

3.5. Smokeproof Enclosures

3.5.1. Smokeproof enclosure in a means of egress is designed to limit the entry and movement of smoke and products of combustion produced by a fire. This can be achieved by using natural ventilation, by using mechanical ventilation incorporating a vestibule, or by pressurizing the stair enclosure.

3.5.2. Smokeproof enclosures shall comply with [Table 3.1](#) and [Table 3.7](#). However, allowance of smokeproof enclosures and modifications if provided by individual occupancies sections, shall override the requirements of [Table 3.7](#).

Table 3.7: Smokeproof Enclosures

ITEMS	REQUIREMENTS
1. FIRE RATING	<ul style="list-style-type: none"> i. A smokeproof enclosure shall be continuously enclosed by barriers having a 2-hour fire resistance rating from the highest point to the level of exit discharge. ii. When smokeproof enclosure discharges into exit corridor or passageway, the exit passageway shall be separated from the remainder of the building by a 2-hour fire resistance rating.
2. ACCESS	<ul style="list-style-type: none"> i. Access to any smokeproof enclosure shall be through a vestibule or by way of an exterior balcony, unless the enclosure is pressurized.
3. VESTIBULE (LOBBY)	<ul style="list-style-type: none"> i. Where a vestibule is used, it shall be within the 2-hour-rated smokeproof enclosure and shall be considered part of the smokeproof enclosure. ii. Vestibule door separating outside area shall be 90 minutes fire rated. iii. Vestibule door connecting smokeproof enclosure shall be 30 minutes fire rated. iv. vestibule doors shall be air leak proof and self closing or automatic closing by the activation of smoke detector located within 3 m of the vestibule door opening.
4. DIRECT DISCHARGE	<ul style="list-style-type: none"> i. Every smokeproof enclosure shall discharge into a public way, into a yard or court having direct access to a public way. ii. When smokeproof enclosure discharges into exit corridor or passageway, such exit passageways shall be without openings, other than the entrance to the smokeproof enclosure and the door opening to the outside yard, court, or public way. iii. When building is sprinklered, such direct discharge from smokeproof enclosure shall be 50% of the required number of exits and egress capacity.
5. BY NATURAL VENTILATION	<ul style="list-style-type: none"> i. Every vestibule using natural ventilation shall have a net area of not less than 1.5 m² of opening in an exterior wall facing an exterior court, yard, or public space not less than 6 m in width. ii. Every vestibule using natural ventilation shall have a minimum dimension of not less than the required width of the corridor leading to it and a dimension of not less than 1830 mm in the direction of travel. See Chapter 10. Section 2.16.
6. BY MECHANICAL VENTILATION	<ul style="list-style-type: none"> i. Every vestibule using mechanical ventilation shall have a dimension of not less than 1200 mm in width and not less than 1830 mm in the direction of travel. ii. The vestibule shall be provided with not less than one air change per minute and the exhaust shall be 150% of the supply. iii. Supply air shall enter and exhaust air shall discharge from the vestibule through separate tightly constructed dedicated ducts. iv. Supply air shall enter the vestibule at lower level, within 150 mm of the floor level. The top of the exhaust register shall be located not more than 150 mm below the top of the trap and shall be entirely within the smoke trap area. v. Door leaves, when in the open position, shall not obstruct such duct arrangements. See Chapter 10. Section 2.17.