

**Table 10.3.: General Requirements for Smoke Control Systems**

ITEMS	REQUIREMENTS
<b>5. EMERGENCY POWER</b>	<ul style="list-style-type: none"> <li>i. All the smoke control systems shall be provided with a secondary source of power supply.</li> <li>ii. Such emergency backup power supply shall be calculated for the entire smoke control equipment that is required to activate as smoke control strategy.</li> </ul>
<b>6. CIRCUIT PROTECTION</b>	<ul style="list-style-type: none"> <li>i. The fans and associated smoke control equipment shall be wired with a 2 hour fire-resistance rating and protected circuits designed to ensure a continued operation in the event of the fire. See <b>Section 6.</b> for cable details.</li> <li>ii. Where fire resistance rated wiring is not used for smoke control systems, wiring shall be in 2 hour fire resistance rated shafts.</li> <li>iii. Metal conduits in lieu of 2 hour fire resistance rating shall not be acceptable.</li> <li>iv. The electrical supply to the fans shall, in any case, be connected to a sub-main circuit exclusive thereto after the main isolator of the building.</li> </ul>
<b>7. SYSTEM ACTIVATION</b>	<ul style="list-style-type: none"> <li>i. The smoke control system shall be activated by a sprinkler activation, smoke detectors or beam detectors located in the same smoke control zone.</li> <li>ii. Delay in smoke control system activation with respect to sprinkler system activation shall be permitted, provided justified by an engineering analysis.</li> <li>iii. Use of smoke or beam detectors for activation must be carefully designed so that accidental or premature activation of the detectors on a non-fire zone due to smoke spills or spread from other areas can be avoided.</li> <li>iv. A remote manual activation and control switches (Smoke Control Panel, SCP, See <b>Table 10.1.11.</b>) as well as a visual indication of the operation status of the smoke control system shall also be provided at the fire command center or at main fire alarm panel.</li> <li>v. The time taken for the smoke control system within a smoke zone to be fully operational shall not exceed 60 seconds from system activation.</li> </ul>
<b>8. HVAC SHUTDOWN</b>	<ul style="list-style-type: none"> <li>i. The air-conditioning and ventilation systems (HVAC Systems) within part of the fire zone shall be shut down automatically upon activation of the smoke control system.</li> <li>ii. The automatic shut down of the air handling Unit shall not affect the dedicated and independent ventilation system of the following areas: <ul style="list-style-type: none"> <li>a. Exit staircases and exit passageways.</li> <li>b. Smoke free lobbies and fire fighting lobbies.</li> <li>c. Lift shafts.</li> <li>d. Areas of refuge</li> <li>e. Basement car parks.</li> <li>f. Emergency command center.</li> <li>g. Flammable and hazardous material storage.</li> <li>h. Emergency generator room.</li> <li>i. Fire pump room</li> </ul> </li> </ul>
<b>9. HVAC USAGE</b>	<ul style="list-style-type: none"> <li>i. Where justified by design and engineering analysis, HVAC system shall be permitted to be active and part of the smoke control zoning supply air requirements, provided the components of such HVAC systems comply with <b>Table 10.1.3.2. Smoke Control Systems Ducts.</b></li> </ul>