

DINCEL TERMITE BARRIER

DISCLAIMER

The information contained in this document is intended for the use of suitably qualified and experienced engineers. This information is not intended to replace design calculations or analysis normally associated with the design and specification of buildings and their components. Dincel Construction System Pty Ltd accepts no liability for any circumstances arising from the failure of a specifier or user of any part of Dincel Construction System to obtain appropriate professional advice about its use and installation or from failure to adhere to the requirements of appropriate Standards and Codes of Practice, and relevant Building Codes.

TERMITE BARRIER TO COMPLY – AS3660.1-2014 – TERMITE BARRIER

The Building Code of Australia (BCA) 2016, Volume 1, Amendment 1, Part B1.4 and Volume 2, Part 3.1.3 states that primary building elements are required to be protected against termite damages.

Termites are wood eating insects. The most dangerous of these kinds are sub-terrain termite. The prevention of termites entering into buildings can be done either by chemical or soil treatment or by having an impermeable barrier. The environmentally preferred method is not to use chemicals. It is known that termites do not eat polymers, such as rigid polyvinyl chloride. The tightness of interlocking wall modules and monolithic concrete construction of Dincel Wall leave no space for termites to enter into building environments.

Dincel Construction System adopts to have a termite barrier system which consists of monolithic wall-slab construction to deter the termites gaining concealed access to a building as recommended by the Australian Standard AS3660.1-2014 Termite Barrier.

Termites can enter the building's interior through wall cracks and wall joints. The wall joints associated with masonry brick, block, in-situ concrete and precast concrete are required to minimise wall crackings. If joints are provided, all walls in below ground conditions must have termite treatment in addition to conventional waterproofing requirements. As well accepted by the industry, because of its in-built crack inducers, Dincel Wall is a joint free wall system irrespective of its length. Dincel Wall has been used successfully in a 140 metre long wall without joints at the Cochlear Building in Macquarie University, Sydney.

The majority of concrete floor slabs, especially for housing, are small enough to build without joints as well. This eliminates the majority of the termite treatment (except at the service penetrations) provided that a monolithic connection between Dincel Wall floor slab is achieved.

Dincel Wall provides imperviousness even for 6m of head of water pressure as tested by the CSIRO, Australia ([Download – Waterproof Walls](#)) let alone termites.

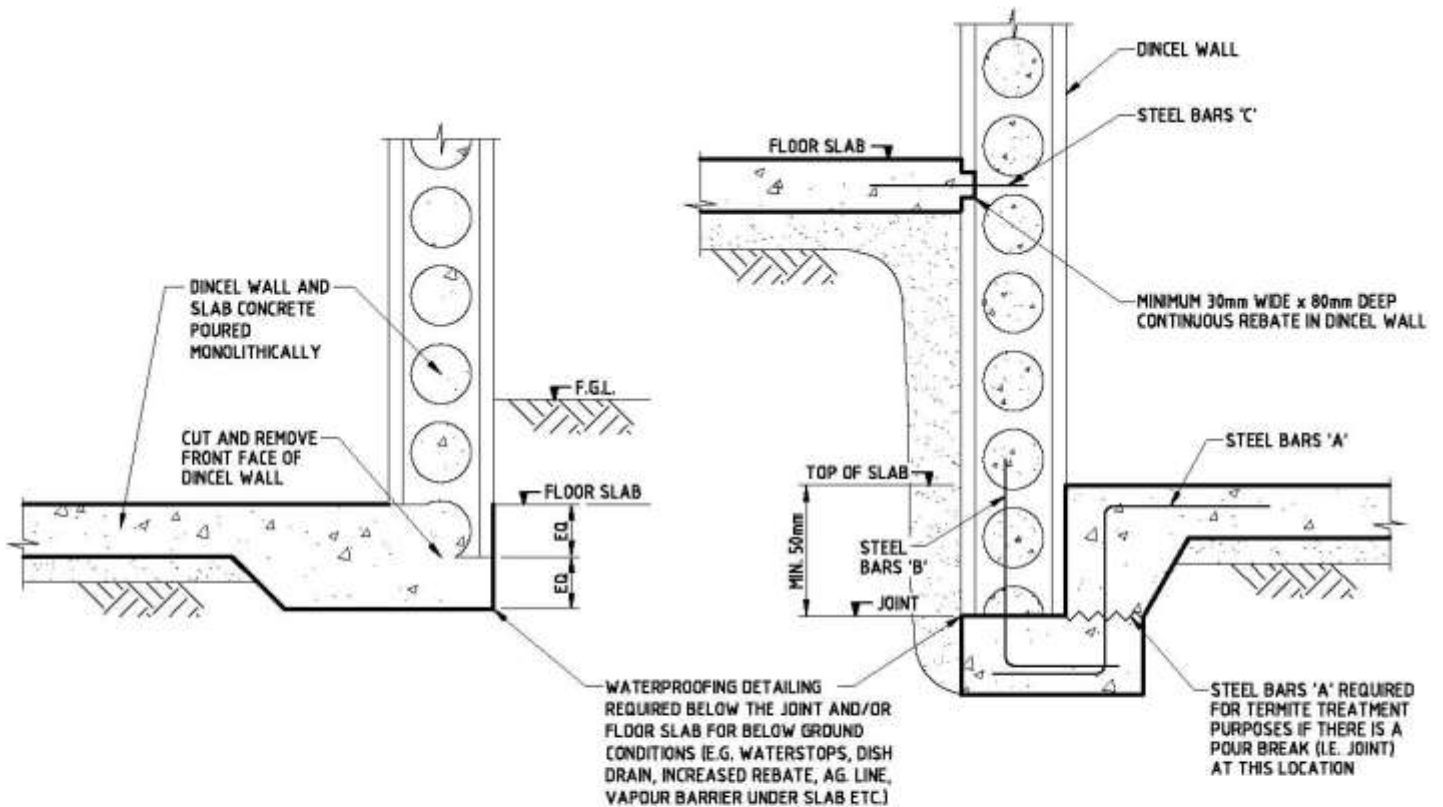
Dincel Wall complies with the requirements of AS3660.1-2014.

