Southwest
New Brunswick
Service Commission

Roof and attic ventilation

In general, every roof must be ventilated

The section of Code governing ventilation of roofing areas (attics) is – unlike most of Code - pretty simple.

Code (section 9.19.1.2 for those of you who want to check our work) requires that ventilation areas of either 1/300 of the ceiling area (or 1/500 for shallow slope roofs) be ventilated, and that at least 25 per cent of that figure be at the top of the ceiling space and 25 per cent at the bottom. Now, most folks out there will figure that 25 per cent plus 25 per cent is only 50 per cent, but the intent here is to allow some flexibility in design. In other words, a builder can have 75 per cent openings at the soffits, and 25 per cent at ridge vent, for example.

The other critical requirement is that except for gable roofs near walls, there must be at least 63 mm – that's 2 ½" – of space must be provided between the top of the insulation and the underside of the roof deck. [9.19.1.3(1)].

And just in case the Code didn't make it obvious enough that airflow must be provided in a roofing system, clause 9.19.1.3(3) hammers the point home:

"Ceiling insulation shall be installed in a manner that will not restrict the free flow of air through roof vents or through any portion of the *attic or roof space*."

The intent of attic ventilation is to ensure that any moisture that exists, or may exist, in the roofing system, particularly in the sheathing, doesn't remain in place: it can turn to vapour and move through the ventilation system to the exterior, hence all of the above requirements.

Unfortunately, Code hasn't quite caught up to building science. It is generally recognized that in some cases, closed-cell foam applied to the underside of a roof deck in an unventilated "hot" roof poses no risks. For that reason, our office will accept site-applied spray foam applied directly to the underside of the roof deck in a cathedral ceiling, under the following circumstances:

- The roofing material is metal, OR
- the roofing material is shingles on a slope of 8:12 or more.

and

- Two-pound closed-cell foam is applied by a certified applicator.