



STATE OF NEW HAMPSHIRE DEPARTMENT OF SAFETY

John J. Barthelmes, Commissioner

Division of Fire Safety OFFICE OF THE STATE FIRE MARSHAL

J. William Degnan, State Fire Marshal



Office: 110 Smokey Bear Blvd., Concord, NH
Mailing Address: 33 Hazen Drive, Concord, NH 03305
603-271-3294, FAX 603-271-3206

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Windows Used as Secondary Means of Escape NFPA 101:24.2.2.3 (A-D)

There have been a number of requests for variances being submitted to this office reference this topic and we wanted to take a moment to outline the code requirements and how they should be applied at the local level. As you are aware, NFPA 101 references this section to be used for 1 & 2 Family Dwellings and other residential occupancies where a secondary means of escape is required. While we will not go into it here, please be aware that there is a significant difference between a means of escape and a means of egress. Sections A, B, and D are fairly straight forward and will not be addressed here.

The issue at hand is how a secondary means of escape should be measured and how much smaller than a code compliant window should be allowed to remain in place. Please reference the sections listed above for the full code requirements and text.

A window's clear opening being inspected for compliance with **24.2.2.3 (C)** shall be measured after the window is opened normally, traditionally a single sash is pushed up or a casement is pushed or cranked open. Windows that "pop" open or fold in do not count for a larger opening. The opening shall be measured horizontally and vertically at the most restrictive point. In addition, no special tools, keys, or special effort, can be required to open the window. The window may be locked and contrary to some interpretations, "special knowledge" can be required. Please also understand that "special effort" is not defined in the code and is left to the AHJ.

Ideally, when the code is applied correctly, there should not be a need for variances from the State Fire Marshal's Office. The code (**101:24.2.2.3**) allows existing means of escape to be approved by the AHJ doing the inspection, it does not require that the means of escape to have been approved in the past. It can be approved at the time of the first inspection. If it is not acceptable to the AHJ, then the variance would most likely be denied by this office.

When the existing window's size is being evaluated, the AHJ must take a number of factors into consideration: How easily does the window open? How easily is the window accessed? Does the window meet the other code requirements? How much smaller than the required 5.7 square feet is the window? Obviously the size of the window is the most subjective issue during these inspections. According to NFPA, the 5.7 sq. ft. opening comes from a San Diego Fire Department study of how much room a firefighter in full

gear and PPE would need in order to enter, retrieve, and exit with a victim. As such, 5.7 is a rather large opening for this application, especially considering that most firefighters have special tools and other firefighters to help make a larger opening if necessary. With that said, the minimums of a 20 inch width and a 24 inch height shall not be waived as these represent the emergency escape capacity for a firefighter who would need to leave the room before being able to make a larger opening.

When the above elements are taken into consideration, a local AHJ should be able to accept an existing window as being code compliant under **24.2.2.3**. If it is found to be unacceptable by the local AHJ, the owner should be informed that while they have the right to apply for a variance, variances are rarely granted over the objections of the local AHJ.

In addition, it is standard practice that unless there is some compelling reason, new construction is never granted variances. When reviewing new window installations, including windows being newly installed in existing construction, the windows shall comply with all code requirements for secondary means of escape.

It is also important to pay close attention to the code requirements when evaluating the suitability of a basement or other below grade portion of a home for living space or a sleeping area. In these areas it is especially important because the windows and other means of escape rarely meet the code without some modifications.

As always, if you have any questions or need clarification, please don't hesitate to call our office at 271-3294 or contact us by e-mail at fmo@safety.state.nh.us.