

Table 10.1.: Components of Smoke Control and HVAC Systems

| ITEMS | REQUIREMENTS |
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| 9. SMOKE DAMPERS | 1. GENERAL <ul style="list-style-type: none"> i. Smoke dampers shall be installed and maintained in accordance with NFPA 105, Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives or as per Section 6 requirements. ii. Smoke dampers shall be motorized and controlled by an automatic alarm-initiated device. |
| | 2. AREAS WHERE SMOKE DAMPERS ARE REQUIRED <ul style="list-style-type: none"> i. HVAC duct branching serving apartments, dwelling units, health care sleeping units, class rooms, detention and correction cells shall be provided with smoke dampers. ii. Smoke dampers shall be installed at or adjacent to the point where air ducts pass through required smoke barriers, but in no case shall a smoke damper be installed more than 0.6 m from the barrier, or after the first air duct inlet or outlet, whichever is closer to the smoke barrier. iii. If the air-handling equipment is serving more than one floor then smoke dampers shall be installed in systems with a capacity greater than 7080 L/s (15,000 ft³/min) to isolate the air-handling equipment, including filters, from the remainder of the system on both the building supply and return sides, in order to restrict the circulation of smoke. iv. Smoke dampers used for the protection of openings in smoke barriers or in engineered smoke-control systems shall be classified in accordance with ANSI/UL 555S, Standard for Safety Smoke Dampers and with a minimum Class II leakage rating, and elevated temperature rating shall not be less than 250°C or as per Section 6 requirements. |
| | 3. AREAS WHERE SMOKE DAMPERS ARE NOT REQUIRED <ul style="list-style-type: none"> i. Where ducts or air-transfer openings are part of an engineered smoke control system and the smoke damper will interfere with the operation of a smoke control system. ii. Where the air in ducts continues to move and the air handling system installed is arranged to prevent the recirculation of exhaust or return air under fire emergency conditions. iii. Where the air inlet or outlet openings in ducts are limited to a single smoke compartment. iv. Where ducts penetrate floors that serve as smoke barriers. v. Where ducts penetrate smoke barriers forming a communicating space separation in fully sprinklered building. |
| | 4. AREAS WHERE MOTORIZED SMOKE AND FIRE DAMPERS ARE REQUIRED <ul style="list-style-type: none"> i. Entire smoke control ducts, as required by the smoke management strategy. |
| | 5. ACTUATION OF SMOKE DAMPER <ul style="list-style-type: none"> i. The smoke damper shall be activated by an approved smoke detector or detectors installed in any of the following methods. <ul style="list-style-type: none"> a. Where a smoke damper is installed within a duct, a smoke detector shall be installed in the duct within 1524 mm of the damper with no air outlets or inlets between the detector and the damper. b. Where a smoke damper is installed above smoke barrier doors in a smoke barrier, a spot-type detector listed for releasing service shall be installed on either side of the smoke barrier door opening. c. Through FACP |