanical locking devices are installed at the doors of exit staircases, a signage shall be provided</p>

						to warn occupants that they would not be able to re-enter the floor should they exit from it. A readily visible sign with the lettering “EXIT ONLY, NO RE-ENTRY TO BUILDING” shall be positioned at the entrance into the exit staircase. This signage shall be applicable for all buildings except PG I & II.
10	2.3.10e.	01/03/2022	01/09/2022	Revised/ Clarification	External corridor External corridor a. b. c. d. e. the provision of parapet wall, or balustrade for an external corridor shall be at most 1.1m and at least 1m in height along the outer side of the corridor; and f.	External corridor External corridor a. b. c. d. e. the provision of parapet wall, or balustrade for an external corridor shall be at least 1m in height and at most 1.1m 1.5m and at least 1m in height along the outer side of the corridor; and f.
11	3.3.6a.(4)	01/03/2022	01/09/2022	Revised/ Clarification	(4) Fire-rated boards used to make dry walls shall meet the criteria, in terms	(4) Fire-rated boards used to make dry walls shall, in terms of impact &

					<p>of impact & deflection performance, when subject to the test of BS 9999 Annex L and BS 5234 Part 2.</p> <p>(5)</p>	<p>deflection performance, when subject to the test of BS 9999 Annex L and BS 5234 Part 2. meet the partition grade specified under BS 9999 (Test for partitions) in accordance with BS 5234-2.</p> <p>(5)</p>
12	3.8.7b.(3)	01/03/2022	01/09/2022	Revised/ Clarification	<p>(3) the drywall shall meet the criteria, in terms of impact & deflection performance, when subject to the test of BS 9999 Annex L and BS 5234 Part 2;</p> <p>(4) ...</p> <p>(5) the drywall shall meet the criteria of Cyclic Loading and Dynamic Test as specified under Building Code of Australia Specification C 1.8; and</p> <p>(6) ...</p>	<p>(3) the drywall shall meet the criteria, in terms of impact & deflection performance, when subject to the test of BS 9999 Annex L and BS 5234 Part 2; meet the partition grade specified under BS 9999 (Test for partitions) in accordance with BS 5234-2;</p> <p>(4) ...</p> <p>(5) the drywall shall meet the criteria of Cyclic Loading and Dynamic Test as specified under Building Code of Australia Specification C 1.8; and</p> <p>(6) ...</p>
13	3.8.8b.	01/03/2022	01/09/2022	Revised/ Clarification	The protecting structure shall be constructed of masonry, or drywall. If	The protecting structure shall be constructed of masonry, or drywall. If

					drywall construction is used, the conditions stipulated under <i>Cl.3.8.7b.(1) to (6)</i> shall be complied with.	drywall construction is used, the conditions stipulated under <i>Cl.3.8.7b.(1) to (56)</i> shall be complied with. The drywall shall also meet the criteria of cyclic loading and dynamic test as specified under <i>Cl.3.3</i> of the National Construction Code of Australia C 1.8.
14	3.8.8f.	01/03/2022	01/09/2022	Revised/ Clarification	A transom panel above the lift entrance shall be considered as part of the protecting structure and shall therefore conform to the fire resistance requirements of the protected structure	Fire resistance (1) A transom panel above the lift entrance shall be considered as part of the protecting structure and shall therefore conform to the fire resistance requirements of the protected structure (2) In the case of motor-room-less lifts, the lift control panel enclosure located at the lift lobby shall be compartmented with a fire-rated door of same rating as the lift shaft.
15	3.8.8g.	01/03/2022	01/09/2022	Clarification/ Relaxation	If it serves any basement storey, it shall be enclosed by a protected lobby with walls having 1-hr fire resistance rating and fire door of ½-hr fire resistance rating. If the protected lobby also acts as a smoke-free lobby required under <i>Cl.2.2.13</i> , it shall be	If it serves any basement storey, it shall be enclosed by a protected lobby with walls having 1-hr fire resistance rating and fire door of ½-hr fire resistance rating. If the protected lobby also acts as a smoke-free lobby required under <i>Cl.2.2.13</i> , it shall be

					<p>mechanically ventilated in accordance with <i>Cl.7.1.10</i>.</p> <p>Exception:</p> <p>Where the lift landing area is adjoining an air well or external space of minimum clear area 10m² and minimum width of 3m, the distance between the nearest edge of lift door opening to the air well shall not exceed 3m.</p>	<p>mechanically ventilated in accordance with <i>Cl.7.1.10</i>.</p> <p>Exception:</p> <p>(1) Where the lift landing area is adjoining an air well or external space of minimum clear area 10m² and minimum width of 3m, the distance between the nearest edge of lift door opening to the air well shall not exceed 3m.</p> <p>(2) Where the basement storey forms part of a building under PG I or a single household cluster housing compartment within a PG II development and has a basement area not exceeding 100m².</p>
16	6.1.2	01/03/2022	01/09/2022	Clarification/ Relaxation	<p>Provision</p> <p>a. Fire extinguishers shall be provided in all buildings except the following:</p> <p>(1) PG I buildings;</p> <p>(2) residential floors of PG II buildings; and</p>	<p>Provision</p> <p>a. Fire extinguishers shall be provided in all buildings except the following:</p> <p>(1) PG I buildings;</p> <p>(2) residential floors of PG II buildings; and</p>

