

Ground Floor Joist Design

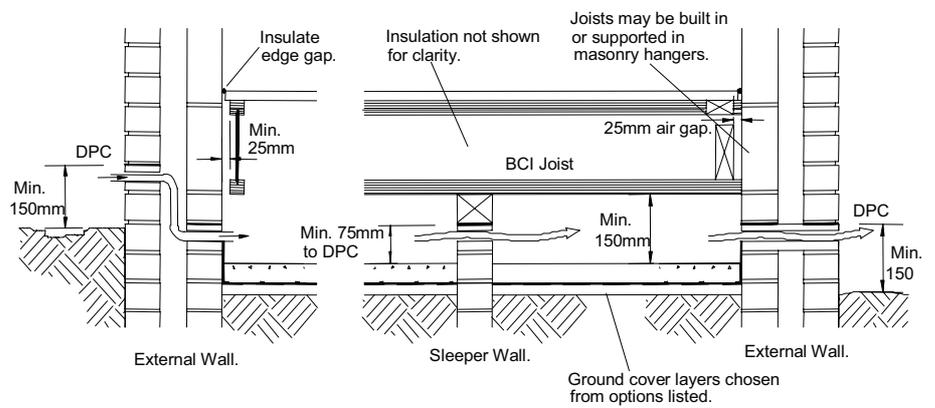
Boise Engineered Wood Products recommends that ground floor joists are designed to improved serviceability levels to provide a floor with a similar 'feel' to an insitu or precast concrete floor construction, but this decision is at the discretion of the Building Designer. Ground floor joists are considered to be in a service class 2 environment and should be designed using the service class 2 properties given in the table on page 10.

Due to the lack of a plasterboard diaphragm on the underside of the joists, it may be necessary to install a bracing system to the bottom flange of the BCI® Joists where they are continuous over internal supports, and consequently the bottom flange will be subject to a compression force.

Protection Against Ground Moisture

The ground cover layer should be chosen from one of the following options:

- a) 50mm of inert sand, gravel or concrete on 300 micron (1200g) polythene (1000g if PIFA branded) lapped and turned up at the edges, on 25mm sand blinding
- b) 100mm concrete on well consolidated hardcore
- c) 50mm concrete on polyethylene membrane on 50mm sand blinding



On sloping sites where external ground levels are higher than internal, the internal ground cover should fall to a suitable drainage outlet.

Under floor ventilation should be in accordance with The Building Regulations and ventilator manufacturer specifications. A minimum clear height of 150mm should be provided between the underside of the BCI® Joists and the internal ground cover.

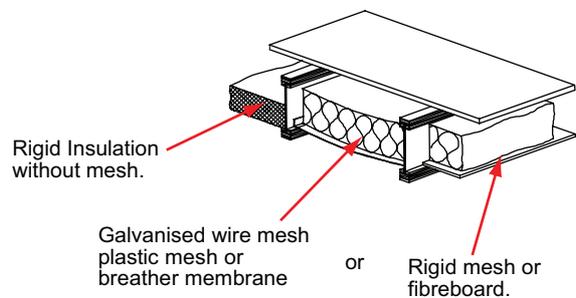
Where protection is required against Radon gas or other ground gases specialist advice should be sought.

Insulation

U values and insulation requirements will vary depending on the floor size and must be calculated independently for each floor construction.

Insulation can be installed in ground floor situations using three methods:

- 1) Use a rigid insulation without additional support by sitting the insulation directly on the BCI® Joist bottom flanges
- 2) Support the insulation between the joists on either a galvanised wire mesh or a breather membrane
- 3) Fix fibreboard or rigid mesh to the BCI® Joist bottom flanges and place the insulation on top



Disabled Access

All new dwellings require a level threshold to provide easy access for the disabled. Refer to *DETR – 'Accessible thresholds in new housing; Guidance for house builders and designers'*, or *TRADA Technology – 'Level Thresholds: the timber floor solution.'*