

Energy Efficient Envelopes



1. Effectiveness before efficiency
2. NZ insulation standards are poor
3. We don't get what we pay for
4. We damage our insulation, our buildings, ourselves...



INTELLO®



TESCON PROFIL



KAFLEX



TESCON Vana



ROFLEX



ORCON®



TESCON NAJDECK



TESCON EXTORA® PROFIL



SOLITEX MENTO® 3000



KAFLEX



SOLITEX EXTASANA®



TESCON EKTOSAL



ROFLEX



TESCON EXTORA®



ORCON®



About pro clima

Who is pro clima?

- German based manufacturer of building materials
- Founded in 1981 by Lothar Moll
- Global product supplier to more than 40 countries
- pro clima products installed in approximately 120,000 houses per year world wide

What does pro clima do in New Zealand?

- Supplies pro clima high performance membranes and tapes
- Supplies Minneapolis Blower Door
- Fraunhofer IBP cooperation partner for WUFI
- Local partners include Carter Holt Harvey CHH (Ecoply Barrier) and Fletcher Window and Door Systems (Smartfit)

Our buildings aren't effective

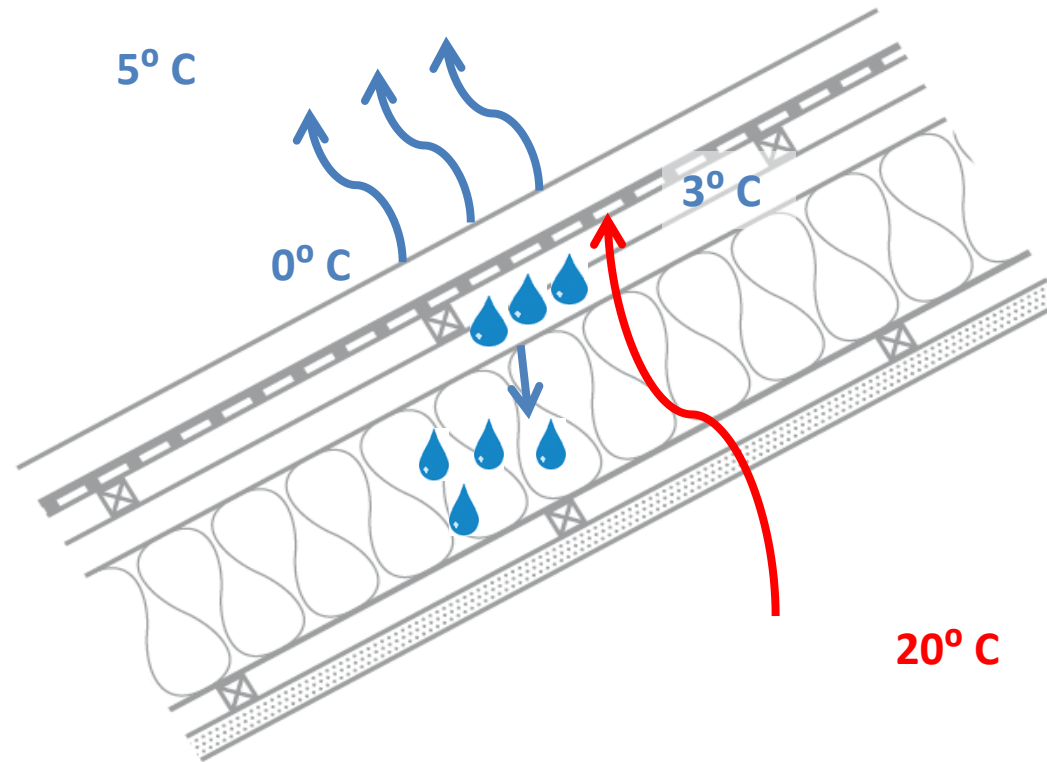


