

2.15. Natural Ventilation System

2.15.1. The natural Ventilation System shall comply with the relevant general requirements for smoke control systems as per **Section 2.5** and **Table 10.13**.

Table 10.13.: Natural Ventilation System

ITEMS	REQUIREMENTS
1. OBJECTIVE	i. Provision of natural ventilation to enclosed spaces, stairs or corridors etc. is to clear smoke accumulated during and post fire emergencies, or to overcome fungus or dampness or for ventilation.
2. OPENINGS	i. Openings intended for natural venting shall be permanent fixed openings or an automatically operable, fixed opening or vent or window. ii. Such an opening shall provide minimum 1 m ² of open area. iii. Where natural venting is serving the stair enclosure, it shall be located on the roof of the stair core. iv. Where natural ventilation is serving an open circulation area or corridor, the total opening area shall be 15 % of the floor area they are serving. v. Such an opening shall be located on the external wall of the area to be ventilated. vi. Openings shall be distributed evenly throughout the exterior wall such that no point in the area is more than 30 m, horizontally from the natural venting openings. vii. Such openings shall be clearly marked and labeled as "Smoke clearance openable windows".
3. ACTIVATION	i. Natural Vents shall be triggered open automatic by electrical drivers through smoke detectors located within 3 m of the zone they are serving. ii. Such natural vent panels or windows shall be monitored by a control panel complete with zoning, manual override and reset features. iii. Natural vents shall be permitted to be achieved by openable windows with manual, electrical or pneumatic levers provided the openable windows provide the required 15% open area for Natural venting.
4. INTERACTION WITH OTHER SYSTEMS	i. A natural ventilation system shall not be provided in the areas or zones provided with engineered smoke control systems or mechanical ventilation systems. ii. HVAC systems shall be permitted to supply the make-up air for natural ventilated area, provided the return air is arranged to be exhausted directly outside.



Schematic 10.32.: Natural Ventilation panels for illustration