The relevant code clauses are:

- Clause 4.3.1 (Note 3) – This note states that “due regard should be given to minimising shrinkage and cracking”. The crack widths of the concrete within Dincel are much less than 1mm.
- Clause 4.2 (b) – Joints
- Clause 3.2 (b) & (f) – Materials
- Clause 4.3.2.1 – Dincel is constructed without any vertical joints.
- Clause 4.3.2.2 – Footing/Slab construction joints shall be built in accordance with this clause.

Therefore, when Dincel-wall is built around the building's periphery an impervious termite barrier is established provided the joint between Dincel Wall and the footing slab is treated in accordance with the detail shown below.

The following detail complies with AS3660.1 – 2014 Termite Barrier.



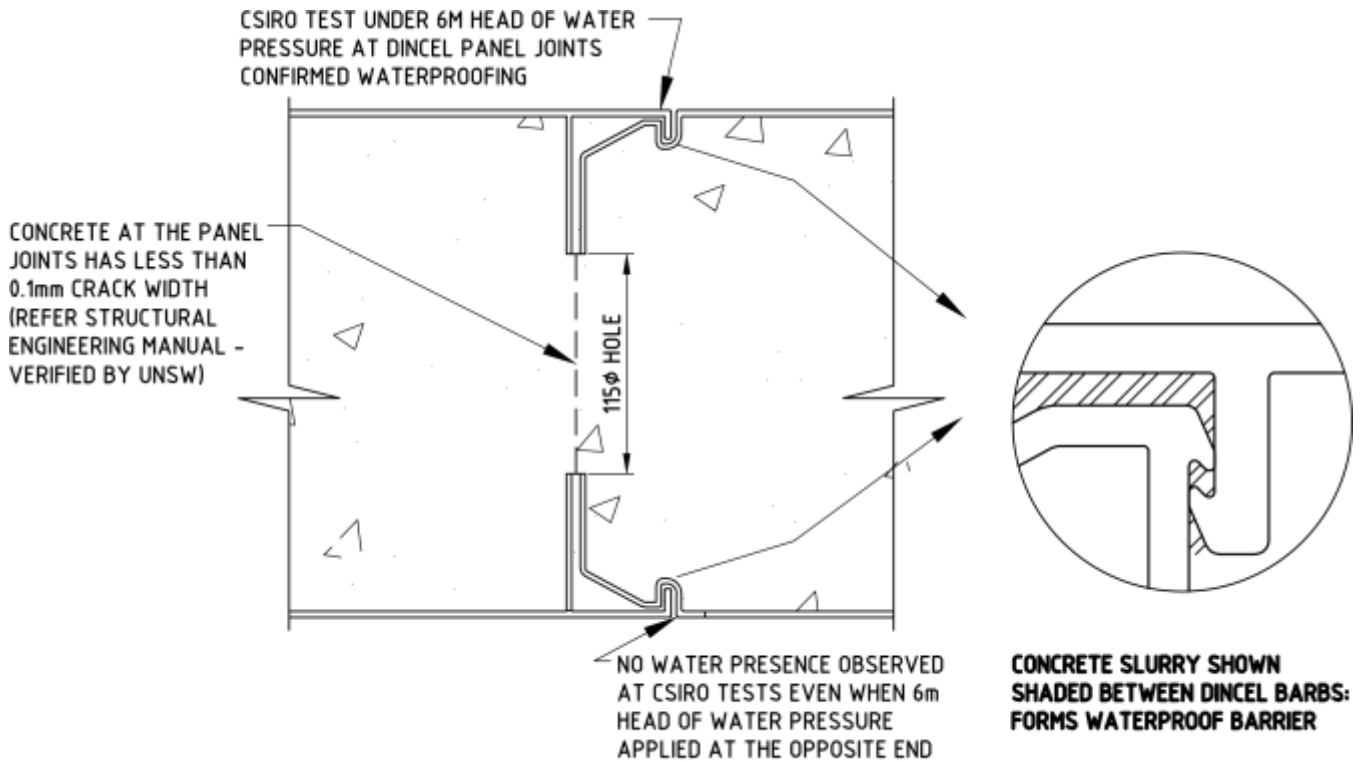
**AS 3660.1 COMPLIANT DETAIL
TO AVOID TERMITE TREATMENT
AT SLAB EDGES AND RETAINING WALLS**

NOTE: REFER DESIGN ENGINEER FOR BARS 'A', 'B', 'C',
FOOTING AND SLAB REINFORCEMENT SPECIFICATION

No additional termite treatment is required when the detail shown above is adopted. It is therefore in compliance with AS3660.1 – 2014 Termite Barrier is achieved.

