Guide To Fireblocking In Basements:

https://www.youtube.com/watch?v=tOSY5a027b0

R302.11 Fireblocking. The code requires "blocks" to be place in concealed areas at 10' intervals to prevent the rapid spread of fire. Read "concealed" to mean an area covered by drywall. Soffits are sections of framing that are dropped down from the ceiling to cover beams, trunk lines, and other mechanicals. Soffits can form a pathway for fire to spread throughout the floor system – so they must be fireblocked carefully. Fireblock is not about fire prevention. The function is to slow a fire to allow time for potentially sleeping occupants to escape.

Where: Code demands blocks to cut off concealed areas in both vertical and horizontal orientations. Keep in mind, TJIs burn much more rapidly than traditional dimensional lumber. Modern furniture, which is largely petroleum based, and trusses burn well faster than old large rafters. Hence a newer and typically much larger house burns much more rapidly than one built in the 1960's. So although fireblock has been a part of the code forever, it is more important than it once was.

1) Fireblock at the top of the exterior wall. This prevents a fire starting in the wall from quickly spreading up the wall, behind the top plate, and into the joist cavity spaces.
2) Fireblock every 10' along the exterior wall. This fireblock should run from the top of the top plate continuously down to the float and concrete slab. Do not crush any existing vinyl wrapped insulation to do this. If crushed, that fiberglass insulation loses its R-Value. Neatly slice the wrap and slide your fireblock back to the foundation attaching the fireblock to a stud.
3) Fireblock at interconnections between walls and soffits. A fire should not be able to spread up a wall and move into a soffit without a block.
4) Fireblock must be provided within the soffit itself at intervals no greater than 10'. There is little choice but to use batt insulation in these areas.
5) Fireblock in the rafter bay above a soffit face. Use an unfaced R30 batt to snuggly fill the space in the rafter bay just above the soffit face. You want a fire that might start in a particular rafter bay to not spread quickly into a soffit where it will gain access to many rafter bays. Note that running R19 everywhere flat throughout the floor system will <u>not</u> in any way suffice as fireblock. That will leave a large gap above the insulation for hot gases and fire to spread.
6) Fireblock must be placed at the open rafter bays from unfinished areas and mechanical rooms as these are essentially the doorways to the concealed space. It is the start of your 10' interval.
7) Fireblock any vertical chase, such as over a fireplace, that leads up and into the floor system. It is best to construct your chase with a ¾" plywood lid.
8) Framing a grid under joists to provide a shallow drop to disguise supply pipes run under joists provides an easy pathway for fire to jump from rafter bay to rafter bay. In these circumstance, the whole ceiling in these dropped areas should be filled with batt insulation thick enough to fill the whole cavity and wide enough to block the fire from entering the rafter bay. Blown-in insulation is not acceptable as fireblock unless specifically listed and tested for the application.

Code prescribed Fireblocking Materials (abbreviated):

1) 2x nominal lumber
2) ¾" plywood or OSB
3) ½" Drywall or better
4) Mineral wool or Fiberglass batt "securely retained in place" in an *approved* manner
   Fiberglass batt used as fireblock must entirely fill the cavity protected and must be packed tightly around any obstruction such as a duct or pipe.

R302.11.1 discusses the kinds of materials that are accepted as fireblock and their sizes. Note that "fire foam" is not among them. Code does not require firefoam. And, code does not include any type of foam as fireblocking. Manufacturers seem to have stopped incorrectly labeling these products as "fireblock". Having said that, "fire foam" can be a good way a good way to seal small annular spaces (cracks) in your fire block. It can also be useful in preventing fiberglass insulation from moving in a fire event. But, do not use a large amount of fire foam in any location and expect to pass inspection.

302.11.2 Integrity. Basically, this code states that the product cannot fall out in a fire. For this reason, fireblock such as ¾" plywood is preferable (when practicable) to fiberglass insulation in a variety of circumstances because it is shot into position.