



Roofing and Firewalls

Firewalls are interior walls that provide fire separation between areas of the same building. They are designed to maintain structural integrity, even in the case of complete burnout of the structure on either side of the wall, often accompanied by structural collapse of the burned out side. Firewalls must be carried through and above a combustible roof to reduce the risk of fire spread over the top of the wall. The height of the fire wall above the roof depends on the fire resistance rating required for the building, classified by its major occupancy. Typically, they range from 150 mm (6 in.) to 900 mm (36 in.) in height. This parapet above the roof minimizes the risk of direct flame spread over the firewall and reduces the risk of fire spread by radiant heat from flames above the roof.

It is obvious that a firewall can only be constructed with non-combustible materials. The 1995 edition of the National Building Code of Canada allows only firewalls constructed of masonry or concrete. The Code also specifies that no combustible material may extend across the end (read top) of a firewall. The determination of what is non-combustible for Code purposes is ULC=s very severe fire test C CAN4-S114-M80, *Standard Method of Test for Determination of Non-Combustibility in Building Materials*. Very few construction materials will pass this test and most roofing membrane materials cannot. It is essential, when faced within the task of making a firewall waterproof, that the contractor realize that carrying the felts, membrane, or any other combustible materials, up and over the wall contravenes the requirements of the Code and jeopardizes the fire resistance of the building.

In new construction, contractors should pay particular attention to the firewall details to ensure that the Code requirements as well as the need to make the wall watertight have been adequately addressed in the plans and specifications. If not, request direction from the design authority. If during re-roofing, a firewall that has combustible materials extending across the end is uncovered, it should be brought to the attention of the owner together with a request as to what actions should be undertaken.

Under no circumstances should a combustible material be carried over or across the end (top) of a firewall. Instead, non-combustible materials must be used. This may require the use of non-traditional waterproofing materials and applications. For information regarding specific project requirements, including building envelope and building code issues, consult the relevant design authority.

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