711.9 Smoke barrier. Horizontal assemblies used for smoke barrier purposes must have penetrations and joints protected in a manner similar to smoke barrier walls, as established in Sections 714.5 and 715.6. Both of these code sections mandate compliance with the appropriate test standards for air leakage purposes with the maximum air leakage rate established in the code. Penetrations shall meet the requirements of UL 1479 and joint systems shall be tested in accordance with UL 2079. As a general rule, no unprotected vertical openings are permitted.

Where a shaft enclosure housing an elevator passes through a horizontal smoke barrier assembly, the hoistway opening must be protected in accordance with the provisions of Section 713.14.1 addressing elevator lobbies. Since the purpose of the provisions in 713.14.1 is to limit the spread of smoke from floor to floor, the protection afforded by an elevator lobby is necessary to protect the opening created by the elevator shaft. It is important to note that the mandate for an elevator lobby applies to all multistory buildings regardless of the number of stories, not just those four or more stories in height. See Figure 711-2.

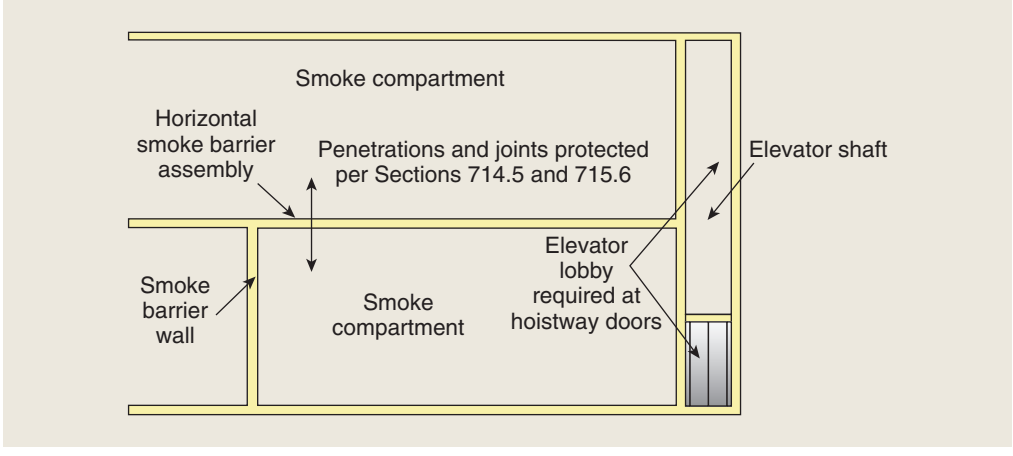

Figure 711-2
Horizontal smoke barrier.

A companion provision, Section 407.5.3, specifically addresses the issue of horizontal smoke barrier assemblies in Group I-2 occupancies. Such institutional buildings must typically be provided with smoke barriers in order to create mandated smoke compartments. Where the building is multistory, it is important that both smoke barrier walls and horizontal smoke barrier assemblies be used in order to create the necessary smoke compartmentation. The floor/ceiling assemblies between stories provide the horizontal limits of each smoke compartment when constructed in accordance with Section 711.9.