

Fireblocking Requirements

An often overlooked requirement of the building code, but typically discovered during a framing inspection, is the installation of code compliant fireblocking in wall, ceiling and floor framing. When a fire spreads, flames and harmful gasses spread through a building. If properly fireblocked, the movement of those flames and gasses is restricted, and the fire can not spread as easily through concealed passages that may be present in the framing of a building. In the **2009 International Residential Building Code (IRC)**, **Section R301.11** contains the requirements for fireblocking of wall, floor and ceiling framing in wood-frame construction.

Section R301.11 states: “In combustible construction, fireblocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective barrier between stories, and between a top story and the roof space.”

Fireblocking shall be provided in the following locations (Section R302.11):

1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, vertically at ceiling and floor levels, and horizontally at intervals not exceeding 10 feet.
2. At all interconnections between concealed vertical and horizontal spaces such as soffits, drop ceilings, cove ceilings.
3. In concealed spaces between stair stringers at the top and bottom of a stair run.
4. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with an approved material to resist the free passage of flame and products of combustion.
5. At open spaces around chimneys and fireplaces see Section 1003.19(required to be non-combustible material).
6. Fireblocking of cornices of a two family dwelling is required at the line of dwelling unit separation.

Fireblocking shall consist of the following materials (Section R302.11.1):

- 2 inch thick nominal lumber.
- 2 thicknesses of 1 inch nominal lumber with broken lap joints.
- 1 thickness of 23/32 inch wood structural panels with joints backed by 23/32 inch wood structural panels.
- 1 thickness of ¾ inch particleboard with joints backed up by 3/4 inch particleboard.
- ½ inch gypsum board.
- ¼ inch cement-based millboard.
- Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.

Other materials for fireblocking may be used for specific conditions:

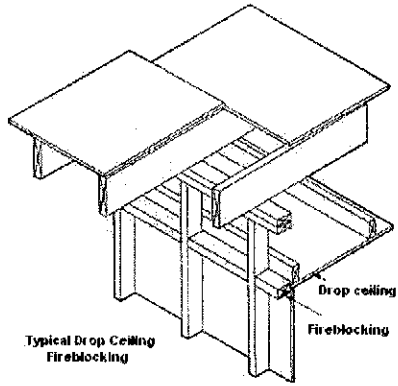
- Batts or blankets of mineral wool or glass fiber or other approved nonrigid material shall be permitted for compliance with the 10-foot horizontal fireblocking in walls constructed using parallel row of studs for staggered studs (**Section R302.11.1.1**).
- Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross section of the wall cavity to a minimum height of 16 inches measured vertically. When piping, conduit or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction. (**Section R302.11.1.2**)
- Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form and manner intended for uses to demonstrate its ability to remain in place and to retard the spread of fire and hot gases (**Section R302.11.1.3**).

Chimney fireblocking

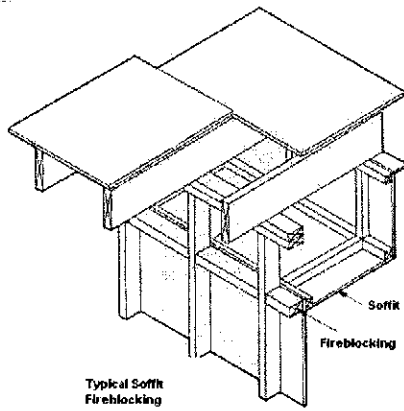
All spaces between chimneys and floors and ceilings through which chimneys pass shall be fireblocked with noncombustible material securely fastened in place. The fireblocking of spaces between chimneys and wood joists, beams or headers shall be self supporting or be placed on strips of metal or metal lath laid across the spaces between combustible material and the chimney. (**Section R1003.19**)

Top and bottom wall plate penetrations, such as pipes, wires and ducts, must be properly fireblocked as well. The top and bottom wall plates act as fireblocking. When these wall plates are penetrated, the wall plate is no longer effective as a fireblock. Firestop caulk is an excellent method of firestopping of top and bottom wall plate penetrations. The code does allow for the use of fiberglass insulation, tightly packed around the penetrations.