					<p>(3) car parking areas in standalone car parks or mixed-use residential buildings.</p> <p>b. Where</p>	<p>(3) car parking areas in standalone car parks or mixed-use residential buildings.</p> <p>(4) roof level of single storey buildings with roof height not more than 12m or inaccessible pitched roof up to 24m from grade level used solely for roof-mounted PV installations in accordance with <i>Cl.10.2.1b.(1)</i>.</p> <p>(5) roof level of an external/ open-sided overhead bridge/ shed/ linkway/ walkway with clear width less than 6m, roof height not more than 12m and used solely for roof-mounted PV installations in accordance with <i>Cl.10.2.1b.(1)</i>.</p> <p>b. Where</p>
17	6.2.8a.(3)(c)	01/03/2022	01/09/2022	Clarification/ Relaxation	<p>Other standalone buildings as follows:</p> <p>(i)</p> <p>(ii)</p> <p>(iii)</p> <p>(iv)</p>	<p>Other standalone buildings as follows:</p> <p>(i)</p> <p>(ii)</p> <p>(iii)</p> <p>(iv)</p>

						<p>(v) Roof level of single storey buildings with roof height not more than 12m or inaccessible pitched roof up to 24m from grade level used solely for roof-mounted PV installations in accordance with <i>Cl.10.2.1b.(1)</i>.</p> <p>(vi) Roof level of an external/ open-sided overhead bridge/ shed/ linkway/ walkway with clear width less than 6m, roof height not more than 12m and used solely for roof-mounted PV installations in accordance with <i>Cl.10.2.1b.(1)</i>.</p>
18	6.3.1d.	01/03/2022	01/09/2022	Clarification/ Relaxation	New	<p>The following are not required to be provided with electrical fire alarm system:</p> <p>(1) Roof level of single storey buildings with roof height not more than 12m or inaccessible pitched roof up to 24m from grade level used solely for roof-mounted PV installations in accordance with <i>Cl.10.2.1b.(1)</i>.</p> <p>(5) Roof level of an external/ open-sided overhead bridge/ shed/ linkway/ walkway with clear width less than 6m, roof height not more than 12m and used solely for roof-mounted PV</p>

						installations in accordance with <i>Cl.10.2.1b.(1)</i> .
19	6.4.1f.(6)	01/03/2022	01/09/2022	Clarification/ Relaxation	<p>Exemption of sprinkler protection</p> <p>All of the following areas not located within PG VI or VIII buildings are exempted from sprinkler protection in a sprinkler-protected building:</p> <p>(1) Canopies/car porches</p> <p>(a)</p> <p>(b)</p> <p>(c)</p> <p>(2) External corridor</p> <p>.....</p> <p>(3) External/open-sided linkways</p> <p>.....</p> <p>(4) Covered areas</p> <p>.....</p> <p>(5) Open-to-sky roof gardens/ terraces</p>	<p>Exemption of sprinkler protection</p> <p>(1) All of the following areas are exempted from sprinkler protection in a sprinkler-protected building:</p> <p>(a) Covered areas</p> <p>Areas which in accordance with SS 645.</p> <p>(b) Areas under roof-mounted PV installations on non-habitable roof</p> <p>Each sub-array of PV installation shall not exceed 5m in width, with maintenance aisle of minimum 400mm width in between the sub-arrays. Each sub-array shall be open-sided without any commercial activities or storage within these areas. The maximum dimensions of PV arrays shall be in accordance with <i>Cl.10.2.1d.</i></p>

					<p>(2) All of the following areas not located within PG VI or VIII buildings-are exempted from sprinkler protection in a sprinkler-protected building:</p> <p>(a) Canopies/ car porches</p> <p>(i)</p> <p>(ii)</p> <p>(iii)</p> <p>(b) External corridor</p> <p>(c) External/ open-sided linkways</p> <p>(d) Open-to-sky roof gardens/ terraces </p>
20	6.6.4a.(6)	01/03/2022	01/09/2022	New	Nil	In the case of motor-room-less fire lifts, the fire lift control panel enclosure located at the fire lift lobby shall be compartmented with a fire-rated door of same rating as the lift shaft.

21	7.1.12	01/03/2022	01/09/2022	Clarification/ Relaxation	<p>Ventilation system for Fire Command Centre (FCC)</p> <p>The FCC can either be air-conditioned, naturally ventilated or mechanically ventilated. The air-conditioning or mechanical ventilation shall be independent of each other and any other system serving other parts of the building. Where mechanical ventilation is required, it shall also comply with all of the following requirements:</p> <p>a.</p>	<p>Ventilation system for Fire Command Centre (FCC)</p> <p>The FCC can either be air-conditioned, naturally ventilated or mechanically ventilated. The air-conditioning or mechanical ventilation shall be independent of each other and any other system serving other parts of the building. Where air-conditioning or mechanical ventilation is required provided, the fan coil unit or ventilation fan serving the FCC can be located within the FCC and shall also comply with all of the following requirements:</p> <p>a.</p>
22	9.3.3b.	01/03/2022	01/09/2022	Revised/ Clarification	<p>Workers' dormitory</p> <p>Workers' dormitories shall comply with the following additional requirements:</p> <p>a. Size</p>	<p>Workers' dormitory</p> <p>Workers' dormitories shall comply with the following additional requirements:</p> <p>a. Size</p>

