



FIRE SAFETY AND SHELTER DEPARTMENT
SINGAPORE CIVIL DEFENCE FORCE

FIRE SAFETY REQUIREMENTS FOR LIFT RESCUE

FSR 5:2010

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FIRE SAFETY REQUIREMENTS FOR LIFT RESCUE

1 SCOPE

- 1.1 This FSR stipulates the fire safety provisions for performing lift rescue operation in buildings with blind lift hoist ways exceeding 11m.
- 1.2 The fire safety requirements stipulated herein shall be applicable to buildings of all purpose groups except purpose group I.

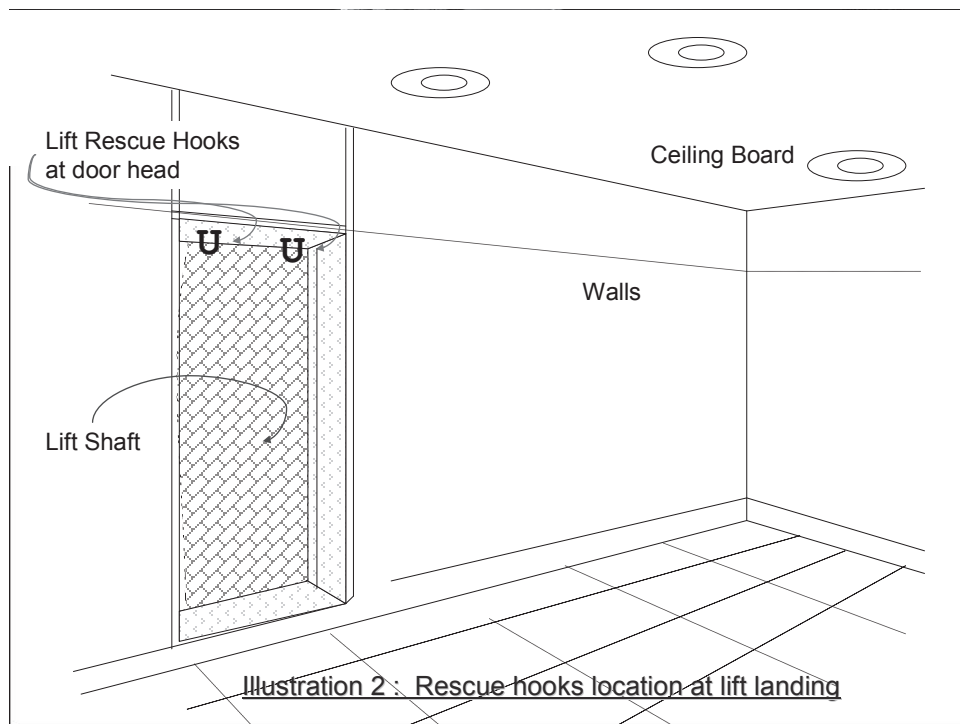
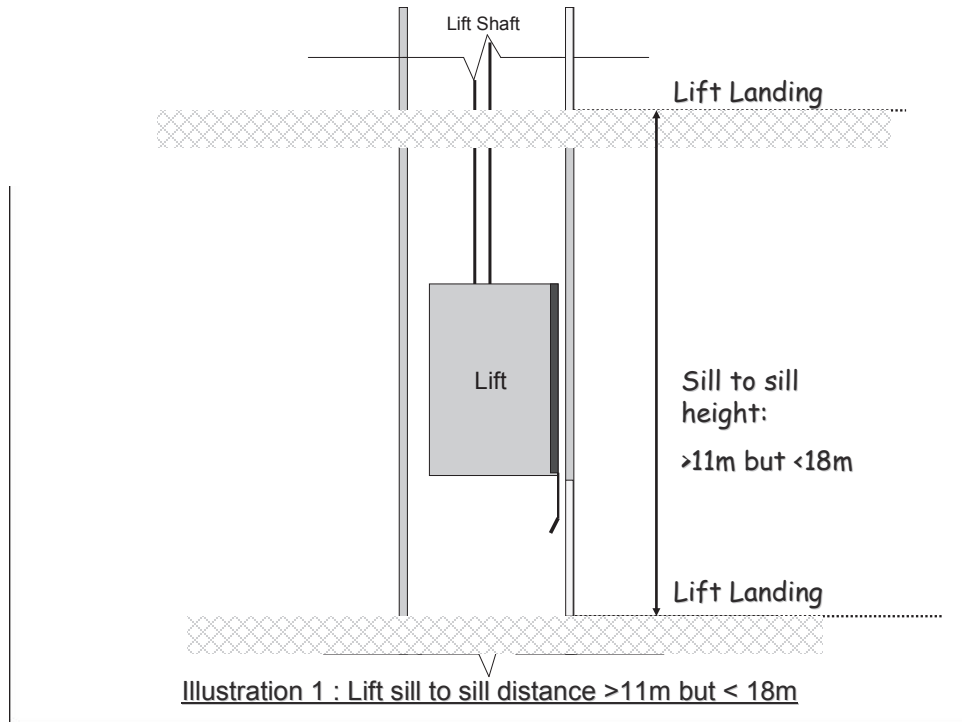
2 GENERAL

