

Part 5.4 Unreinforced single leaf masonry

5.4.1 Application of Part 5.4

[New for 2022]

- (1) Part 5.4 applies subject to the limitations set out in H1D5(3)(c).
- (2) Part 5.4 need not be complied with if H1D5(3)(a) or (b) are complied with.

5.4.2 External walls

[New for 2022]

- (1) Single leaf *unreinforced masonry* walls with *engaged piers* and return walls must comply with the relevant provisions of this Part and be constructed in accordance with the following:
 - (a) The roof frame must be connected continuously to the top of the wall (see Figure 5.4.2a).
 - (b) *Stack bonded piers* must have wall ties at every fourth course.
 - (c) Pier and return supports size limitations for—
 - (i) single leaf *unreinforced masonry* walls with *engaged piers*, must comply with Table 5.4.2a and Figure 5.4.2b; and
 - (ii) single leaf *unreinforced masonry* walls with return supports, must comply with Table 5.4.2b and Figure 5.4.2c.
 - (d) An *engaged pier* or return wall must be provided at both sides of an opening.
 - (e) The width of an opening must be not more than the spacing between the *engaged piers* unless the *engaged piers* either side of the opening are designed in accordance with AS 3700.
 - (f) Articulation joints must be located within 300 mm of vertical supports in accordance with 5.6.8.
- (2) A Class 10a building containing not more than 1 storey may be enclosed with single leaf masonry *external walls* not less than 90 mm in thickness, provided that—
 - (a) the building measured in the direction of the span of the roof is not more than 9 m and the height is not more than 2.7m; and
 - (b) *engaged piers* are provided that are in accordance with Tables 5.4.2c and 5.4.2d; and
 - (c) the roof does not place any spreading thrust onto the *external walls*; and
 - (d) the Class 10a building is located in an area with a wind class of not more than N2.

Table 5.4.2a: Engaged piers in external single leaf masonry walls to AS 3700

Element	Symbol used in Figure 5.4.2b	Thickness of wall (T)	
		90	110
Pier size (minimum) (not more than N2)	A x B	290 x 190 (800 spacing)	350 x 230 (1150 spacing)
Pier size (minimum) (not more than N3)	A x B	290 x 290 (700 spacing)	350 x 350 (1050 spacing)
Spacing of returns (maximum)	S	700	1050
Height (maximum)	H	2400	2700

Table Notes

- (1) Dimensions are in mm.
- (2) Return supports are not *required* for 140 mm and 190 mm thick walls.