					<p>Each dormitory bedroom shall not exceed 120m² and an occupant load of 20 persons.</p> <p>b. Occupant load</p> <p>The occupant load shall be based on accessible floor area on the basis of 6m² per person.</p> <p>c.</p>	<p>Each dormitory bedroom shall not exceed 120m² and an occupant load of 20 persons.</p> <p>b. Occupant load</p> <p>The occupant load shall be based on accessible floor area on the basis of 6m² 4.2m² per person in accordance with <u>Table 1.4B</u>.</p> <p>c.</p>
23	9.3.4i.	01/03/2022	01/09/2022	Revised/ Clarification	<p>Occupant load</p> <p>The occupant load shall be based on the floor area of the temporary workers' quarters on the basis of 6m² per person, excluding non-simultaneous areas such as toilets, kitchens etc., or the actual number of occupants for which each occupied space of the floor is designed as shown on the plan, whichever is greater.</p>	<p>Occupant load</p> <p>The occupant load shall be based on the floor area of the temporary workers' quarters on the basis of 6m² 4.2m² per person, excluding non-simultaneous areas such as toilets, kitchens etc., or the actual number of occupants for which each occupied space of the floor is designed as shown on the plan, whichever is greater.</p>
24	9.6.6	01/03/2022	01/09/2022	New	Nil	<p>Waste management and recycling premises involved in processing of flammable liquid waste</p> <p>a. General</p> <p>This set of fire safety requirements shall be applicable to waste</p>

						<p>management and recycling premises with any of the following processes:</p> <ol style="list-style-type: none">(1) reconditioning of empty storage container that is used to store flammable liquid;(2) disposal of flammable liquid waste; and(3) recovery of flammable liquid waste. <p>b. General requirements</p> <ol style="list-style-type: none">(1) Classification<ol style="list-style-type: none">(a) All recycling processes shall be classified under high hazard occupancy and shall only be located at grade level.(b) For disposal and recovery processes stipulated under <i>Cl.9.6.5a.(2)</i> and <i>(3)</i>, they shall comply with <i>Cl.9.8.4</i>.(2) Spillage control
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						<p>(a) Spillage control in accordance with SS 532 shall be provided to all areas where flammable liquid waste is located.</p> <p>(b) For reconditioning process, each untreated container will shall be assumed to contain a remnant capacity of 10% volume of the container or the actual declared content, whichever is larger, to determine the spillage control stipulated in <i>Cl.9.6.5b.(2)(a)</i>.</p> <p>(3) Electrical wiring and equipment</p> <p>All electrical wiring and equipment used within the processing areas shall be spark-proof and intrinsically safe in accordance with IEC 60079.</p> <p>(4) Ventilation</p> <p>Mechanical ventilation system in accordance with <i>Cl.7.1.14</i> shall be provided for disposal and recovery processes.</p>
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						<p>(5) External processing area (open-to-sky)</p> <p>(a) For external area, requirements stipulated in SS 532, e.g., separation distance, provision of fire engine access road, hydrant, etc., shall be complied with.</p> <p>(b) Where separation distance is not able to comply with requirements stipulated in SS 532, use of 4-hr fire resistance rating masonry wall is allowed provided all of the following are complied with:</p> <p>(i) The fire-rated wall shall be at least 1m above the stockpile and shall also intersect the direct line between the on-sites facilities and top of the stockpile. (see <i>Diagram 9.6.5b.(5)(c)(i)</i>).</p>
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(ii) The fire-rated wall shall be at least 2m beyond the outermost edge of the stockpile. (see *Diagram 9.6.5b.(5)(c)(ii)*).

(iii) When fire-rated wall is used, at least one façade shall remain open for firefighting accessibility.

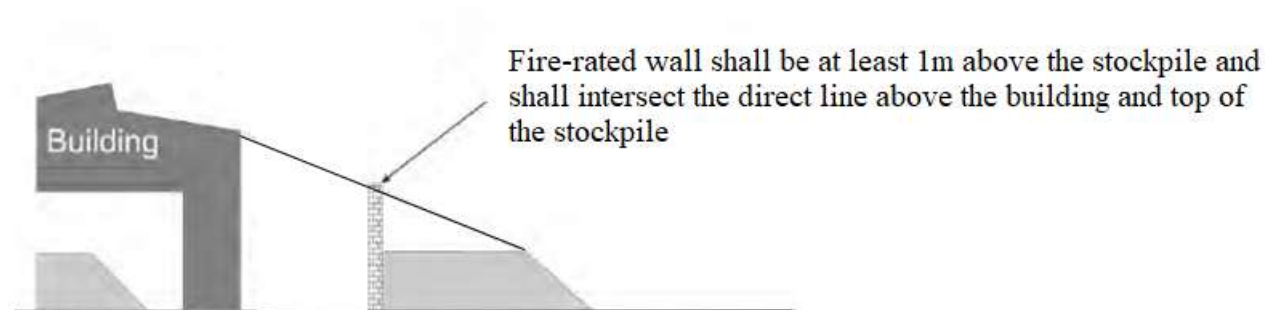


Diagram 9.6.5b.(5)(c)(i) - Use of fire-rated separating wall between processing area/storage to on-sites facilities

