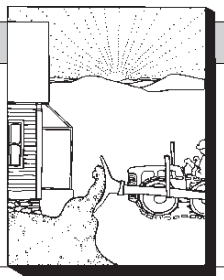


Caulking, Canadian Style

by Jon Eakes

When I was first asked to write occasional articles on construction practices from a Canadian (translated: *cold*) perspective for *NEB,* I couldn't help but laugh to myself. I realized that the northern regions of the U.S. were having the same problems as we in Canada—that is, being smothered by the mainstream, well-financed, glossy-photo-and-expensive-graphics information machine that projects temperate America's way of building things as North America's model. In Canada, we've been fighting California dream homes for years.

But, finally, one specific mid-American practice has received a strong reaction from public utilities and provincial energy departments clear across Canada. In various forms, the message is clear: Do not follow the advice of American publications on how to apply caulk to residences.

The image of the energy-conscious American home owner caulking windows from a ladder set up in the flower bed has been all but banned in this frost-ridden country. In its place is another image: the Canadian home owner laying newspapers on the living-room carpet in preparation for caulking the window trim down to the drywall.

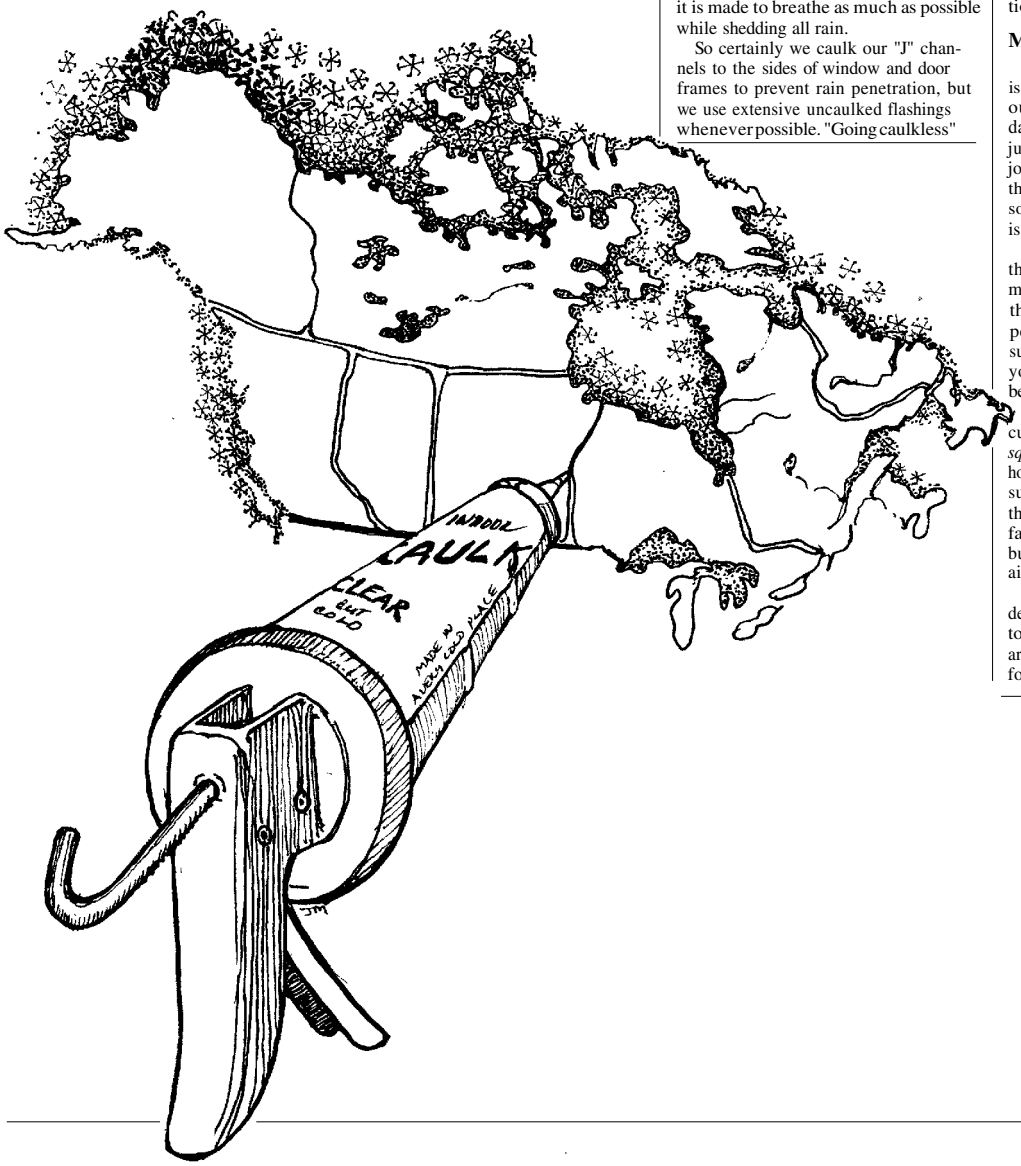
Why, you ask? First of all, many siding materials are so well ventilated that caulking around the window frame is unlikely to result in much, if any, savings in winter fuel bills. It may keep rain from penetrating the wall, but that's about it.

Second, even if caulking in this manner were to succeed in blocking air movement through the wall, in a cold climate it would become a subfreezing barrier to moisture migrating from the house. In Texas, this is no problem; any ice stuck behind the caulk will melt and drift on out by 10 a.m. the next day. But in much of Canada, the ice accumulates behind the caulk until it can be measured in kilograms (that's metric for "lots"), making its presence known during the bimonthly thaw in the form of peeling paint (inside and out), swollen drywall and even rotted window frames.

The standard Canadian house works on the "rain screen" principle. The outer layer of the house functions as a very porous rain screen whose job is to shed rain and snow, slow down the wind, protect the building paper (the *real* wind barrier) from mechanical damage, and look good. Like a good raincoat, it is made to breathe as much as possible while shedding all rain.

So certainly we caulk our "J" channels to the sides of window and door frames to prevent rain penetration, but we use extensive uncaulked flashings whenever possible. "Going caulkless" promotes the maximum exit of moisture that has accumulated in the wall on the occasional day when the ice turns to liquid and has a chance to vaporize and find its way out. The message, quite simply, is this: Caulking for energy conservation in a cold climate must be done on the *inside* of the house, where the caulk will remain warm and not transform household moisture into condensation or ice accumulation.

The word is out: Don't follow the advice of American publications on how to apply caulk to residences.



Making It Stick

Incidentally, as long as our attention is focused on caulking, I should point out that the Canadian General Standards Board has taken a close look at just how well caulk sticks and does its job. The not-surprising conclusion is that surfaces rarely are cleaned with solvents as they should be before caulk is applied.

Equally important, the board found that the beautiful, smooth bead of caulk most people strive for often is laid onto the surface so gently that it doesn't penetrate the crack and adhere to the surface. (Now admit it—occasionally you have to back up to push a falling bead back into place, don't you?)

The board's research shows that cutting the nozzle of the caulk tube off *square* (not at a 45-degree angle) and holding the gun *perpendicular* to the wall surface effectively pushes the caulk into the crack and adheres it to the wall surface. It may not result in as neat a bead, but it gives a more consistently reliable, airtight seal.

We don't pay great attention to details in Canada just because we like to. It's simply that the climate in most areas of our country leaves little margin for error. ■