HUNTSMAN
BUILDING SOLUTIONS

Precast Walls & Fire-Blocking with SPF
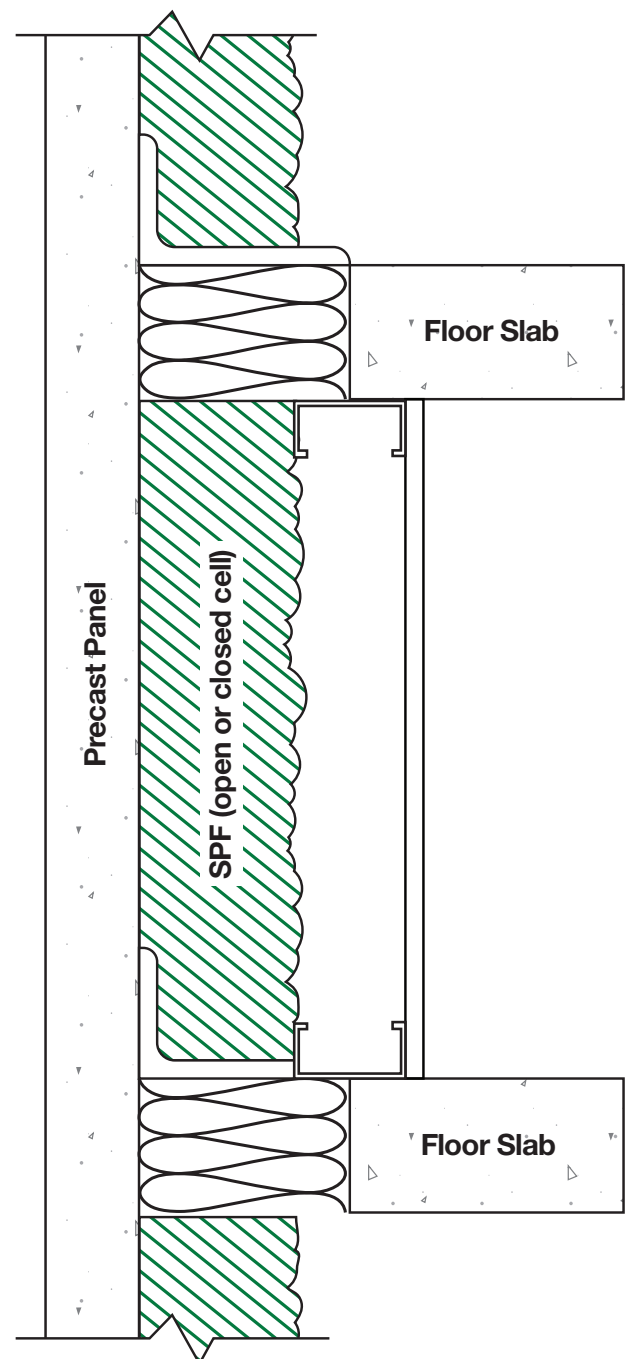
Fire-stopping vs Fire-blocking

In the simplest terms Fire-stopping prevents fire from by-passing through a rated assembly like a floor or wall. While Fire-blocking prevents the spread of fire spreading within that rated assembly.

Stopping Vertical Fire Propagation

The "Edge of Slab" is a construction joint detail that must be fire-stopped to prevent flame, smoke and hot gases from passing through the joint.

This fire-stopping ensures that fires are compartmentalized to one floor and therefore stopping the fire from reaching the floor above. Per IBC 715.4.1 the Perimeter fire containment system shall be tested in accordance with the requirements of ASTM E 2307.
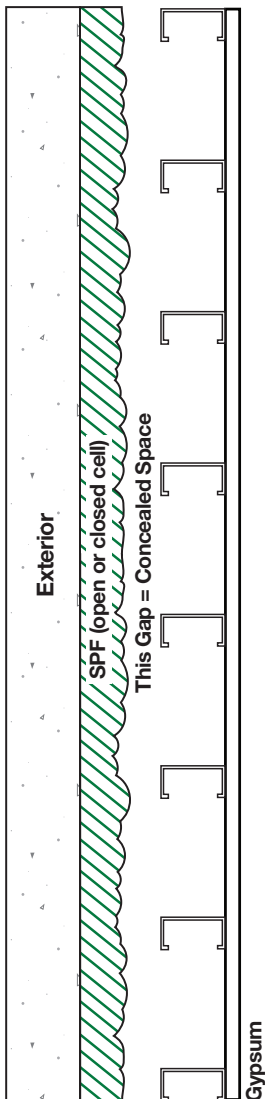
This fire-stopping can be achieved through the use of mineral wool and smoke sealants or prefabricated specialty fire-stopping components installed at the slab edge.