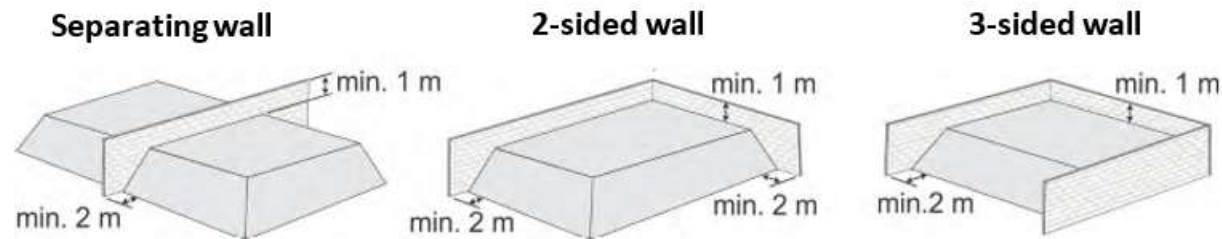


Diagram 9.6.5b(5)(c)(ii): Use of fire-rated separating wall between processing area/storage

25	9.7.2	01/03/2022	01/09/2022	Revised/ Clarification	<p>Hotels, boarding houses, serviced apartments, hostels, backpacker hotels & capsule hotels</p> <p>a. b. c. d. e. Visual alarm system</p> <p>At least 10% of the guestrooms or accommodation units shall be provided with visual alarms.</p>	<p>Hotels, boarding houses, serviced apartments, hostels, backpacker hotels, & capsule hotels & staff quarters</p> <p>a. b. c. d. e. Visual alarm system</p> <p>At least 10% of the guestrooms or accommodation units shall be provided with visual alarms. In the case of staff quarters accommodation units, this requirement need not be complied with.</p>
26	10.2	01/03/2022	01/09/2022	Revised/ Clarification	SOLAR PHOTO-VOLTAIC (PV) INSTALLATION	SOLAR PHOTO-VOLTAIC (PV) INSTALLATION

