

Going Through the Roof

By Joseph P. Guzzo

I'm standing on someone's front lawn looking up at the roof. The plumber had just completed the rough plumbing of a bathroom renovation. The four inch vent stack was about twelve inches away from a new operable skylight. I told him it was wrong. Why is it that something seemingly so simple like putting a vent through the roof can get so complicated? Just about every week I find myself explaining



section 2.16,5 to experienced and not so experienced plumbers alike. It seems they completely forgot the basics, or never knew them at all. In this case the plumber couldn't understand how he could be wrong. He explained that he put the vent through the roof two feet just like the code says. So let's review section 2.16, 5, A - F, and try to make some sense out of it.

5a. Extention Above Roof. This is the basic of the basics. It's probably the first dimensions in the code I was able to memorize when I went to school. The intent is primarily for esthetics because the V.T.R is so visible. You wouldn't want the vent too low or close to the roof because it could get buried in snow or other debris, or too high because it could be subject to damage and it just wouldn't look good. The 18" minimum and 24" maximum offers some uniformity for all V.T.R.'s. *If that roof is used for garden or similar purposes the vent shall extend at least eight feet above the roof and increased one pipe size.* More common today than a garden is a usable deck on a roof, and I'm sure no one would want the main topic of discussion to be sewer gas. Some plumbers do forget that if increasing the V.T.R. it must be done inside the building. And all plumbers know that the minimum size V.T.R is two inches, right!

5b. Waterproof Flashings. Although most plumbers will rely on the roofer or carpenter to install a roof flange, it is the plumber's responsibility.

5c. Flag Poling Prohibited. This is self explanatory. However, I don't know many Inspectors that will order a satellite dish removed from a vent stack right before the Super Bowl, on second thought?

5d, 1. Location of Vent Terminal. The wording of this section could be a little confusing. The term *directly beneath any door, window, or other ventilating opening*, means for example, if you had a window or door that is 30" wide a vent cannot be located within the 30" width below the opening, no matter how far away it is. If it is outside the 30" width then the proper clearance would be ten feet horizontally. *Unless it is at least two feet above the top of such opening.* The vent may be installed two feet above the top of the window. **The top, not the front**, if we are talking about a pitched roof. If a skylight was to be installed on a flat roof there would be only horizontal directions, therefore the V.T.R. would have to be located ten feet away. On my inspection I first mentioned, the plumber thought the front of the window was the top, mistaking the two foot dimension through the roof with the two foot dimension above the top of the window. I tried to explain the V.T.R. had to be 18" min. 24" max. any way.

5d, 2. Plumbing vent terminals shall be located at least 25 feet horizontally from all fresh air intakes. This is the only other time the 18" min. 24" max. would not apply, along with the eight foot extension above a deck. The twenty five foot V.T.R. distance away from a fresh air intake may be reduced to ten feet if it is at least two feet above the top of the air intake. For the

most part we are talking about mechanical equipment on a flat roof that brings fresh air into a building. If the unit is four feet tall or to be more precise the intake of the unit, then the V.T.R. may be two feet above that or six feet through the roof, in order for the clearance to be reduced from 25 feet to 10 feet.

5e. Extensions Outside Building. *No soil, waste or vent pipe extension shall be run or placed on the outside of a wall of any building, but shall be carried up inside the building.* This section is mostly common sense. The Plumbing Inspector has some discretion for running an exposed vent. What's interesting to me is that many plumbers forget this section of the code when installing a gasoline/sand trap or separator. When I tell them that both 4" vents must be brought into the building and through the roof, that's when they virtually go through the roof.

5f. Frost Closure. *Where frost closure is likely to occur, each vent extension through a roof shall be at least three inches in diameter.* Not that likely to occur in our region, none the less something to be aware of.

There are some unexplained areas of this section that may conflict with the Building Code. For example if a carpenter installs a new skylight to close to an existing vent stack, a violation of 248 C.M.R. has been created. And what about a ridge vent that is commonly used today to vent attics. It may be difficult to find a place for the V.T.R. within the proper clearances. These and many other areas of the code need to be addressed hopefully in the near future by way of what I call code conflict resolutions.

Extending a vent through the roof is one of the most basic parts of our code. It is also one of the most noticeable parts of the job, with your name on it.

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