Image courtesy of:
Jon Davies

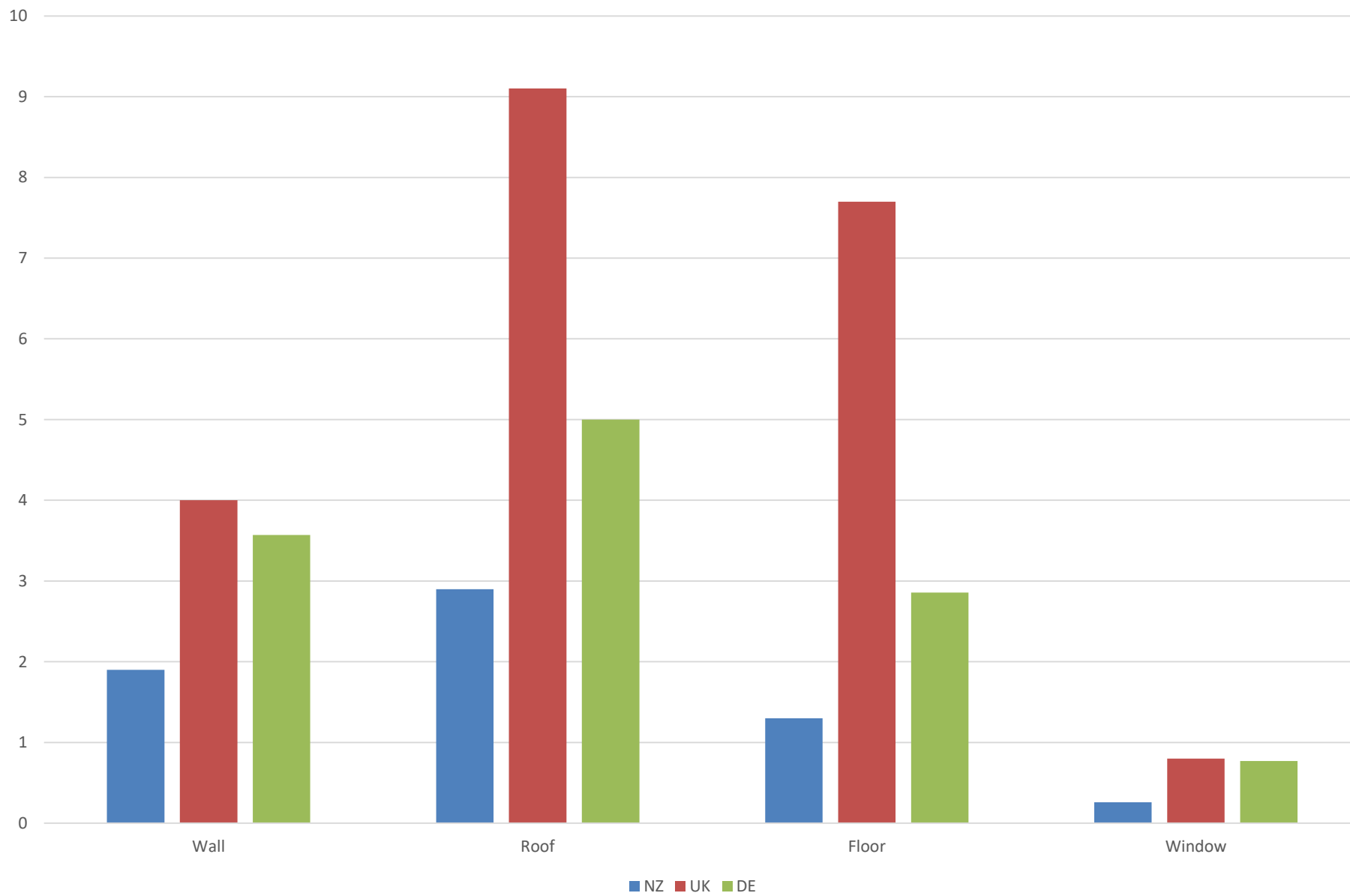


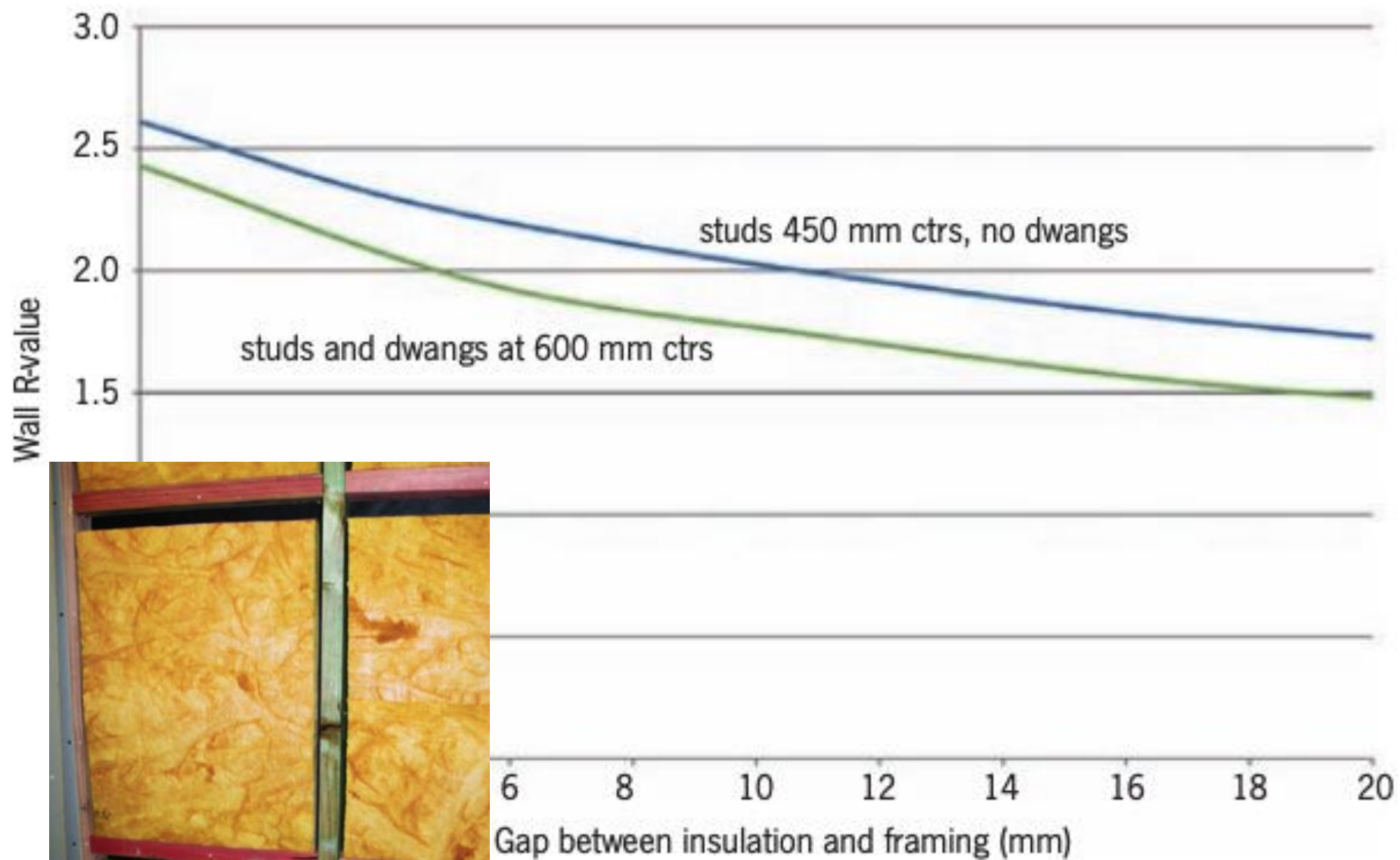
Image courtesy of:
Jon Davies

Everyday roof examples



Comparison of R-Values





Source: Cox-Smith, I., BRANZ Build 117, 2010



09-19582-60

09-19582-60

SSR

SSR

SSR

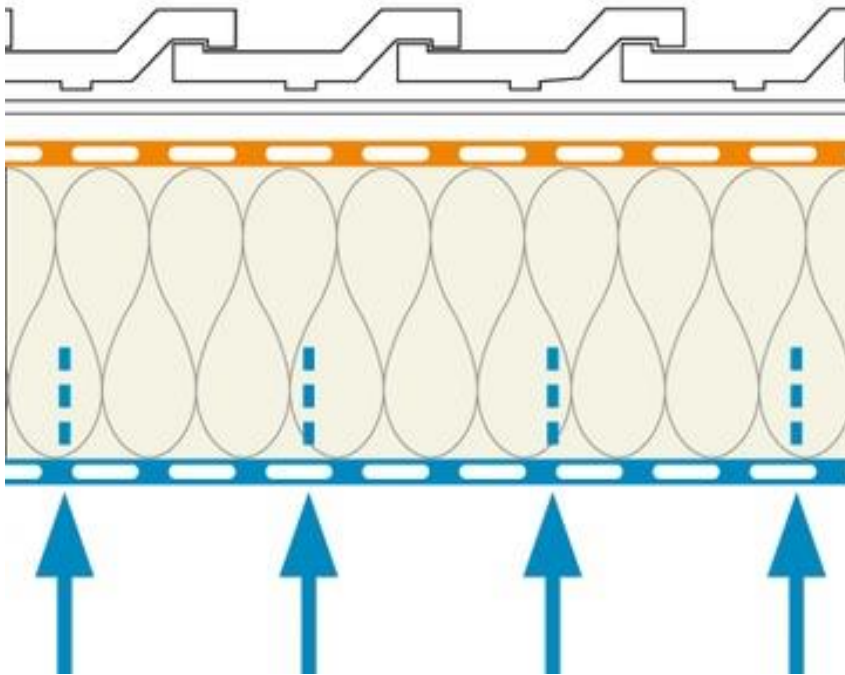
SSR

远大集团

firepool
15 15 15



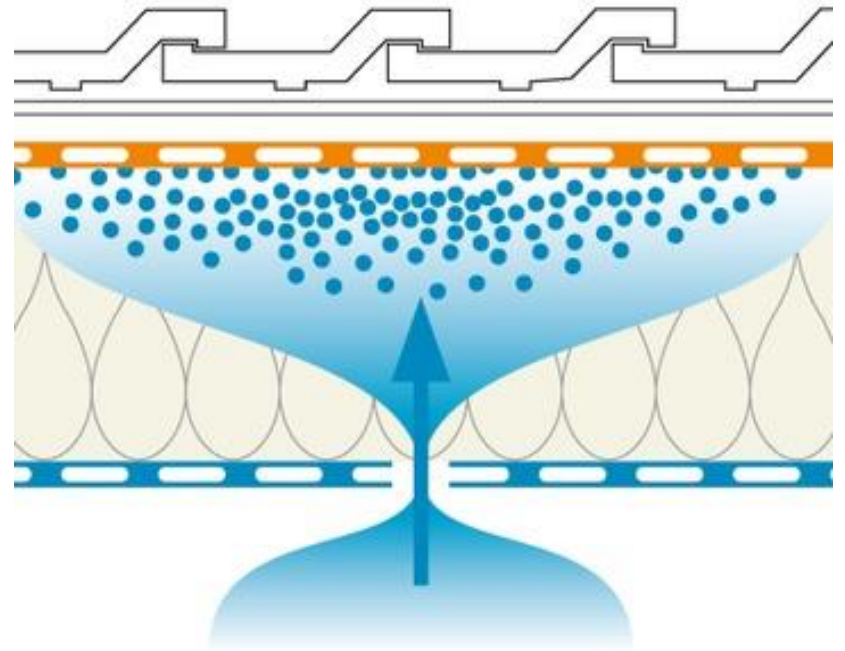
Planned diffusion



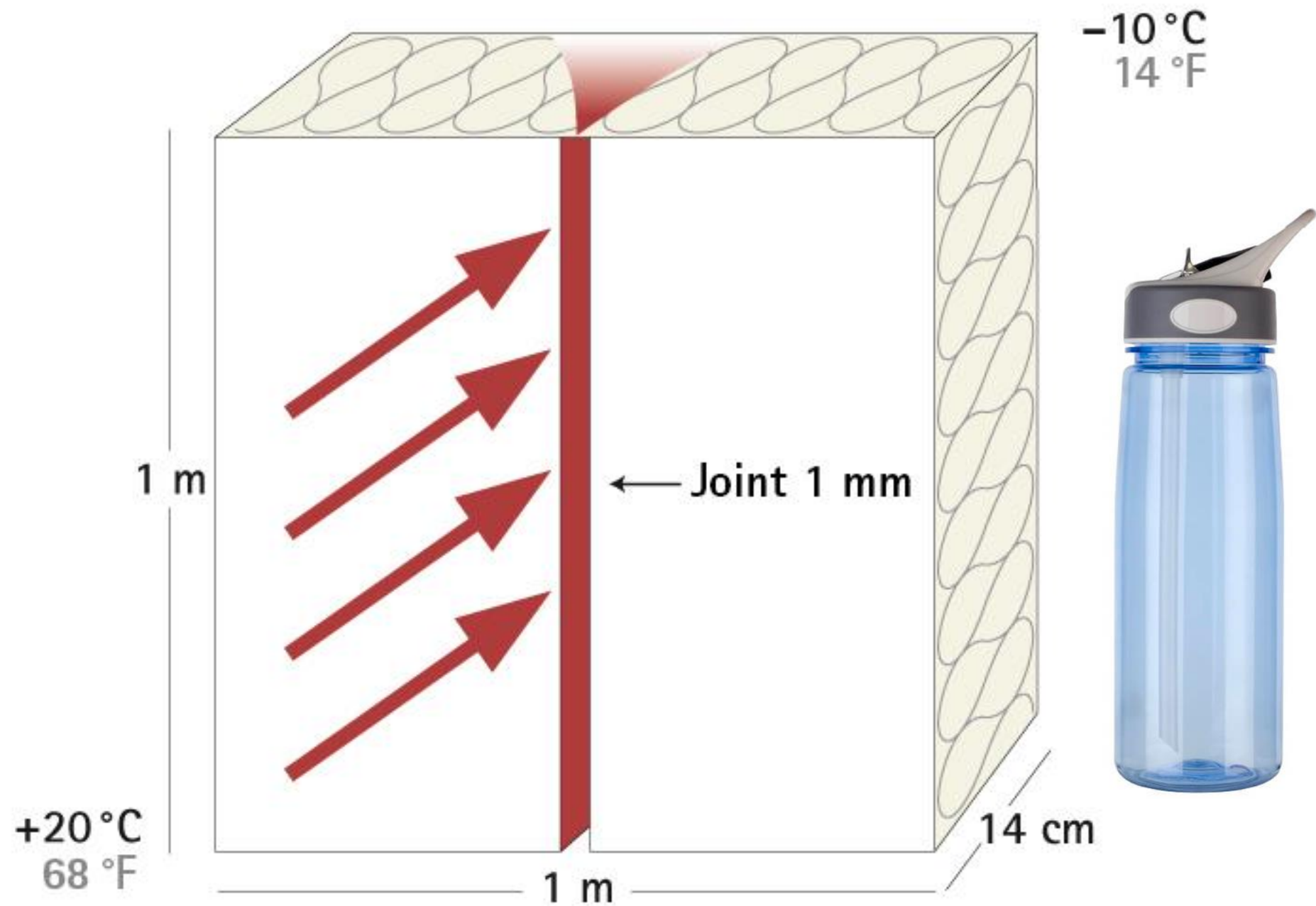
5 g of moisture per m² per day

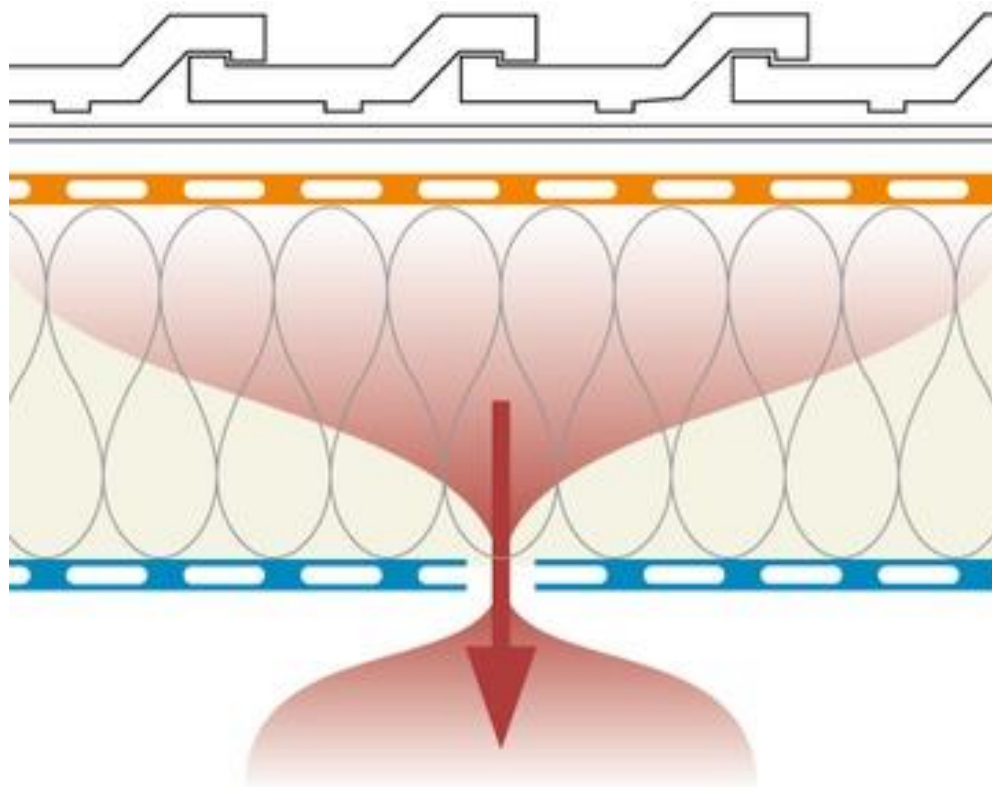


Unplanned convection



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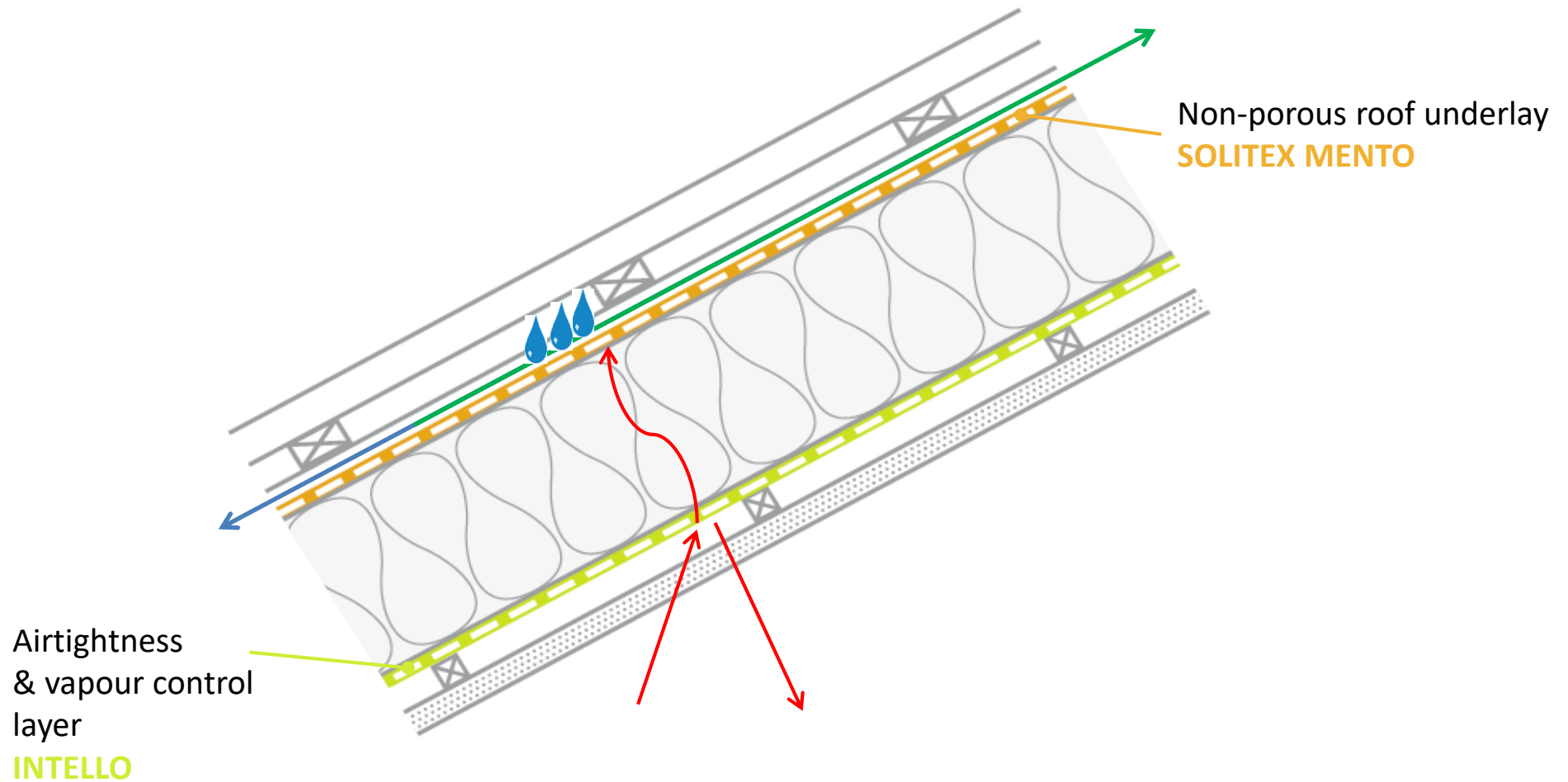
Control control control.

Insulation + Airtightness + Ventilation

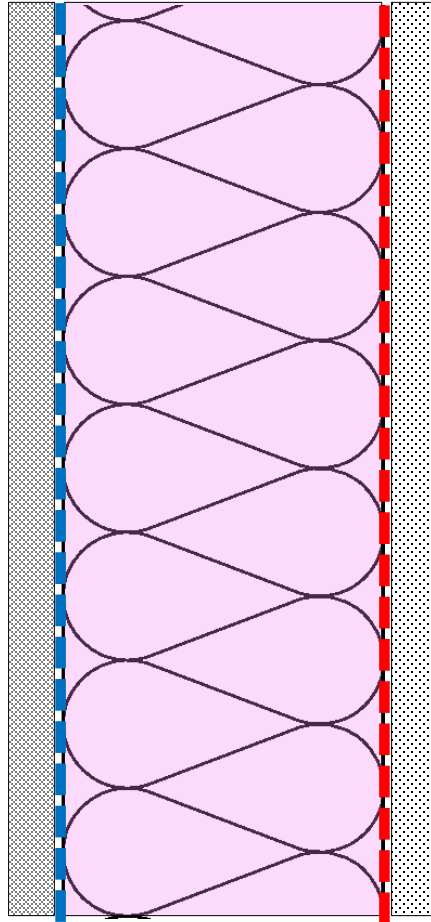
= Comfort + Health + Resilience



What happens if I do control moisture?

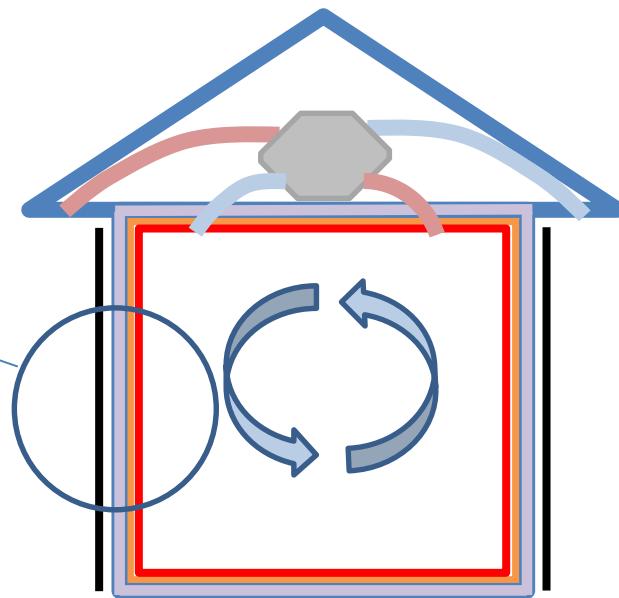
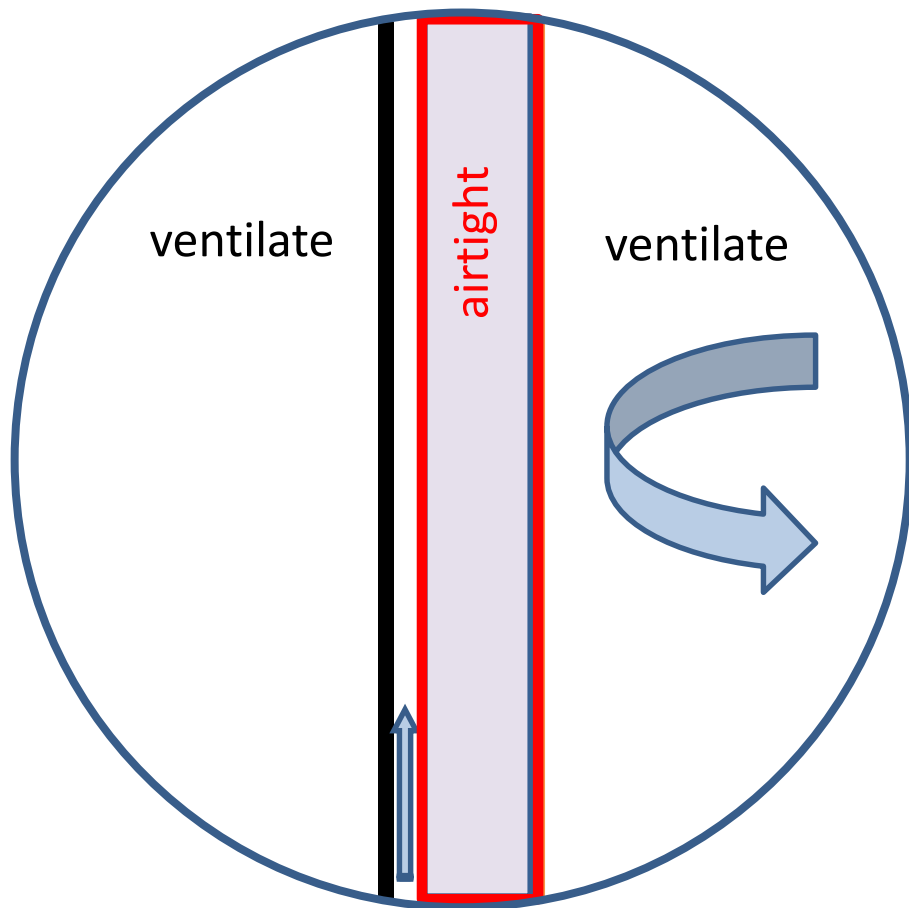