Floor Slab

Precast Panel

SPF (open or closed cell)
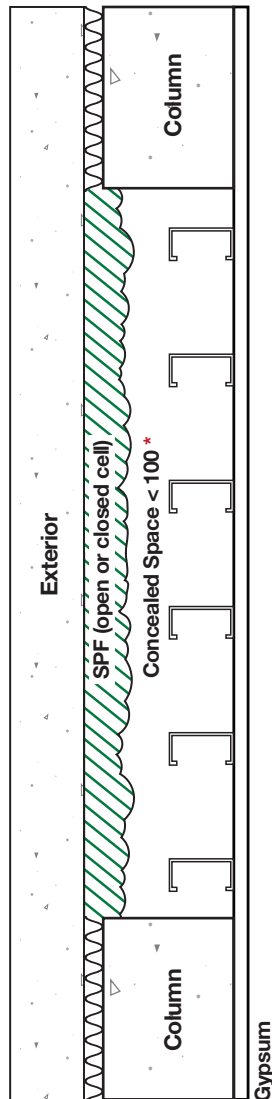
Floor Slab

Stopping Horizontal Fire Propagation

Diagram A

If a gap greater than one-quarter inch between the face of the foam and the back side of a steel stud exists this gap is classified a concealed space. Concealed spaces that contain combustible materials like spray foam can allow unseen fire to spread throughout a structure.
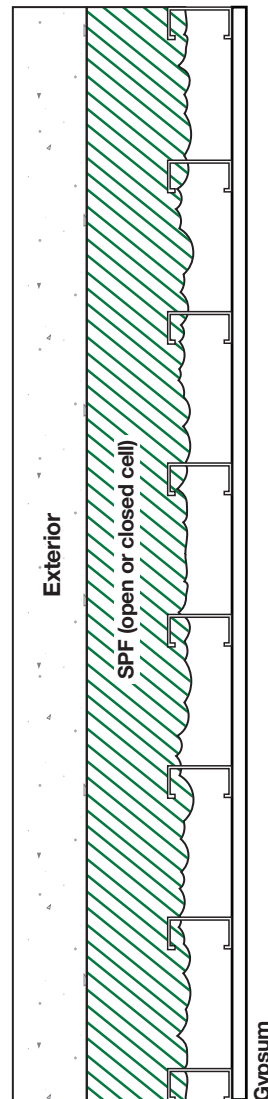
Diagram B

IBC 718.2.2 States that Fire-blocking shall be provided in concealed spaces with combustible materials horizontally at intervals not to exceed 10 feet (3048 MM).

Diagram C

A layer of Heatlok HFO PRO up to 8 inches thick that extends from the face of the precast to meet the back side of the steel studs has eliminated any potential of a concealed space. In this situation the steel studs provide the code required fire-blocking ever 16" or 24" on center.

Diagram D

IBC 718.2.1 lists 8 fire-blocking materials that can be used to compartmentalize concealed spaces containing combustible materials. The easiest of the 8 materials to install is a piece of one-half-inch (12.7mm) gypsum attached to the face of the metal studs that extends to the face of the precast.

STOP

Diagram A

Exterior | SPF (open or closed cell) | This Gap = Concealed Space | Gypsum

Diagram B

Column

Exterior | SPF (open or closed cell) | Concealed Space < 100 * | Column | Gypsum

Diagram C

Exterior | SPF (open or closed cell) | Gypsum

Diagram D

Exterior | SPF (open or closed cell) | Gypsum