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Vancouver builders were slow to accept rainscreen wall systems, expert says

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It is quite possible that designers and builders in Vancouver were just a little slow in accepting the advantages of rainscreen wall systems. That's the opinion of Doug Watts of Read Jones Christoffersen.

Among many things in an impressive resume, Watts is chair of the National Building Code Standing Committee on Environmental Separation (Part Five) and is past president of the B.C. Building Envelope Committee.

Rainscreen technology was around long before Vancouver's "leaky condo crisis" of the 1980s, he said.

In a recent presentation on durable building enclosures, Watts pointed out that as early as 1963 – the National Research Council (NRC) was advising of the advantages of rainscreen walls.

Twenty years later, the NRC followed that up with a publication called Building Science for a Cold Climate.

"People on the west coast may not have paid enough attention," said Watts.

The term cold climate may have tricked them into a false sense of security, he suggested, allowing them to think it was aimed at places such as Edmonton or Winnipeg.

The reality was quite the opposite. Vancouver's milder, but cool and damp winters, are a real problem.

Unlike the Prairies, Vancouver has very few cold and dry winter days to assist in getting rid of any water that has managed to penetrate a building's envelope. In addition, it never gets cold enough in the Vancouver area to stop rot and buildings materials are a ready food source and that includes paper backings.

The evolution of building envelope design, that was born from the need for increased energy efficiency, has played a major role in creating problems.

The rule of unintended consequences was in full flight.

Watts pointed out, as so many others have, that buildings put up decades past were "leaky as hell".

They were also very draughty.

"The heat just flowed right through them and dried them out," he said.

He pointed out that if you go back to the 1920s and 1930s lath and plaster walls were used prior to the arrival of drywall. They were defacto rainscreens, he said.

In recent years, modern rainscreen science has proved its worth and proved to be quite do-able.

When the leaky condo problems reached crisis proportions, the City of Vancouver mandated rainscreen walls.

"The industry pushed back and said it wasn't possible," Watts said.

He pointed out that in the end, it was possible and he congratulated the city for "standing firm".

When it comes to building envelopes, though, just as when it comes to legislation, the devil is often in the details.

"A lot of wall problems come from poor detailing," Watts explained.

There is quite a list of common sins such as incorrect wall detailing, poor intersection detailing, poor scupper details and even using stucco as a roofing material.

"Detailing is absolutely critical and always has been," he said.

Roof design is also important, he pointed out.

"Over-hangs are more than umbrellas," Watts said. "They also will direct water."

Where they direct it, is all important.

"The guys who build roofs have always understood the need for drying. But for some reason we didn't get it about walls," he said.

It is impossible to exaggerate the importance of a good quality building envelope, he added.

Over the life of a building the maintenance and operating costs far outstrip initial construction costs.

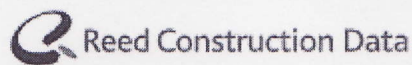
"If there is one thing we have learned, it is that we can't just build them and leave them," said Watts. "They have to be maintained."

Environmentally, it is also urgent that buildings be constructed to last a long time.

He pointed out that in Metro Vancouver landfill sites are at a premium and the construction industry represents 40 per cent of the waste filling them up. In addition, Canada is the fourth largest total energy consumer in the world per capita.

"We should be embarrassed by that," he said.

"We should be appalled by that."



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