

CHAPTER 18 • New

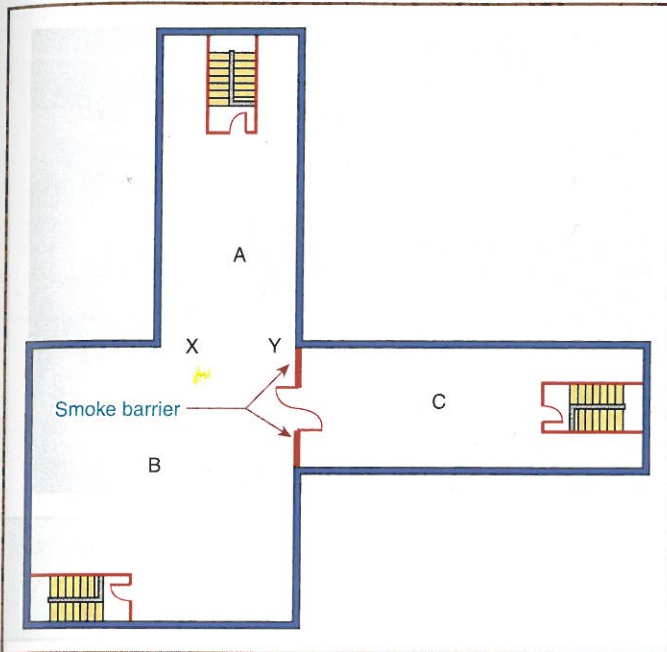


Exhibit 18/19.84 Smoke barrier dividing floor into two smoke compartments.

quires occupant travel in excess of 200 ft (61 m) to reach the doors in the smoke barrier, further subdivision using additional smoke barriers is required [unless both are existing smoke compartments and neither the compartment length nor width exceeds 150 ft (46 m)]. Assuming that the smoke compartment consisting of the combination of areas A and B is too large to meet the specified conditions, a second smoke barrier extending from point X to point Y might provide a logical solution.

Exhibit 18/19.85 illustrates the travel distance limitation to a door in a smoke barrier. Although the room positioned at the top of the exhibit between the smoke barrier and the enclosed exit stair has a short travel distance to an exit (X to E), the enclosed exit stair is not usable by those incapable of self-preservation. Therefore, the distance of travel to the doors in the smoke barrier (X to B) must not exceed 200 ft (61 m). For the existing smoke compartment, the 200 ft (61 m) criterion would be exempted if neither the smoke compartment length nor the width exceeds 150 ft (46 m). For this floor plan, an additional pair of doors in the smoke barrier where it crosses the corridor in the top half of the exhibit might provide a logical solution to a smoke compartment travel distance problem.

Horizontal exits are permitted to be substituted

CHAPTER 19 • Existing

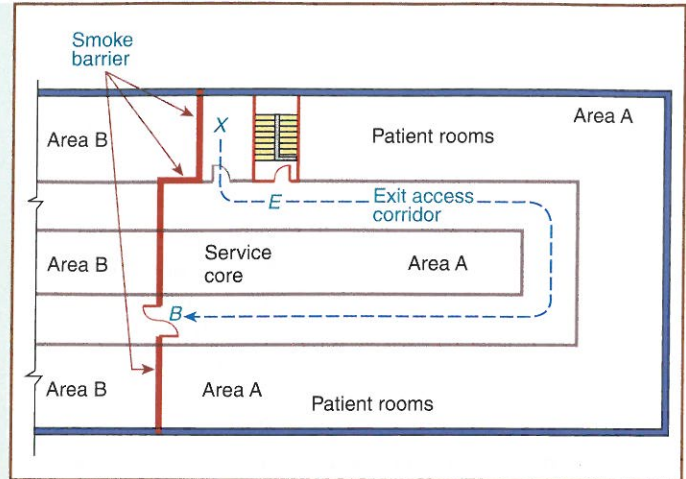


Exhibit 18/19.85 Limited travel distance to door in smoke barrier.

for smoke barriers. In such cases, the horizontal exit would also have to be constructed to comply with the smoke barrier requirements. See 7.2.4 and Section 8.5.

Areas open to atriums are not permitted to be used for patient sleeping or treatment areas (see 18/19.3.1.3). Atrium smoke compartments arranged in accordance with 8.6.7 are not limited in size.

Paragraphs 18.3.7.6 through 18.3.7.10 and 19.3.7.6 through 19.3.7.10 address smoke barrier doors. Although the cross-corridor smoke barrier doors in new health care occupancies are required to resist the penetration of fire for at least 20 minutes, they are not required to have a true fire protection rating. Similarly, the smoke barrier doors in existing health care occupancies are not required to have a true fire protection rating. Yet, some incorrectly consider these 1¾ in. (44 mm) thick, solid-bonded wood doors to be 20-minute fire protection-rated doors from which the latch has been omitted. If the door were truly a 20-minute fire protection-rated assembly, field-applied protective plates would be prohibited. Paragraphs 18.3.7.6(1) and 19.3.7.6.1 remind the user that factory- or field-applied protective plates are permitted without any height restriction.

During a fire, the emergency evacuation of patients in a health care facility is an inefficient, time-consuming process. Realistically, if patients must be moved, sizable numbers of occupants can be relocated only through horizontal travel. Smoke barriers and horizontal exits used to subdivide a building serve the following three purposes fundamental to the protection of inpatients: