

# Building construction for the fire service

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The supply fans of the upper and lower ventilation zones would then be actuated, while the exhaust fans are turned off. These actions would consequently produce a multi-floor sandwich effect in the edifice, and the net effect would be the generation of a pressure variance sandwiched between the hub and boundaries within the Heating Ventilation & Air-Conditioning (HVAC) zone of the fire origin (Brannigan & Corbett, 2008). Fire alarm plays a very significant role in sandwich pressurization. In exhausting the air from the origin of the fire, the fire floor is likely to drag the fire with it and consequently cause a further spread of the fire before it can be quenched. This is where the fire alarm becomes relevant; it is the fire alarm that assists in actuating the smoke control mode in the event of an inferno. The system then activates the pressurization fans and the fans continue running until the smoke detector supply channel is activated by the fire alarm. It is the fire alarm that aids the initiation of the pressurization system as the process begins when the system receives an actuating signal from the fire alarm in the stairs of the building affected by the fire. Hence fire alarm helps accomplish a pressure sandwich.