- 2.1 This FSR shall be read in conjunction with the Code of Practice for Installation, Operation and Maintenance of Electric Passenger and Goods Lifts, published by SPRING Singapore.
- 2.2 This FSR shall take precedence in the event that the requirements stipulated herein contradict with those in the above-mentioned Code of Practice.

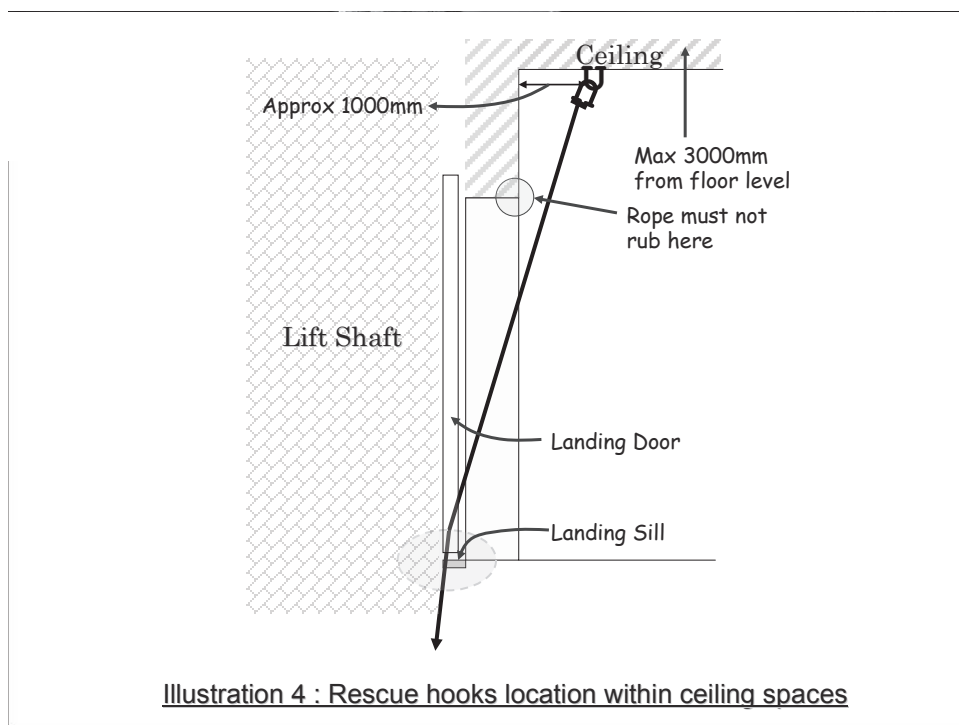
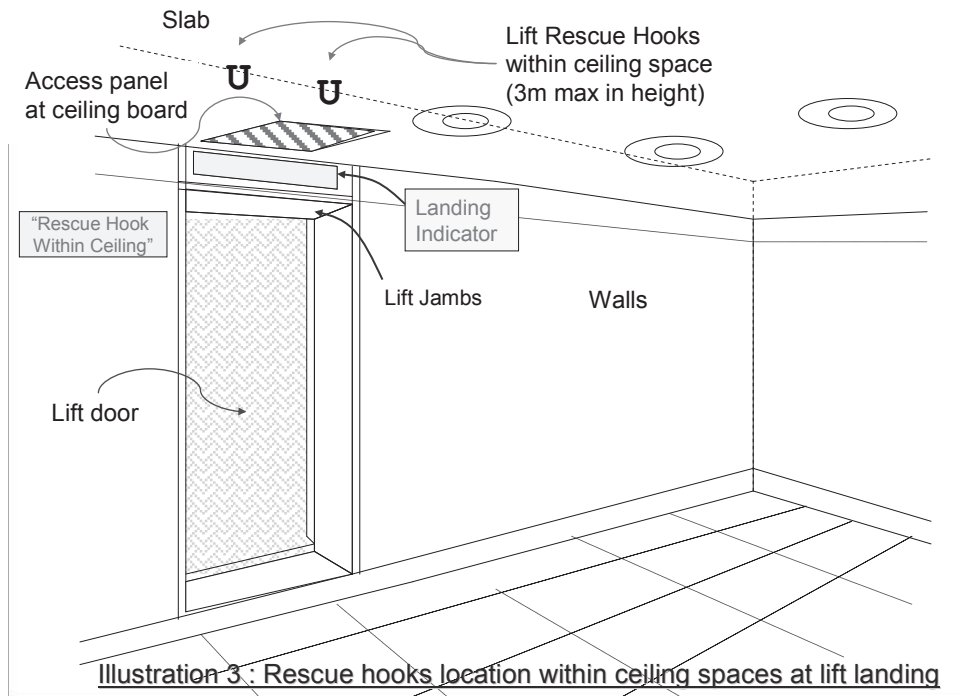
3 FIRE SAFETY PROVISIONS

