

### 3.9. Elevator Evacuation

**3.9.1.** Use of elevators for emergency evacuation is inevitable in tall and super high rise buildings. International codes and standards are under development process to prescribe minimum requirements on elevators as means of egress.

**3.9.2.** Civil Defence has considered elevators as means of egress for delayed egress, phased evacuation and controlled evacuation under supervision of trained facility management or Civil Defence personnel during emergencies.

**3.9.2.** Elevators shall be considered as component of means of egress but shall not compensate for required number of exits nor required exit capacity.

**3.8.3.** Elevators used as means of egress shall comply with **Table 3.11**. Also see **Chapter 1, Table 1.9.38**, **Chapter 1, Figure 1.8**. **Chapter 2, Section 2.9.4**.

#### Did You Know?

Though traditionally evacuation using elevators is discouraged, the 9/11 incident investigation and trend of Super Highrise living and working spaces, there is a level of acceptance of Elevators as means of evacuation.

**Table 3.11: Elevator as Means of Egress**

ITEMS	REQUIREMENTS
<b>1. ASSISTED EVACUATION</b>	<ul style="list-style-type: none"> <li>i. Unless evacuation is assisted by facility management and Civil Defence rescue team, elevators shall not be used for evacuation, unless alternatives are approved by Civil Defence.</li> <li>ii. The elevator evacuation strategy, procedure, responsibilities of parties involved shall be preplanned and documented by facility management.</li> </ul>
<b>2. PREREQUISITES</b>	<ul style="list-style-type: none"> <li>i. Building shall be fully sprinklered.</li> <li>ii. Elevator shall be provided with a lobby.</li> <li>iii. Elevator shafts shall be pressurized.</li> <li>iv. Elevator shall have two-way communication system.</li> <li>v. Voice evacuation system shall be clearly audible in the elevator lobby.</li> <li>vi. Wiring for elevator equipment, elevator car lighting, lobby pressurization shall be 2 hour fire rated.</li> </ul>
<b>3. WATER RESISTANCE</b>	<ul style="list-style-type: none"> <li>i. Elevators shall be water resistant and listed and approved as per ASME A17.1/CSA B44, Safety Code for Elevators and Escalators.</li> </ul>
<b>4. EMERGENCY POWER</b>	<ul style="list-style-type: none"> <li>i. Elevators shall have emergency power backup.</li> <li>ii. Shunt breakers shall not be installed on elevator systems.</li> </ul>
<b>5. CONFIGURATION</b>	<ul style="list-style-type: none"> <li>i. Elevators shall have over riding key feature which enables rescue teams to resume power supply to elevator, over ride the selection of destination floor, door opening, door closure or Phase I recall to designated discharge floor.</li> <li>ii. Emergency Command Center shall be provided with the means to manually initiate a Phase I Emergency Recall of the occupant evacuation elevators in accordance with ASME A17.1/CSA B44.</li> <li>iii. During power failure, elevator shall return to designated discharge level.</li> <li>iv. The activation of smoke detectors or pre-action sprinkler system at the elevator machine room shall disable power supply and all features of elevator evacuation. And elevator shall not be available for evacuation.</li> </ul>