				<p>10.2.1 General</p> <p>This set stipulated in <i>Cl.9.1.1d</i>.</p> <p>10.2.2 Means of access</p> <p>a. For PV installations on the roof, at least one exit staircase shall be provided. Where the area of non-habitable roof is large and one-way travel distance to the exit cannot be met, an additional cat ladder or ship ladder adequately separated from the exit staircase, in accordance with <i>Cl.2.2.11</i> and leading to the circulation area of the floor below shall be provided.</p> <p>b. For buildings where plans submission on the installation of PVs on the roof level was made on or before 16 June 2016, the provision of single exit staircase is not required. Instead, a portable sturdy ladder to provide access to the roof shall be provided.</p>	<p>10.2.1 General Roof-mounted PV installations</p> <p>a. 10.2.1 General</p> <p>This set stipulated in <i>Cl.9.1.1d</i>.</p> <p>b. 10.2.2 Means of access</p> <p>a-(1) For access to PV installations on the roof (excluding non-PV areas), at least one exit staircase shall be provided. Where the area of non-habitable roof is large and one-way travel distance to the exit cannot be met, an additional cat ladder or ship ladder adequately separated from the exit staircase, in accordance with <i>Cl.2.2.11</i> and leading to the circulation area of the floor below shall be provided, except for the following:</p> <p>(a) Single storey buildings with roof height not more than 12m or inaccessible pitched</p>
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					<p>c. Single storey buildings with roof height not more than 12m or inaccessible pitched roof up to 24m from grade level are not required to provide a sturdy ladder, if there is a fire engine accessway fronting this installation.</p> <p>d. The computation of travel distance for roof areas which are open to the sky for any purpose group can be based on the requirement for sprinkler-protected compartments/buildings.</p> <p>e. All access hatches, if provided, shall be readily accessible from the roof. The access hatch opening shall have a minimum clear width of 1m in diameter.</p> <p>10.2.3 Fire resistance of PV modules</p> <p>a. The standard IEC 61730-2 stipulates the fire test for PV modules. The characteristics assessed in the fire test establish the fundamental fire resistance of PV modules mounted over an existing roof.</p>	<p>roof up to 24m from grade level are not required to provide a portable sturdy ladder or cat/ ship ladder. If there is a fire engine accessway road serving roof height not more than 12m or fire engine accessway serving inaccessible pitched roof exceeding 12m and up to 24m is provided, access to PV installation is not required.</p> <p>(b) External/ open-sided overhead bridge/ shed/ linkway/ walkway with clear width not more than 6m, roof height not more than 12m and without any commercial activities.</p> <p>b-(2) (2) For buildings shall be provided.</p>
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					<p>A minimum fire resistance rating Class C shall be provided for any roof-mounted PV module.</p> <p>b. System components associated with the PV modules, such as wirings and switchboard assemblies, shall comply with the installation requirements as stipulated in SS CP 5.</p> <p>10.2.4 Design and installation criteria</p> <p>a. Each array of a PV installation shall not exceed the maximum dimensions of 60m x 40m.</p> <p>b. A clearance of 3m around the access/hatch opening and in front of exit door (of exit staircase) shall be provided.</p> <p>c. Access aisles of minimum clear width of 1.5m shall be provided such that no part of any PV array is more than 20m from any of them. Where the access aisle abuts the edge of the roof, the clear width of the access aisle shall be at least 2.5m unless a perimeter</p>	<p>e.(3) Single storey fronting this installation. The computation buildings.</p> <p>d.(4) All access hatchesin diameter.</p> <p>e. All access hatchesin diameter.</p> <p>c. 10.2.3 Fire resistance performance of PV modules</p> <p>a. The standard IEC 61730-2 stipulates the fire test for PV modules. The characteristics assessed in the fire test establish the fundamental fire resistance of PV modules mounted over an existing roof. A minimum fire resistance rating Class C shall be provided for any roof-mounted PV module.</p> <p>b. System components associated with the PV modules, such as wirings and switchboard assemblies, shall comply with the installation</p>
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					<p>parapet/railing of height not less than 900mm is provided.</p> <p>d. Storages or services located below PV arrays shall be separated from the PV panels as follows:</p> <p>(1) for sprinkler-protected space below arrays, by providing a non-combustible separation, or</p> <p>(2) for non-sprinkler-protected space below arrays, by providing a 1-hr fire-rated separation.</p> <p>e. PV modules, wirings, switchboard assemblies and other equipment shall not cover any ventilation system on the roof (e.g. smoke control/ extraction systems or air well).</p> <p><i>(See Diagram 10.2.4)</i></p> <p>10.2.5 Emergency disconnection</p>	<p>requirements as stipulated in SS-CP-5.</p> <p>(1) PV modules shall meet a minimum of Class C for both spread of flame and burning brand tests, in accordance with IEC 61730-2.</p> <p>(2) System components associated with the PV modules, such as wirings and switchboard assemblies, shall comply with the installation requirements as stipulated in CP-5 SS 638.</p> <p>d. 10.2.4 Design and installation criteria</p> <p>a.(1) Each array</p> <p>b.(2) A clearance</p> <p>e.(3) Access aisles</p> <p>d.(4) Storages or services located below PV arrays excluding those stated under Cl.10.2.1b.(1)(b), shall be separated from the PV panels as follows:</p>
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					<p>a. Manual emergency shut-off system for the disconnection of the PV modules shall be provided on both the AC-power side (typically where inverters are placed) and the switch room side.</p> <p>b. Operating instructions for the emergency shut off system shall be placed at a height of between 1.5m to 2m from the floor and clearly displayed near to the emergency shut-off system.</p> <p>c. Simplified site plan with the position of PV modules and system circuit diagrams shall be placed at a height of between 1.5m to 2m from the floor and displayed close to the access openings or the exit staircase from the roof.</p>	<p>(a) for sprinkler-protected space below arrays, by providing a non-combustible separation, or</p> <p>(b) for non-sprinkler-protected space below arrays, by providing a 1-hr fire-rated separation.</p> <p>e.(5) PV modules</p> <p>e. 10.2.5 Emergency disconnection</p> <p>a.(1) Manual emergency shut-off system for the disconnection of the PV modules shall be provided on both the AC-power side (typically where inverters are placed) and the switch room side.</p> <p>b.(2) Operating instructions for the emergency shut off system shall be placed at a height of between 1.5m to 2m from the finished floor level and clearly displayed near to the emergency shut-off system.</p>
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						<p>e-(3) Simplified site plan with the position of PV modules and system circuit diagrams shall be placed at a height of between 1.5m to 2m from the finished floor level and displayed close to the access openings or the exit staircase from the roof.</p> <p>10.2.2 Wall-mounted PV installations</p> <p>a. General</p> <p>This set of fire safety requirements shall be applicable to wall-mounted PV installations.</p> <p>b. Fire performance of PV modules</p> <p>(1) PV modules shall comply with all of the following requirements:</p> <p>(a) the outer layers shall be constructed of glass or non-combustible material;</p> <p>(b) a minimum of Class B with Fire Growth Rate (FIGRA)</p>
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						<p>≤ 70 W/s under EN 13501-1;</p> <p>(c) a minimum of Class A for both spread of flame and burning brand for Module Safety Tests (MST) 23 (fire test), in accordance with IEC 61730-2;</p> <p>(d) at least a pass for MST 22 (hot spot endurance test), MST 25 (bypass diode thermal test) and MST 26 (reverse current overload test), in accordance with IEC 61730-2;</p> <p>(e) Junction boxes shall comply with IEC 61730-1 for glow wire test and achieve flammability class V-1 for outer accessible parts, flammability class HB for inner parts, flammability class 5V on the end-product and the result is assessed in</p>
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						<p>accordance with flammability class 5VB; and</p> <p>(f) Cables used shall comply with IEC 61730-1 for vertical flame propagation.</p> <p>(2) System components associated with the PV modules, such as wirings and switchboard assemblies, shall comply with the installation requirements as stipulated in SS 638.</p> <p>c. Design and installation criteria</p> <p>(1) PV installations shall comply with all of the following:</p> <p>(a) PV installations shall be mounted on external walls of at least 1-hr fire resistance.</p> <p>(b) PV installations shall be installed at least 5m vertically above grade level. Alternatively, PV installations can be installed 3m above grade</p>
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						<p>level, if a 1-hr fire-rated horizontal projection that extends at least 600mm from the building is installed beneath the PV installation.</p> <p>(c) PV installations shall be installed away from any unprotected openings, or combustible material/ construction within 1.5m horizontally or within 3m vertically, or adjacent to or facing it. Alternatively, the 3m vertical separation can be exempted if a 1-hr fire-rated horizontal projection that extends at least 600mm from the building is installed between the PV installation and the unprotected opening.</p> <p>(d) PV installations located adjacent to exit staircases shall comply with <i>Cl.2.3.3a.(3)</i> or <i>Cl.2.3.3b.(2)(b)</i>.</p> <p>(e) Only components (i.e. solar cables, junction box, etc.)</p>
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						<p>serving the PV installations are allowed to be run between the solar panels and the external wall.</p> <p>(f) All cables and related components shall be housed in a non-combustible conduit. The positive and negative DC cables shall be installed in separate containments.</p> <p>d. Emergency disconnection</p> <p>(1) Manual emergency shut-off system for the disconnection of the PV modules shall be provided on both the AC-power side (typically where inverters are placed) and the switch room side.</p> <p>(2) Operating instructions for the emergency shut-off system shall be placed at a height of between 1.5m to 2m from the finished floor level and clearly displayed near to the emergency shut-off system.</p>
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						(3) A simplified site plan with the position of PV modules and system circuit diagrams shall be placed at a height between 1.5m to 2m from the finished floor level and displayed close to the switch room or FCC, if applicable.
27	<u>Table 1.4A</u>	01/03/2022	01/09/2022	Revised/ Clarification	Existing <u>Table 1.4A</u>	See <u>Annex B</u> (affected portions of <u>Table 1.4A</u>)
28	<u>Table 1.4B</u>	01/03/2022	01/09/2022	Revised/ Clarification	Existing <u>Table 1.4B</u>	See <u>Annex B</u> (affected portions of <u>Table 1.4B</u>)
29	<u>TABLE 2.3.9k.(1) -1</u>	01/03/2022	01/09/2022	New	Nil	See <u>Annex B</u> (<u>TABLE 2.3.9k.(1) -1</u> : PRE-REQUISITES FOR USE OF ELECTROMAGNETIC/ ELECTROMECHANICAL LOCKING DEVICE)
30	<u>TABLE 2.3.9k.(1) -2</u>	01/03/2022	01/09/2022	New	Nil	See <u>Annex B</u> (<u>TABLE 2.3.9k.(1) -2</u> : DE-ENERGISE REQUIREMENTS FOR ELECTROMAGNETIC/ ELECTROMECHANICAL LOCKING DEVICE)
31	<u>Annex 3B</u>	01/03/2022	01/09/2022	Revised/ Clarification	Existing <u>ANNEX 3B - LIMITS OF UNPROTECTED OPENINGS</u>	See <u>Annex B</u> (affected portions of <u>ANNEX 3B - LIMITS OF UNPROTECTED OPENINGS</u>)

