BUILD RIGHT

Getting closure

THE BRANZ HELPLINE WAS RECENTLY ASKED HOW THE BASE OF A DRAINED AND VENTED CAVITY SHOULD BE CONSTRUCTED FOR A TIMBER OR CONCRETE PILE CONSTRUCTION. LET'S TAKE A LOOK.

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BUILDING CODE ACCEPTABLE SOLUTION E2/AS1 does not have a detail for the base of a cavity for timber or concrete pile construction, so where do we start?

Things to consider

Two aspects that need to be considered are:

- the clearance distance between the bottom of the cladding and the finished ground level
- what is required to ensure the base of the cavity is not open to the subfloor.

Although both issues are addressed in E2/AS1, different sections need to be applied when the foundation system is timber or concrete piles.

Minimum clearances

E2/AS1 provides minimum clearance distances between the bottom of the external cladding and ground level (paragraph 9.1.3, Figure 65 and Table 18). Table 18 gives minimum clearance distances depending on floor type – either concrete or timber. Paragraph 9.1.3.5 refers specifically to suspended timber floors and stipulates that the base of the cladding must overlap the timber floor structure by at least 50 mm. This is also included in Table 18, note (2). See Table 1 for a summary.

Paragraph 9.1.3.5 also states that care must be taken to prevent air from the subfloor space, where moisture levels may be high, entering the drained cavity.

Cavity closers to drain and stop vermin

E2/AS1 paragraphs 9.1.8.2 and 9.1.8.3 cover cavity closer requirements.

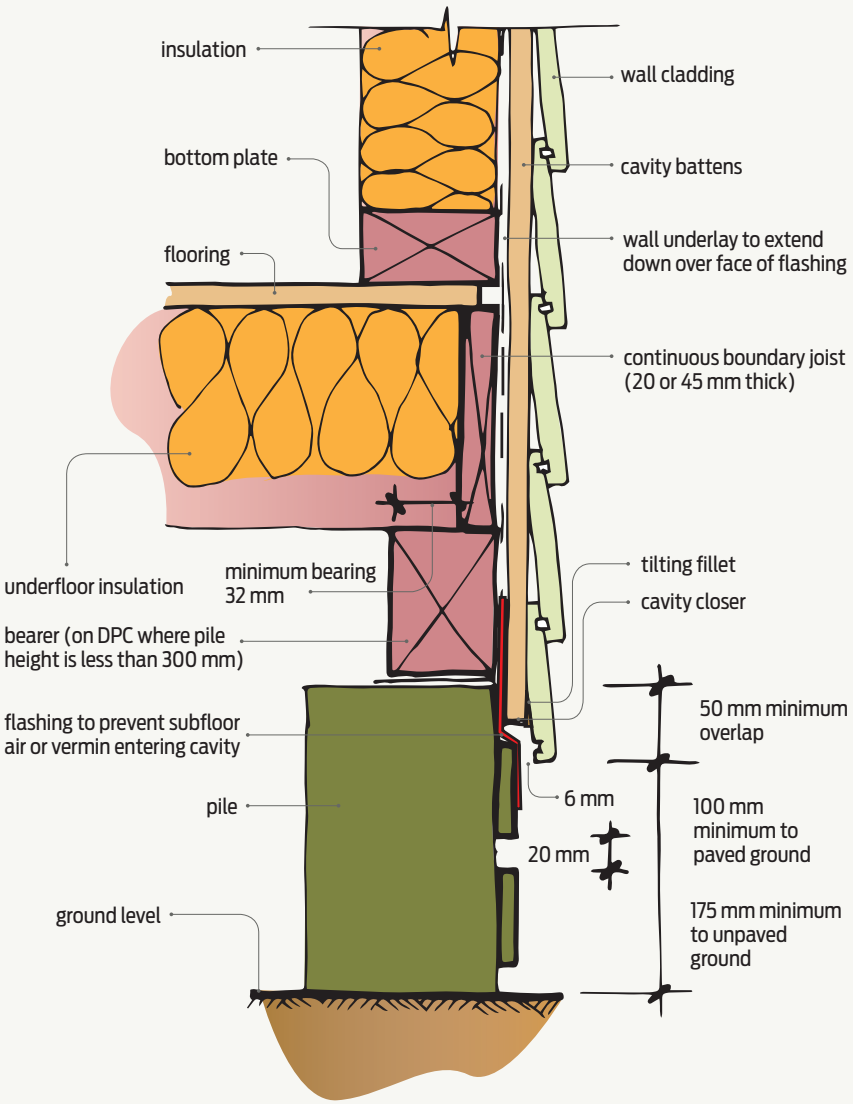

Figure 1 **Ground clearance and closing the base of a cavity with a pile foundation.**

Table 1

MINIMUM CLEARANCES FOR CLADDINGS WITH TIMBER FLOORS

SITUATION	MINIMUM DIMENSION
Bottom of cladding to underside of bearer or lowest part of subfloor framing	50 mm
Bottom of cladding to paved ground level	100 mm
Bottom of cladding to unpaved ground level	175 mm

Adapted from E2/AS1 Table 18.

Paragraph 9.1.8.2 states that the air movement between the drained cavity and a subfloor space should be prevented but also that the bottom of the cavity should be drained and vermin-proofed. Paragraph 9.1.8.3 describes requirements for vermin-proofing including that cavity closers should:

- have 3–5 mm drainage slots
- provide a total opening area of 1,000 mm² lineal metre of wall
- be located so that there is a drip edge of at least 10 mm at the base of the cladding.

Figure 1 shows how both these requirements can be met with timber pile construction.

Remember the subfloor ventilation

The subfloor space in fully piled foundations must have 3,500 mm² ventilation per square metre of floor space to prevent subfloor dampness.

NZS 3604:2011 section 6.14 gives methods of providing ventilation including:

- for sheet material – provide ventilation openings at no more than 750 mm from each corner in both directions evenly distributed at not more than 1.8 m spacings for the perimeter of the foundation
- for baseboards – provide continuous 20 mm slots between baseboards.