

Insulated Wall? *(nearly)*

In theory this wall meets building regulations

In practice there's a flaw the inspector won't see, why?

This picture shows an uninsulated solid wall with a steel frame in front of it, then 70mm PIR insulation panels fixed between the uprights. 70mm PIR on a solid wall provides the regulation U-value so what's the problem?

The obvious problem is the gap between the steel profile and the insulation, not yet hidden by sticky tape. Condensation forms when warm air hits a cold surface, so without ventilation in this slot mould will eventually form.

The less obvious problem is the steel frame itself, hidden behind the sticky tape below. The 'C' shape profile means the 50mm wide frame is hollow and therefore uninsulated too. Ideally the PIR board should be pushed into it to provide continuous insulation of the wall. But this is difficult, so while it should happen it rarely does happen. Even with another length of tape to seal the obvious gap, There's still a 50mm cold strip every 400 or 600mm.

What's needed here is a vapour resistant, high performance insulating foam, ideally adhered to the wall itself to eliminate the void and tightly packed to fill the frame too. Solarcrest recommend BASF Walltite spray foam.