32	<u>Table 6.4A</u>	01/03/2022	01/09/2022	Revised/ Clarification	Existing <u>Table 6.4A</u>	See <u>Annex B</u> (affected portions of <u>Table 6.4A</u>)
33	<u>Table 11A</u>	01/03/2022	01/09/2022	Revised/ Clarification	Existing <u>Table 11A</u>	See <u>Annex B</u> (affected portions of <u>Table 11A</u>)

TABLE 1.4A - DESIGNATION OF PURPOSE GROUPS			
Purpose Group (PG)	Descriptive Title	Purpose for which building or part of the building is used or intended to be used	
III	Institutional	Establishments used for treatment, care or maintenance of persons suffering from disabilities, such as:	
		<ul style="list-style-type: none"> • community hospital • convalescent home • home for intellectually disabled • home for the aged 	<ul style="list-style-type: none"> • home for the spastic • hospice • hospital • psychiatric hospital • nursing home
		Establishments used for care or maintenance of young/dependent persons, such as:	
		<ul style="list-style-type: none"> • children's home • correction centre • daycare centre • detention centre • dialysis centre 	<ul style="list-style-type: none"> • infant-care centre • rehabilitation centre • school for the spastic • senior activity centre • orphanage
		Establishments used for educational/training purposes, such as:	
		<ul style="list-style-type: none"> • college • commercial/private school • enrichment centre • kindergarten/nursery • military camp 	<ul style="list-style-type: none"> • polytechnic • public school • tuition centre • university • vocational institution
		Establishments used for staff /worker lodging purposes, such as:	
		<ul style="list-style-type: none"> • staff quarter • wardens' accommodation 	<ul style="list-style-type: none"> • workers' dormitory

TABLE 1.4A - DESIGNATION OF PURPOSE GROUPS			
Purpose Group (PG)	Descriptive Title	Purpose for which building or part of the building is used or intended to be used	
VII	Place of public resort	Premises/areas/spaces/floors used for public accommodation purpose, such as:	
		<ul style="list-style-type: none"> • backpacker hotel • boarding house • hotel • staff quarters 	<ul style="list-style-type: none"> • holiday resort • serviced apartment • student hostel
		Premises/areas/spaces/floors used for educational purpose, such as:	
		<ul style="list-style-type: none"> • auditorium • convention centre • exhibition centre 	<ul style="list-style-type: none"> • museum • public art gallery • public library
		Premises/areas/spaces/floors used for social purpose such as:	
		<ul style="list-style-type: none"> • community centre 	<ul style="list-style-type: none"> • private club
		Premises/areas/spaces/floors used for entertainment purpose, such as:	
		<ul style="list-style-type: none"> • casino • cinema • concert hall • discotheque 	<ul style="list-style-type: none"> • internet gaming centre • karaoke lounge • night club • theatre
		Premises/areas/spaces/floors used for religious purpose, such as:	
		<ul style="list-style-type: none"> • church • mosque 	<ul style="list-style-type: none"> • temple
		Premises/areas/spaces/floors used for body treatment purpose, such as:	
		<ul style="list-style-type: none"> • body massage • foot reflexology 	<ul style="list-style-type: none"> • gymnasium • Spa
		Premises/areas/spaces/floors used for recreational purpose, such as:	
		<ul style="list-style-type: none"> • amusement centre • billiard/snooker centre • bowling centre • roof garden/terrace • sky garden/terrace 	<ul style="list-style-type: none"> • public sport complex • public swimming complex • stadium
		Premises/areas/spaces/floors used for F&B purpose, such as:	
		<ul style="list-style-type: none"> • cafeteria • canteen • coffee shop • eating house • fast food outlet 	<ul style="list-style-type: none"> • food court • hawker centre • Pub/bar • restaurant
Premises/areas/spaces/floors used for transportation purpose, such as:			

