

One Brighton—Reducing Repeating Thermal Bridging

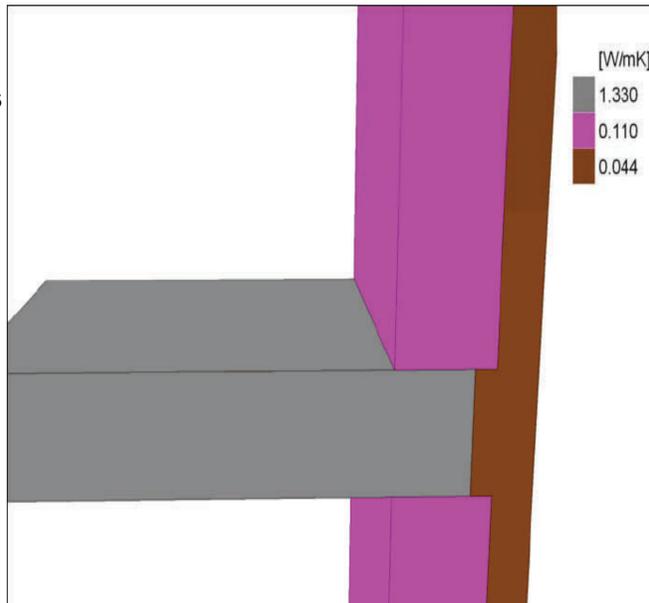
The Thermoplan blocks project over the face of the slab by 35mm which helps reduce thermal bridging, as the face of the slab can be insulated. This is then wrapped in 100mm interlocking T&G woodfibre board, fixed to the blocks with thermally broken fasteners.

This structure is not in the accredited details. This means that either:

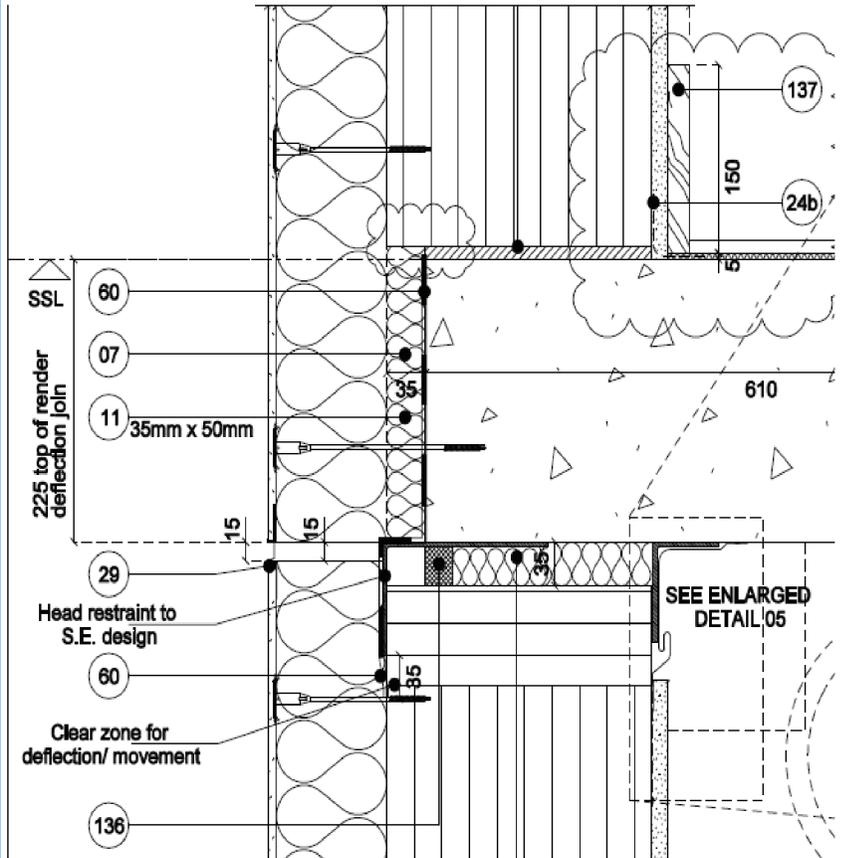
1. A default “y” value of 0.15 is taken, which effectively increases every U value by this amount, or

2. A psi calculation is carried out which will result in the calculation of the psi value at this point, and since this is the major thermal bridge, other psi values can be taken from IP 1/06 as reasonable estimates, ie for ground floor and roof, windows, etc.

These psi values are multiplied by their length of the detail, to give an additional heat loss in Watts per degree K (the y – value). This is then added to the fabric heat loss calculated from the areas and U values.



Section through slab showing Thermoplan blocks projecting



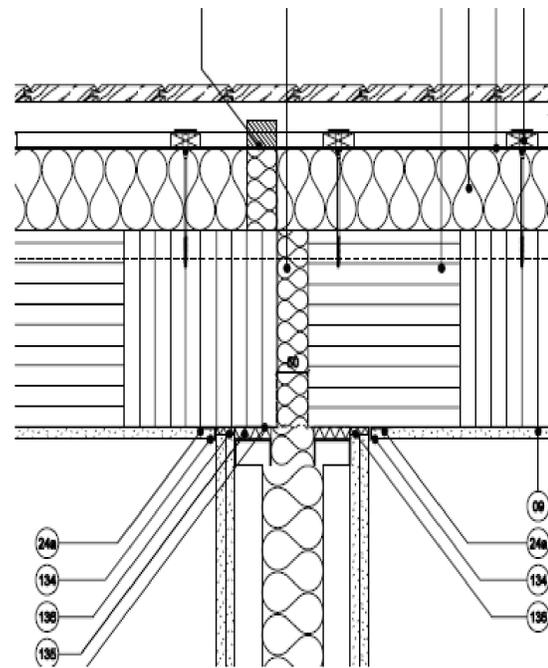
Psi Values (W/Cm)	Thermoplan projection over floor slab (mm)
0.11	0
0.10	20
0,08	50

A number of different projections were modelled showing the difference in Psi values at different projections.

Geometrical thermal bridging

All junctions with external and internal walls have been carefully detailed to reduce bridging:

Plan detail below: Junction of internal partition to Thermoplan blocks with the windposts.



Figures: Fixing the wood-fibre board and the thermally broken fasteners

