



Building Codes and Standards Unit - Plan Review Section

PLAN REVIEW POLICY

PR-06

Fire Wall Opening Protectives

12/2015

Based on the 2015 Minnesota State Building Code

Background:

2012 IBC Section 706.2 requires that fire walls “have sufficient structural stability under fire conditions to allow collapse on construction on either side without collapse of the wall...or shall be constructed as double fire walls in accordance with NFPA 221.” The question posed by design professional is how to handle door openings in double fire walls. If two rated doors are required IBC Sec.1008.1.5 would require a floor or landing on both sides of each door with a minimum length of 44 inches. If the doors are part of an accessible route the distance between the doors would increase to a minimum 48 inches and most likely 84 inches if the doors both swing in the same direction. This would require an offset in an otherwise straight wall and since fire walls shall be continuous from foundation to termination point, the offset would need to line up on all stories (ref. IBC 706.6). This adds substantial cost to the already costly double wall. The requirement for structural stability or double fire walls is continually questioned by design professionals when the building is fully sprinkled as it is highly unlikely there would be a fire scenario where the structural stability would be needed. It is therefore even more unlikely that the omission of one rated door in a series of two would put the building or its occupants at risk.

NFPA 221 has requirements for “fire walls” and additional requirements for what they define as “high challenge fire walls”. A high challenge (HC) fire wall separates buildings with high challenge fire occupancies (NFPA 221 Sec. 3.3.14.7) The design requirements for a double HC fire wall are different than a double (non-HC) fire wall. A double HC fire wall requires two fully rated walls (2, 3, or 4 hr.) and specifically requires two rated doors per sec. 5.8.4.1(one on each wall). A double non-HC fire wall allows the reduction of each wall (4 hr. to 3, 3 hr. to 2, and 2 hr. to 1) and does not specifically require a door on each wall. NFPA 221 is also silent on what constitutes a non-HC occupancy, however the standard was originally established to provide fire fighter protection in large non-sprinkled buildings.

Policy:

In accordance with M.R. 1300.0110 subp. 12,

Double 2 or 3 hour fire-resistance rated fire walls between two fully sprinkled buildings in accordance with IBC 903.3.1.1 (NFPA 13) shall only require rated opening protectives in accordance with IBC Sec. 716.5 in one of the rated walls.

Note: To be used in accordance with the attached, “Plan Review Policies”