Annex B

	<ul style="list-style-type: none"> • airport terminal • bus terminal 	<ul style="list-style-type: none"> • ferry terminal • train station
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TABLE 1.4B : OCCUPANCY LOAD FACTORS		
FUNCTIONAL SPACE	FACTOR (m²/person)	REMARKS
Dormitory	64.2	bedroom only, excluding living area, toilet, etc.
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 15m²/person, whichever is higher
Staff quarters	15	min. 2 persons per room or 15m²/person, whichever is higher
religious buildings	15	
nursing care facility	5	
Student bedroom	15	<ul style="list-style-type: none"> • including other areas such as attached living area or toilet • min. 2 persons per room or 15m²/person, whichever is higher

TABLE 2.3.9k.(1) -1 : PRE-REQUISITES FOR USE OF ELECTROMAGNETIC/ ELECTROMECHANICAL LOCKING DEVICE

Location	Approved automatic fire alarm or sprinkler systems	Emergency lighting*	Manual override device (Emergency Door Release)**
1. Exit access doors and/or exit doors in all common areas (e.g. exit staircase, internal exit passageway, final discharge doors, smoke-free/fire lift lobbies and common area corridors), but excluding revolving doors and doors to residential units 2. Exit access doors and/or exit doors used for staircase re-entry which comply with <i>Cl.2.3.9l</i> .	Yes	Yes	Yes
Doors to access essential rooms for fire protection systems, as stipulated under <i>Cl.8.2.2b</i> .	Yes	Yes	Yes
Exit access doors and/or exit doors within tenanted units	Not required provided in accordance with <i>Cl.2.3.9k.(2)</i>	Yes	Yes

<p>Exit access door and/or exit door to rooms in common areas which require restricted access and are not normally occupied, for instance:</p> <ol style="list-style-type: none"> 1. Power Supply / Switch Room 2. Transformer Room 3. Chiller Plant Room / Cooling Tower 4. Air Handling Unit Room 5. Non-essential Fan Room 6. Control Centre / Room 7. Communication / Control / Signalling Equipment Room 8. Telecommunication Room 9. Server Room, etc. 	<p>Yes</p>	<p>Yes</p>	<p>Yes</p>
<p>Note:</p> <ul style="list-style-type: none"> - Linking of the locking devices through other systems to the building fire alarm system or sprinkler system is not permitted. * Manual override devices shall be provided with a minimum level of illuminance in accordance with SS 563. ** Activation of manual override device for emergency door release shall automatically and immediately unlock the doors to facilitate egress. The manual override device shall be located within the occupancy space, 1.2m above the finished floor level and within 1.5m of the door jamb. The manual override device shall be readily accessible and clearly identified by a sign that reads “Emergency Door Release”. Any device used by staff for access control to facilitate their day-to-day operations shall not be considered as a substitute for the manual override device. 			

TABLE 2.3.9k.(1) – 2 : DE-ENERGISE REQUIREMENTS FOR ELECTROMAGNETIC/ELECTROMECHANICAL LOCKING DEVICE

Location	Any power failure to affected spaces/areas	Under building fire alarm activation	Any fault in the locking devices/components related to the release of locking mechanism*
<p>1. Exit access doors and/or exit doors in all common areas (e.g. exit staircase, internal exit passageway, final discharge doors, smoke-free/fire lift lobbies and common area corridors), but excluding revolving doors and doors to residential units</p> <p>2. Exit access doors and/or exit doors used for staircase re-entry which comply with <i>Cl.2.3.9l</i>.</p>	<p>To be released immediately***</p> <p>To be released immediately***</p>	<p>To be released immediately</p> <p>To be released immediately</p>	<p>To be released immediately</p> <p>To be released immediately</p>
<p>Doors to access essential rooms for fire protection systems, as stipulated under <i>Cl.8.2.2b</i>.</p>	<p>Release not required</p>	<p>To be released immediately</p>	<p>Release not required</p>
<p>Exit access doors and/or exit doors within tenanted units</p>	<p>Release not required</p>	<p>Release not required **</p>	<p>Release not required</p>

<p>Exit access door and/or exit door to rooms in common areas which require restricted access and normally not occupied, for instance:</p> <ol style="list-style-type: none"> 1. Power Supply / Switch Room 2. Transformer Room 3. Chiller Plant Room / Cooling Tower 4. Air Handling Unit Room 5. Non-essential Fan Room 6. Control Centre / Room 7. Communication / Control / Signalling Equipment Room 8. Telecommunication Room 9. Server Room, etc. 	<p>Release not required</p>	<p>To be released immediately</p>	<p>Release not required</p>
<p>Note:</p> <ul style="list-style-type: none"> * Excluding faults on other access control devices such as card readers, override key-switches, non-emergency exit buttons, etc. ** Unless exception stated under <i>Cl.2.3.9k.(2)</i> *** EM locking device can be manually re-engaged after it has been released, provided such a device complies with the following: <ol style="list-style-type: none"> (1) There is no activation of any fire detection system and it has been visually verified that there is no fire; and (2) A device to re-engage the EM locking shall be provided at the FCC, or any 24-hourly manned station if FCC is not available. 			