Outside



Inside





insulated

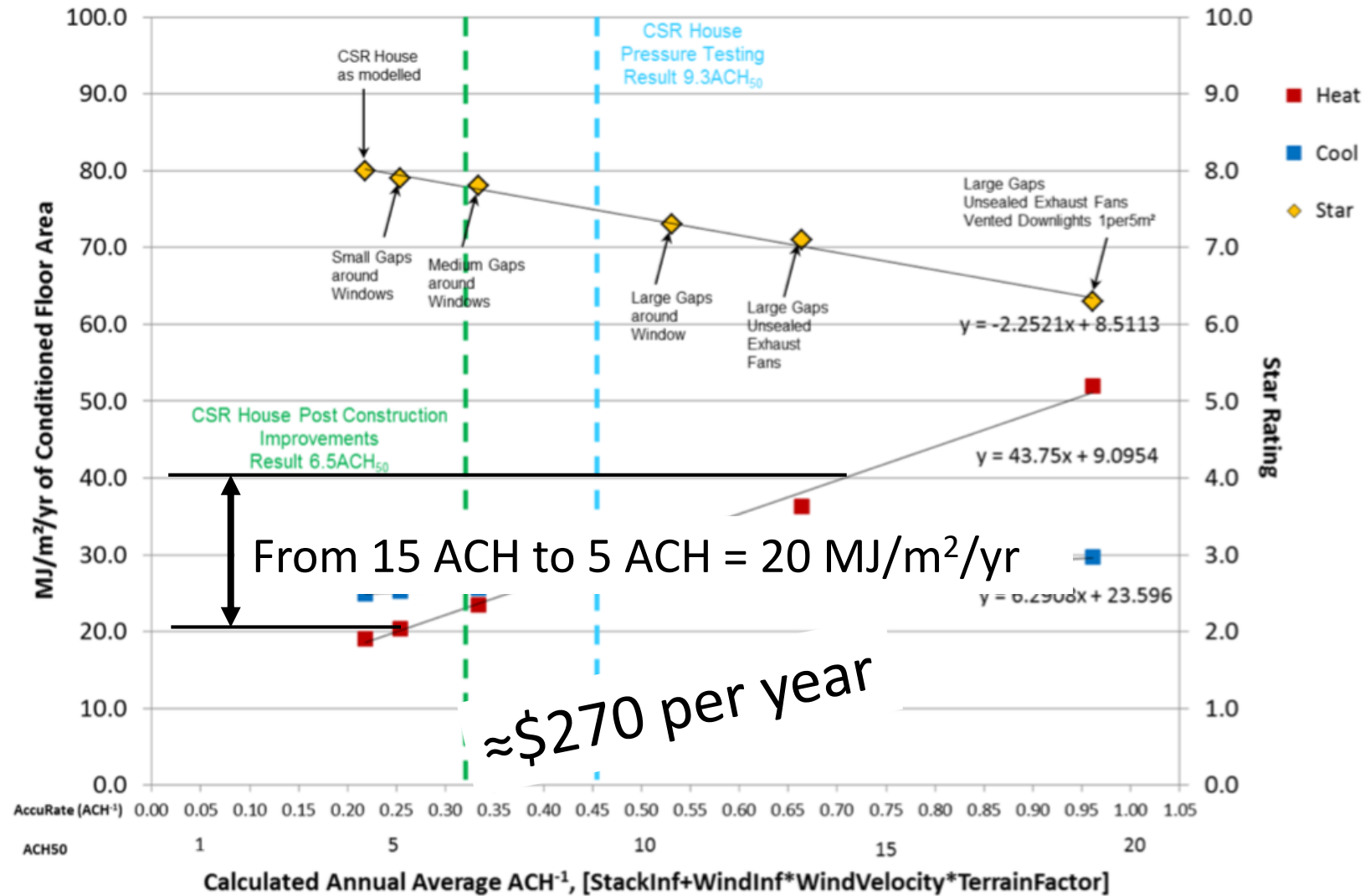
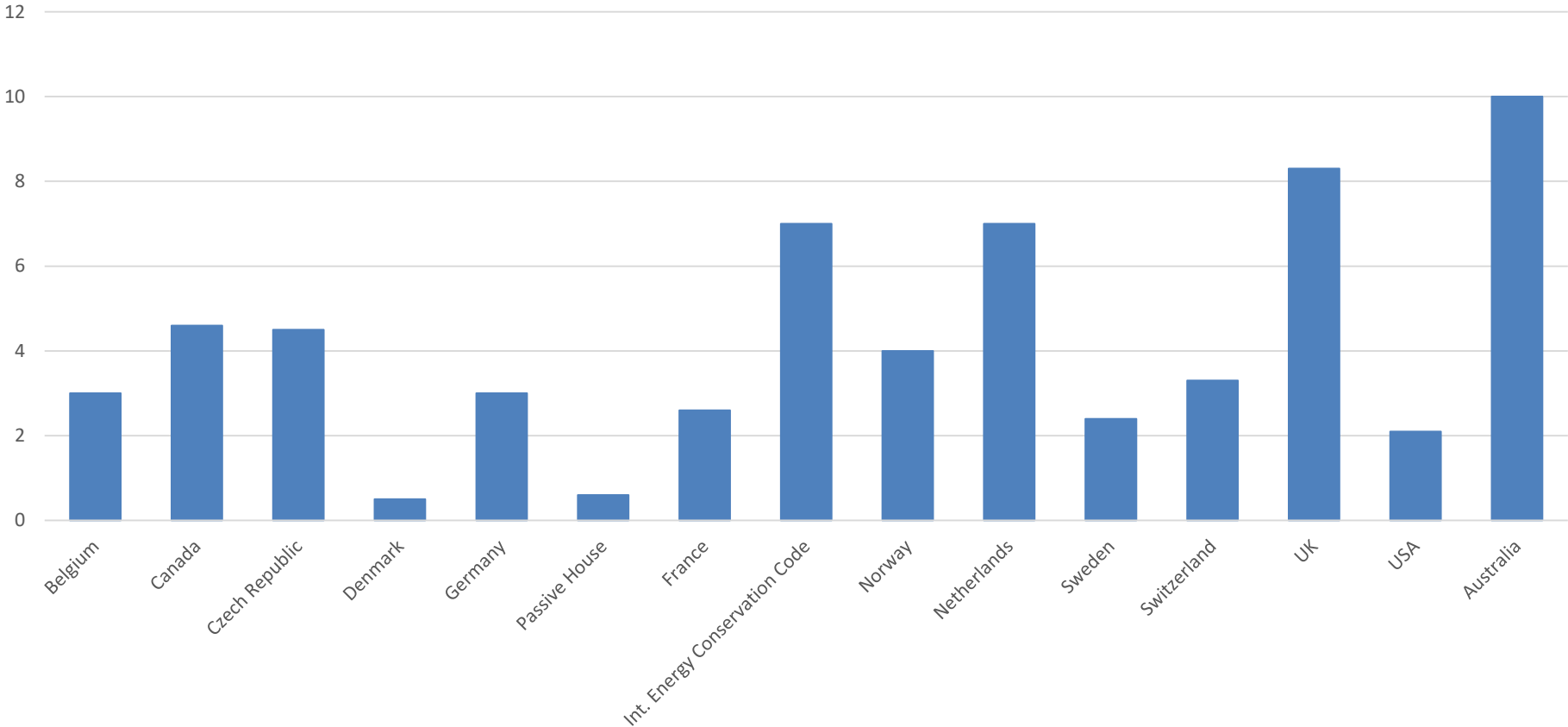


Figure 2 Effect of poor air sealing on heating and cooling loads (NatHERS 28)

International Airtightness Requirements





1. Effectiveness before efficiency
2. NZ insulation standards need to rise
3. Get what you pay for
4. Protect what you pay for

Questions

Thank You