Please refer to the Appendix of this document to read the relevant Clause 4.3.2.2 which outlines the conditions where footing/slab joints can be considered as monolithic as shown on the above detail and therefore no requirement for termite treatment.

CRACKS / JOINTS LESS THAN 1MM TYPICALLY REQUIRED TO PREVENT TERMITE INGRESS



DINCEL-WALL CROSS-SECTION - CSIRO TEST PANEL

WATERPROOF DINCEL PANEL JOINTS PREVENTS WATER INGRESS WHICH CONFIRMS THAT THE POSSIBLE GAP / JOINT / CRACK AT THE SNAPPING PANEL JOINTS IS MUCH LESS THAN 1MM JOINT / CRACK WIDTH TYPICALLY REQUIRED TO PREVENT TERMITE INGRESS

APPENDIX

4.3.2.2 Footing slab construction joints

Where edge beams, stiffening beams, footing beams and retaining walls form part of the slab construction, and—

- (a) they are placed as an integral component of the slab, or tied together in accordance with AS 2870;
- (b) the surface of the footing is cleaned prior to placing the slab; and
- (c) the concrete is compacted to eliminate voids at the joint,

termite treatment of the joint is not required.

NOTE: Examples of footing systems not requiring joint treatment are depicted in Figure 4.1.

In all other cases, joints at the junction/support of the slab and the horizontal joint shall have termite management systems installed in accordance with Sections 6, 7 or 8.

NOTE: Examples of footing systems requiring joint treatment are depicted in Figure 4.2.

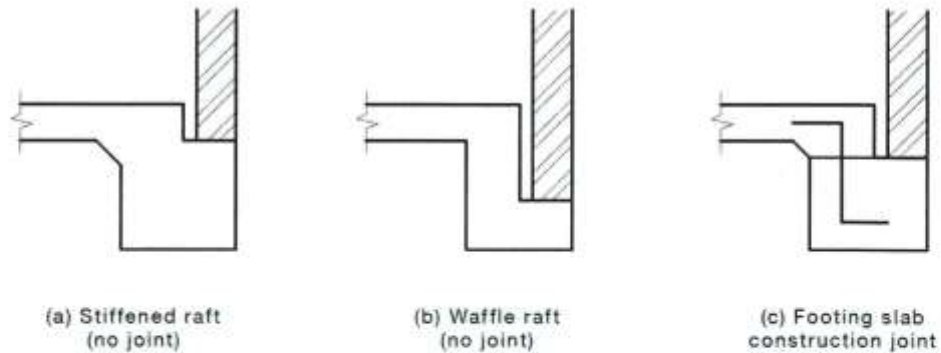


FIGURE 4.1 EXAMPLES OF FOOTING SYSTEMS REQUIRING NO JOINT TREATMENT

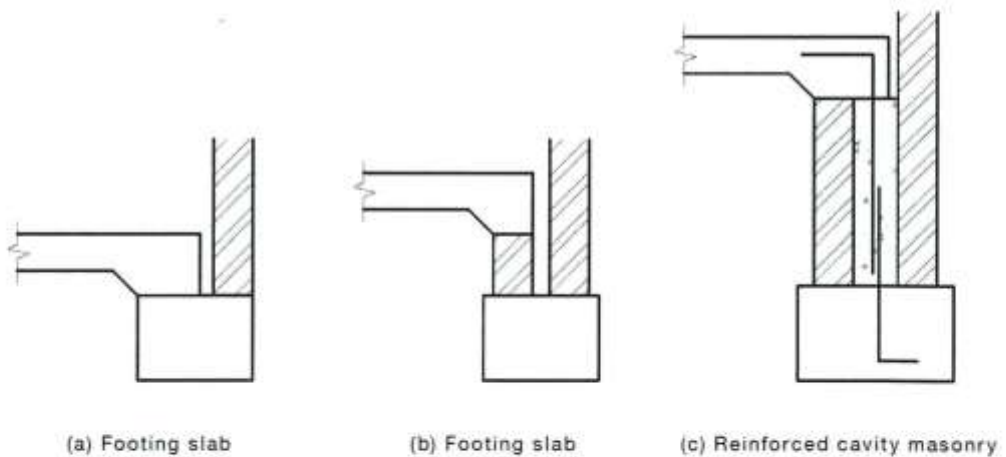


FIGURE 4.2 EXAMPLES OF FOOTING SYSTEMS REQUIRING JOINT TREATMENTS