3.1 Rescue Hooks

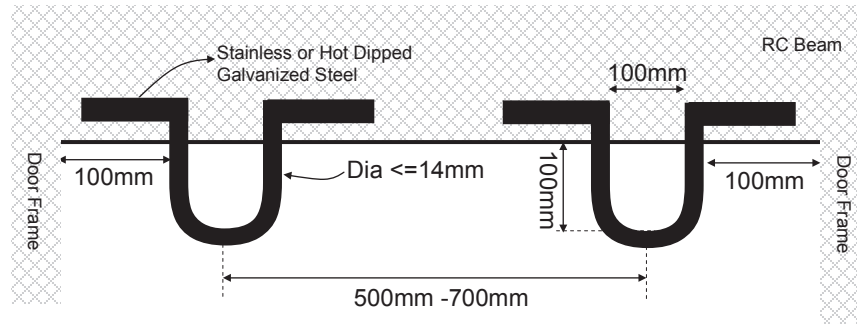
- 3.1.1 When the distance between consecutive lift landing doorsills exceeds 11m but not more than 18m, rescue hooks meeting the requirements stipulated under clause 3.1.3 shall be provided at the underside of the upper lift landing door head.



3.1.2 Alternatively, these hooks can also be installed in the ceiling space directly above the upper lift landing door such that the heights of these hooks are not more than 3m above the finished floor level of that upper lift landing and at an approximate distance of 1m away from the lift shaft wall. The ceiling space shall be easily accessible and a visible sign shall be provided to indicate the locations of the rescue hooks.



- 3.1.3 Each rescue hook shall have pull-out strength of not less than 1000kg (10 kN) and a thickness of not more than 14mm in diameter. The clear space between the hook and the emergency door frame shall not be less than 100mm and the spacing between the two hooks shall be between 500 to 700mm.



Note: Pull down capacity = 10KN

Illustration 5 : Rescue Hook

3.2 Landing Emergency Doors

- 3.2.1 When the distance between consecutive lift landing doorsills exceeds 18m, intermediate landing emergency doors shall be provided, such that the distance between sills is not more than 18m. This requirement is not called for in the case of adjacent cars, each fitted with a car emergency door meeting the requirements of clause 3.3.