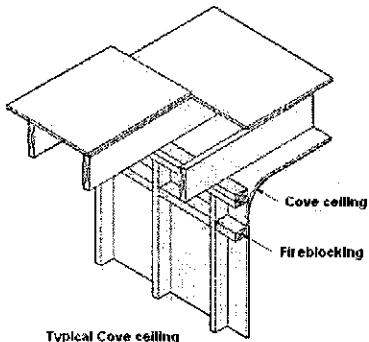
The diagrams provided on the opposite side of this page are examples of where fireblocking is required, and how fireblocking can be achieved in those spaces.



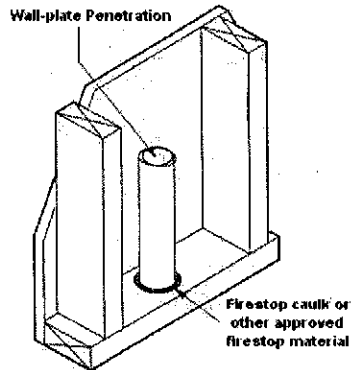
Typical Drop Ceiling Fireblocking



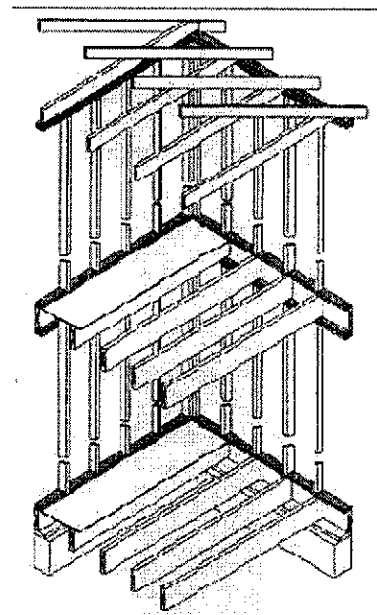
Typical Soffit Fireblocking



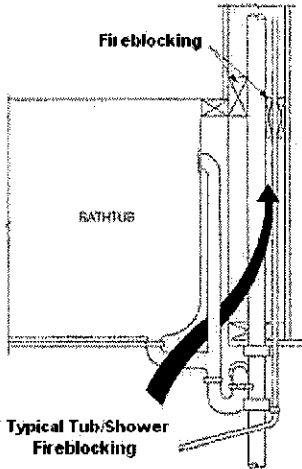
Typical Cove ceiling Fireblocking



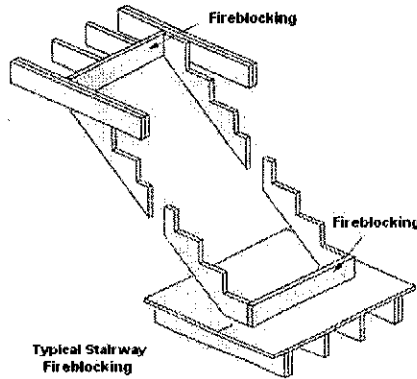
Typical Wall-plate Firestopping Detail



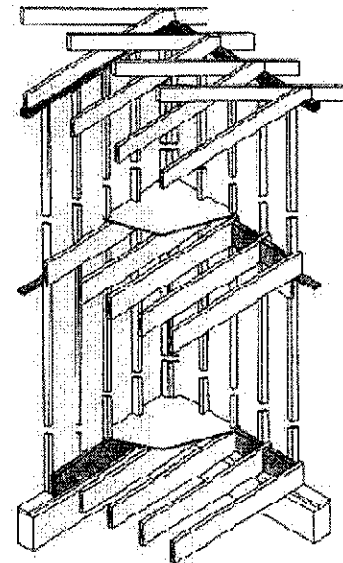
Typical Platform Framing
Fireblocking shown in grey



Typical Tub/Shower Fireblocking



Typical Stairway Fireblocking



Typical Balloon Framing
Fireblocking shown in grey areas

