



MEMO

To: Mayor and City Council
From: Sara Van Meeteren, Building Official
Date: April 6, 2023
Subject: Fireblocking Code Requirements

At its March 14, 2023 meeting, the Council requested additional information regarding fireblocking requirements. This was the result of comments regarding fireblocking in an unpermitted basement remodel made by Mr. Satterwhite during Public Forum at the same meeting.

The International Residential Code (IRC), published by the International Code Council and adopted by the City, has required fireblocking in single-family and two-family dwellings since its first edition in 1998. In 2000, the code section was updated to require fireblocking every 10 feet where it previously did not specify a distance. The requirement has remained the same since 2000 and has not been subject to local amendments.

Fireblocking is intended to confine fire, smoke or gases to a smaller area, extending the amount of time before it spreads and giving the occupants time to exit the structure. Section R302.11 of the 2015 IRC requires the following (emphasis added):

R302.11 Fireblocking.

In combustible construction, fire-blocking shall be provided to cut off both vertical and horizontal concealed draft openings and to form an effective fire barrier between stories, and between a top story and the roof space.

Fireblocking shall be provided in wood-framed construction in the following locations:

- 1. In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:***
 - 1. Vertically at the ceiling and floor levels.***
 - 2. Horizontally at intervals not to exceed 10 feet.***
- 2. At interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.*
- 3. In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.*
- 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. The material filling this annual space shall not be required to meet the ASTM E136 requirements.*
- 5. For the fireblocking of chimneys and fireplaces, see Section R1003.19.*
- 6. Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.*

The interpretation presented by Mr. Satterwhite during public forum at the March 14 meeting is that the fireblocking needs to be installed in a vertical manner at the floor and ceiling and in a horizontal manner every 10 feet vertically with the intent of stopping fire every 10 vertical feet but providing no barrier horizontally.

This interpretation would only prevent the vertical spread of fire to adjacent stories and would not stop the horizontal spread to adjacent walls. Staff's interpretation, which is consistent with other jurisdictions, is that fireblocking is to be installed at the ceiling and floor levels. The fireblocking itself would lay horizontally and create a barrier to stop fire from spreading vertically – up or down to the adjacent story. Fireblocking is also required at 10-foot intervals in each horizontal direction. This blocking would be installed in a vertical manner at horizontal increments to keep fire from spreading horizontally, essentially create a box that the fire would take longer to spread from. **Staff feels strongly that its interpretation matches the intent of the International Code Council and provides a necessary level of safety.** Additionally, staff's interpretation was recently upheld by the City of Ames Building Board of Appeals during an appeal at its April 3, 2023 meeting.

Permits submitted for basement remodels undergo a review by our Plans Examiner to make sure that the proposed work meets the code requirements. The Plans Examiner regularly comments on their reviews that fireblocking is required. **Customers that do not understand the fireblocking requirements are referred to this [video](#) created by the Pikes Peak Building Department** (Note: In the video, horizontal fireblocking is occasionally referred to as “draftstopping,” but the code refers to both vertical and horizontal as “fireblocking”). **The video does a great job explaining the necessity of fireblocking and illustrating the locations where it is required, usually eliminating additional questions from the customer and resulting in the correct installation at the time of inspection.** This plan review lessens the need for corrections during the inspection and sets the customer up for a more successful and economical project.