- 3.2.2 The landing emergency doors shall conform to the following requirements:

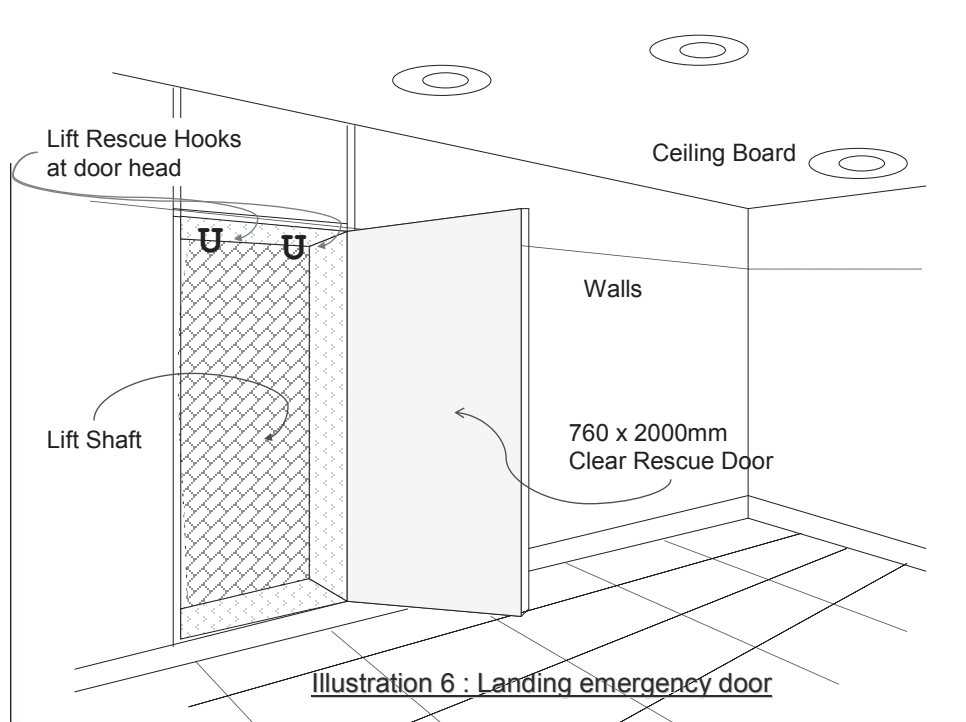
- They shall be at least 760mm wide and 2m high (clear opening);
- They shall be easily accessible and free from fixed obstructions;
- They shall be either of the horizontally sliding or swinging single section type, irrespective of the type of door installed at the other landings;
- They shall be self-closing and self-locking and shall be marked in letters not less than 50mm high,

“DANGER, LIFT WELL”

- They shall be provided with a landing door lock which can be unlocked only from the landing side through the use of a key. The lock shall not be

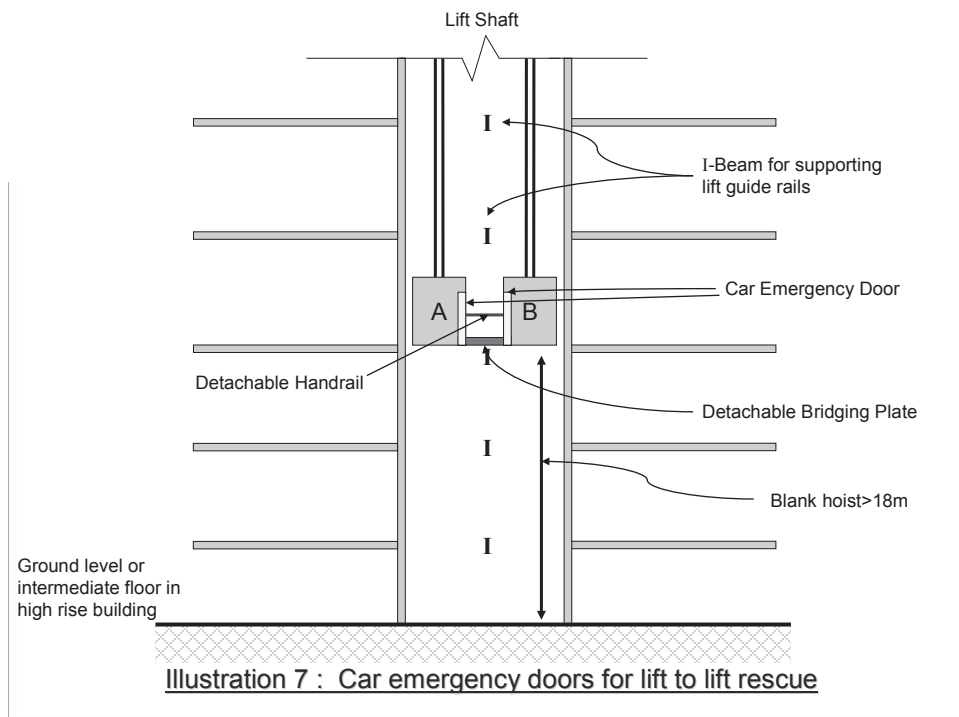
unlocked by any key which will open any other lock or device used for any other purpose in the building. The key shall be kept where it is accessible only to authorized persons;

