Slab-edge insulation

A BRANZ SLAB-EDGE INSULATION DETAIL HAS BEEN REVISED, MINIMISING THE WIDTH OF THE THERMAL BREAK.

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AS A RESULT OF STUDIES of the performance of concrete slabs after the Christchurch earthquakes, BRANZ has revised a slab-edge insulation detail. The detail published in Build 134 pages 24–27 and Build 100 pages 32–33 with a timber thermal break inserted between the foundation wall and slab edge is no longer considered suitable to resist earthquake loading on the steel rebar.

Revised detail
The aim of the change is to minimise the width of the thermal break. This is so that the steel reinforcing remains restrained within the concrete during an earthquake while achieving the required insulation value of the thermal break. The original detail used a 45 mm wide timber thermal break, which may have allowed the steel to flex across the width of the timber when loaded.

The revised detail uses a 10 mm thick XPS (extruded polystyrene) thermal break between the foundation wall and the slab edge (see Figure 1). This gives the required thermal break performance (R0.35) and allows the slab edge to be supported on the foundation wall rebate.

Note: Top of foundation wall thickness is a minimum of 130 mm for single-storey and 150 mm for two storey (NZS 3604:2011).