



WHEN IS AN INTUMESCENT COATING REQUIRED FOR SPRAY POLYURETHANE FOAM INSULATION?

Building codes require that spray polyurethane foam insulation be separated from interior living spaces by an “approved thermal barrier” unless an exception applies.

Exceptions to the thermal barrier requirement include:

- Exterior applications as part of certain tested and classified roof assemblies
- Certain masonry or concrete constructions
- Certain attics and crawlspaces (Ignition Barriers)
- Sill plates and headers (IAW IRC Section R316.5.11)
- Others as provided by building codes.

THERMAL BARRIERS AND IGNITION BARRIERS

A **thermal barrier** is a material, applied between foam plastics (including spray polyurethane foam) and interior spaces designed to delay the temperature rise of the foam during a fire situation and to delay or prevent the foam’s involvement in a fire.

Building codes allow an exception to the thermal barrier requirement with an **ignition barrier** in attics and crawlspaces where entry is made only for repairs or maintenance (IRC) or for the service of utilities (IBC). Ignition barriers do not afford as high a degree of protection from fire as thermal barriers but are considered acceptable for attic and crawlspaces where entry is limited.

A thermal barrier is still required between attic and crawlspace areas and interior living spaces. The ignition barrier exception is only applicable to the SPF surfaces facing attic and crawlspace areas. Typically, ceiling treatments or floor treatments provide separation from interior living spaces and serve as the thermal barrier in these cases.

PRESCRIPTIVE THERMAL BARRIERS

- ½-inch gypsum wallboard

PRESCRIPTIVE IGNITION BARRIERS

- 1 ½-inch-thick (38 mm) mineral fiber insulation
- ¼-inch-thick (6.4 mm) wood structural panels
- ¾-inch (9.5 mm) particleboard (¼-inch thick under the IBC)
- ¼-inch (6.4 mm) hardboard
- ¾-inch (9.5 mm) gypsum board
- Corrosion-resistant steel having a base metal thickness of 0.016 inch (0.406 mm)
- 1 ½-inch-thick cellulose insulation

THERMAL AND IGNITION BARRIER FLOW CHART

