

# Why is Celotex insulation not seen much in Canada?

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Gordon from Montreal writes asking about the use of Celotex foam insulation (with aluminium foil cladding on both sides- 4 X 8 sheets). He writes:

"For your information, the Celotex product is considered by many, to be a premium insulator for residential installations. Ironically it is made in Canada in Cornwall at the old Zelotex plant, now owned by Johns Manville. Ironically, again, the product despite being manufactured in Canada is not sold here under the well-established Celotex name (probably better-known for their acoustical ceiling tiles). However on special request, the Johns Manville plant in Cornwall can arrange for a shipment of product apparently manufactured under their own brand name, to a local Home Depot or similar retail outlet, which is what I'll do when I'm ready. I live right beside the NY state border, and there is a (U.S.) Celotex dealer within a 20-minute drive of here (my home in Rockburn) but (re-)importing back to Canada makes the resulting cost, prohibitive.

I cannot understand why a product (they call it polyiso sheathing) as well-known and as good as it is, is not openly marketed in Canada, as it does seem almost perfectly-designed for our climate."

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From a technical point of view it is a good insulation with particular problems and a bit of a regional marketing problem that has pretty well driven it out of Canada. The foam itself is a good insulation, but what gives it such high R-values is the gas in the plastic cells. The problem is that it off-gasses, which causes it's R-value to drop with time (the gas is replaced with ordinary air). Hence the aluminium foil was added to lock in the gasses.

But this then made it a vapour barrier on the outside of the house. Because of it's high R-value, it rarely gets into trouble with this vapour barrier, but it does go against Canadian building science practices. The warmer the climate, the less this is a problem. For a while one company tried putting holes in the aluminium to make it not a vapour barrier -- but then they lost the gas. There still is slow loss of the insulating gas through the edges but that is apparently minimum.

The second problem comes with the question of the Aluminium foil itself. Radiant barriers are often credited as having a significant insulating value. This is certainly true in Florida. But in Canada, radiant barriers in walls during winter (our important season) block more solar gain than indoor heat loss, for a net energy loss. The marketing guys don't talk about that.

All of this not to mention that the workmen hate this product because it blinds them on a sunny day, and makes for a lot of little "paper" cuts all over their arms while manipulating it.

Add to that the fact that it carries a premium price. I hope this clarifies why you don't find the product much in Canada despite it's high insulating value and popularity in the air conditioning climates.

## Keywords:

R-Value, Aluminum, Insulation, Sheathing