- (f) Each door shall be provided with an electrical contact the opening of which will render the lift inoperative;
- (g) Two rescue hooks meeting the requirements stipulated under clause 3.1.3 shall be provided at the underside of each emergency door head. Alternatively, these hooks can also be installed in the ceiling space as stipulated under clause 3.1.2



3.3 Car Emergency Doors

- 3.3.1 When car emergency doors are provided in adjacent cars to permit the lift-to-lift rescue and evacuation of passengers, there shall be no limit on the maximum allowable length of the blind lift hoist way.



3.3.2 When car emergency doors are provided, the following requirements shall be complied with:

- (a) The horizontal distance between cars shall not exceed 750mm.
- (b) Car emergency doors shall measure at least 1800mm high and 350mm wide.
- (c) Car emergency doors shall be opened from outside the car without a key and from inside the car using a key.
- (d) Car emergency doors shall not open towards the outside of the car.
- (e) Car emergency doors shall not be located in the path of a counterweight or in front of a fixed obstacle (except for beams separating the cars) preventing passage from one car to another.
- (f) A set of detachable bridging plate and handrail, painted in bright yellow colour, 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.
- (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.

- (h) Each car emergency door shall be provided with an electrical contact the opening of which will render the lift inoperative. Safety feature to prevent the lift from operating when the bridging plate or the handrail is deployed shall also be provided.

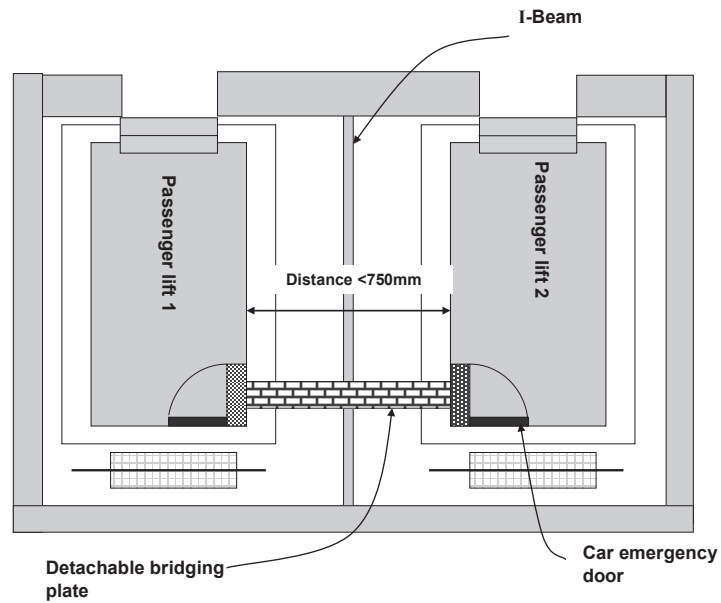


Illustration 8 : Car emergency doors-Deployment of bridging plate