ANNEX 3B - LIMITS OF UNPROTECTED OPENINGS

B1.0 CALCULATION OF PERMITTED LIMITS OF UNPROTECTED AREAS

B1.1

B2.0 RULES OF CALCULATION BY REFERENCE TO AN ENCLOSING RECTANGLE

B2.1 The conditions of this Part of this Annex shall be satisfied if a building or compartment is so situated that no point on the relevant boundary is either between the relevant plane of reference and the side of the building or compartment or at a distance from the relevant plane of reference which is less than the distance specified in the Tables to this Part of this Annex, according to the purpose group of the building or compartment, the dimensions of the enclosing rectangle and the unprotected percentage. **Linear interpolation to determine the setback distance using Table 1 & 2 is permitted, provided the unprotected percentage falls between 20% and 100%.**

B2.2 For the purpose of this Part of this Annex:

a.

Annex B

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)
.....
Telecommunication/ Non-essential equipment room ⁽⁴⁾	N	N	B	B	Ex
			N	N	S
MDF room	N	N	B	B	Ex
			N	N	S
PABX room	N	N	B	B	Ex
			N	N	S
Note: (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.					

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

S/N	Products / Materials	Acceptable Standards	Certification Scheme	Surveillance Regime	
				Testing	Factory/Site Inspection
20	Fire-rated door (including door closer)	<p>19.1 20.1 Fire-rated door (a) SS 332 Clause 5 or EN 1634-1</p> <p>and</p> <p>(b) Mechanical test for relevant hardware as stipulated in SS332 (wherever applicable if installed on the fire door):</p> <p>EN 179, EN 1125, EN 1155, EN 1158, EN 1303, EN 1906, EN 1935, EN 12051, EN 12209, EN 14846, EN 15684</p> <p>If product includes glass (excl. vision panel), to also conduct impact test:</p> <p>(c) BS-6206</p> <p>or</p> <p>AS 2208</p> <p>or</p> <p>EN 12600</p> <p>and</p> <p>(d) Door Closer (refer to S/N 19.2 20.2)</p>	Scheme 5 (Labels issued)	<p>Fire test:</p> <p>Timber/composite door – at least once annually</p> <p>Steel/glass door – once every 3 years</p> <p>Impact test for fire-rated glass door – once every 3 years</p>	<p>Scheme 5 – Factory inspection to be conducted at least once annually and Site inspection(s) triggered by certification body⁽¹⁰⁾</p>
		<p>or</p> <p>AS 2208</p> <p>or</p> <p>EN 12600</p> <p>and</p> <p>(d) Door Closer (refer to S/N 19.2 20.2)</p>	Scheme 1b (Labels issued)		<p>Scheme 1b – Batch inspection⁽¹¹⁾ and Site inspection triggered by certification body for each batch⁽¹⁰⁾</p>
		<p>19.2 20.2 Door closer (a) EN 1154 or SS 332 Clause 6 Annex C</p>	Scheme 5 (Labels issued)	<p>Mechanical Test at least once annually based on EN 1154 or SS 332 Clause 6 Annex C</p>	<p>Factory inspection to be conducted at least once annually and Site inspection(s) triggered by certification body⁽¹⁰⁾</p>

S/N	Products / Materials	Acceptable Standards	Certification Scheme	Surveillance Regime	
22	Fire-rated lift landing / dumb waiter door	For lift-landing door: (a) BS 476-22 or EN 81-58 For dumb waiter door: (b) BS 476-22 and If product (lift-landing door or dumb waiter door) includes glass (excl. vision panel), to also conduct impact test: (c) BS 6206 or AS 2208 or EN 12600	Scheme 1b (Labels issued)	Fire test once every 3 years Impact test once every 3 years	Batch inspection ⁽¹¹⁾ and Site inspection triggered by certification body for each batch ⁽¹⁰⁾

S/N	Products / Materials	Acceptable Standards	Certification Scheme	Surveillance Regime	
39.	Solar Photo-voltaic (PV) roof-mounted module:	<p>39.1 Roof-mounted module:</p> <p>IEC 61730-2 (MST 23 – spread of flame and burning brand tests under Annex B) with a minimum fire performance rating of Class C</p>	Scheme 2	Biennial surveillance fire test in accordance to with IEC 61730-2 (fire test only) MST 23 – spread of flame and burning brand tests under Annex B) as adopted at the point of CoC listing	Not applicable
		<p>39.2 Wall-mounted module:</p> <p>(a) IEC 61730-2 (MST 22, 23, 25 and 26). For MST 23, spread of flame and burning brand tests under Annex B with fire performance rating of Class A</p> <p>and</p>	Scheme 5 (DoCs issued)	Scheme 5 - Annual surveillance test for EN 13501-1 as adopted at the point of CoC listing	Factory inspection to be conducted at least once annually
		<p>(b) EN 13501-1 (min. Class B with FIGRA \leq 70 W/s)</p> <p>and</p> <p>(c) Junction box IEC 61730-1 (for glow wire test and flammability classification)</p> <p>and</p> <p>(d) Solar cables IEC 61730-1 (for vertical flame propagation)</p>	Scheme 1b (DoCs issued)	Scheme 1b - Batch testing in accordance with EN 13501-1 as adopted at the point of CoC listing	Site inspection to be conducted for every project