THE ROLE OF ATTIC HATCHES IN UNVENTED ATTIC FIRES

ICYNENE®

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Technical representatives in the spray foam industry will be quick to notice that Icynene's newly released ICC-ES Report #1826 contains a provision in a Section of the report aimed at describing the use of Icynene Classic Max (LD-C-50 v2) in unvented attics (i.e. Section 4.4.2.2.) that mandates the use of a horizontal hatch "opening outward towards the living space" complying with IRC Section 807. That Section requires a minimum hatch dimension of 22"x 30". The question gets asked, why is this a requirement?

To obtain the approval in Section 4.4.2.2., Icynene's engineering team extensively studied fires in an Unvented Attic end use. That work looked at measures needed to control attic fires and beyond the application of the spray foam itself, attic hatches were found to have a significant role on limiting the progress of such fires.

When a fire occurs in the confines of an attic, the air in the attic is heated and expands. A hinged attic hatch performs the vital function of relieving pressures so that fire is not forced through and thereby compromising the barrier provided by the roof assembly.

Pull down hatches had been largely thought to be a convenience item—making it easier to access equipment for maintenance and basically defining the attic area as "limited access" (not used for living or storage space.) This new research defines a new function for these devices—adding to fire safety by controlling pressures in the attic in those rare instances when a fire occurs there.

It seems reasonable to ask whether a "scuttle hole", which is more traditional in many parts of the country can perform the same function as the aforementioned pull-down hatch. When you study how they open, however, one finds that most scuttle hole type hatches, open by lifting up into the attic. It follows, that expanding combustion gasses would push against such a hatch forcing it to more tightly close against the frame of the opening. Pressure would not be relieved as effectively.

Some people ask if multiple hatches would be allowed. Again it follows that, provided one of the hatches is a pull-down hatch such as previously described, the function of pressure relief would be maintained.

Before conducting this research, Icynene was aware that spray foam in unvented attics had been credited with preventing several run-away attic fires. Nobody realized how important the lowly attic hatch was in helping deliver that result!

Figure 1. Schematic diagram illustrating the use of Icynene Classic Max (LD-C-50 v2) in unvented attic assemblies complying with Section 4.4.2.2. of ICC-ESR 1826: