

Table 10.1.: Components of Smoke Control and HVAC Systems

ITEMS	REQUIREMENTS
<b>7. SMOKE CURTAINS (SMOKE SCREENS)</b>	<ul style="list-style-type: none"> <li>i. Listed and approved smoke curtains shall be permitted to achieve the desired smoke control strategies to limit the smoke spread to certain zone or to channelize the smoke towards the extract fans to enhance the extract fan performance and quick smoke clearance.</li> <li>ii. All smoke curtains where required, unless permanently fixed in position, shall be brought into the position automatically to provide adequate smoke-tightness and effective depth. The effective depth in general is 20% of the total floor ceiling height of the space.</li> <li>iii. A smoke curtain or other smoke barrier at any access route forming part of or leading to a means of escape shall not in their operational position obstruct the escape of people through such route. See <b>Figure 10.7.</b> for illustrations. However, the head room of clear 2030 mm shall be maintained in the escape route.</li> <li>iv. Smoke curtains shall not be installed as fire curtains to establish fire compartments.</li> <li>v. Smoke curtains shall be automatic, tested and approved in accordance with test standards mentioned in <b>Section 6.</b></li> </ul>
<b>8. FIRE DAMPER</b>	<p><b>1. GENERAL</b></p> <ul style="list-style-type: none"> <li>i. Duct penetrations of fire walls should be avoided.</li> <li>ii. Approved fire dampers shall be provided for air transfer openings in walls or partitions required to have a fire-resistance rating of 2 hour or more.</li> <li>iii. Where air ducts extend through only one floor and serve only two adjacent stories, the air ducts shall be enclosed, or fire dampers shall be installed at each point where the floor is penetrated. See <b>Figure 10.8.</b> for illustrations.</li> <li>iv. The ceiling radiation Fire Damper is required for Floor/Ceiling or Roof/Ceiling assemblies to automatically limit the radiated heat transfer through an air inlet/outlet opening.</li> <li>v. Fire dampers used in any sensitive buildings as healthcare facilities, hotels (occupancy with sleeping risk), education buildings, and any buildings where the habitable height exceeds 23 m shall be controlled by an automatic alarm-initiated device, and shall ensure no smoke leakage and no heat transfer occurs.</li> <li>vi. Fire dampers shall be with fusible link for HVAC systems and motorized (MSFD) for any active smoke control system. The motorized dampers shall be interfaced with smoke control, HVAC or FACP in accordance with design strategy.</li> </ul>

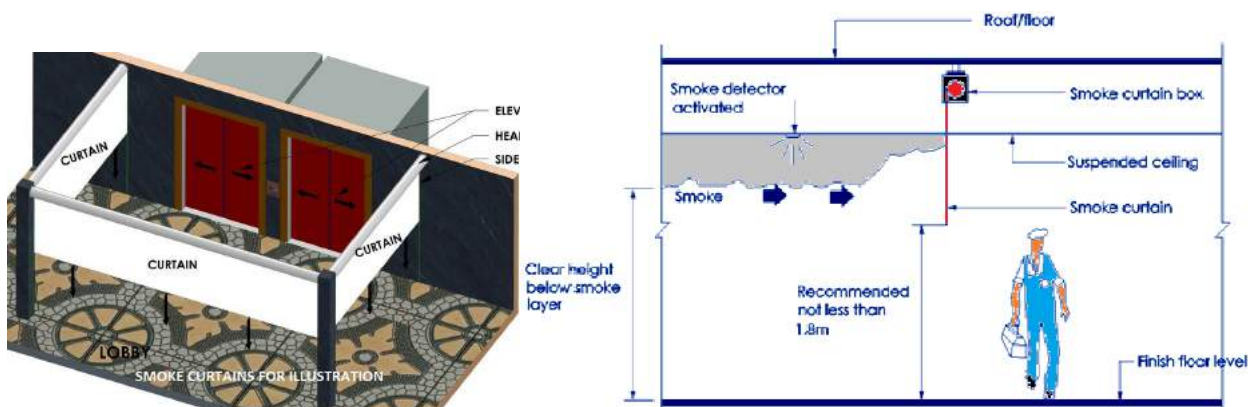


Figure 10.7: Smoke Curtain Obstruction to means of egress