

What's the Risk?

Polyurethane Foam Insulation Fire and Toxic Gas Concern



THE ISSUE

Polyurethane foam insulation (PUFI) or foamed plastic insulation is a common insulation material found in houses as well as commercial and agricultural buildings. It can be sprayed in place (becoming ridged when cured) or installed as a rigid foam insulation sheathing.



WHAT'S THE RISK?

The fire and toxic gas risk associated with polyurethane foam insulation was best described in a 1989 OSHA technical memorandum:

“Rigid polyurethane (sprayed in place) and polyisocyanurate (rigid sheathing) foams will, when ignited, burn rapidly and produce intense heat, dense smoke and gases which are irritating, flammable and/or toxic. Thermal decomposition products from polyurethane foam, consist mainly of carbon monoxide, benzene, toluene, oxides of nitrogen, hydrogen cyanide, acetaldehyde, acetone, propene, carbon dioxide, alkenes and water vapor. One of the major safety precautions to be taken around organic [carbon based petrochemical] foams is to prohibit sources of ignition, such as open flames, cutting and welding torches, high intensity heat sources and smoking.”



WHAT CAN BE DONE?

The National Building Code of Canada (NBCC) specifies that PUFI or foam plastic insulation must be protected by a thermal barrier in combustible construction other than in concealed spaces (attic or roof spaces or crawl spaces). Since they are expensive, foam installers may leave it to the homeowner or business operator to install the required thermal barrier. Acceptable thermal barriers include plaster, gypsum board, plywood, hardboard, insulating fiberboard, particle board, Oriented Strand Board (OSB), wafer board or an intumescent coating.

Remember that an insurer has the right to refuse to insure properties with exposed foam insulation, or where there are thermal barriers that do not comply with underwriting requirements if the insurer deems there to be a property or life safety concern.

