

BRICK VENEER SUPPORT FOR EXTERIOR CHIMNEYS

by

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Table 2 contains design guidelines of the bracket from where the number of anchor bolts and their location can be obtained as a function of the length L, the height of the chase and the size of the anchor.

Table 2: Design guidelines of support bracket

L (mm)	d (mm)	1/2" Diameter										3/8" Diameter										3/4" Diameter									
		7.0 kN/Anchor 10.1 kN/Anchor										9.3 kN/Anchor 13.6 kN/Anchor										13.8 kN/Anchor 21.4 kN/Anchor									
		Height (m)										Height (m)										Height (m)									
		3	4	5	6	7	8	9	10	11	3	4	5	6	7	8	9	10	11	3	4	5	6	7	8	9	10	11			
400	300	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	400	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	500	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	600	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1			
	700	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1			
600	300	1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	400	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
	500	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1				
	600	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1				
	700	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1			
800	300	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
	400	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1				
	500	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1				
	600	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1				
	700	1	1	1	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1			
1000	300	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1				
	400	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1				
	500	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1				
	600	1	1	1	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1				
	700	1	1	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1	2			
1200	300	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1				
	400	1	1	1	1	2	2	2	2	2	2	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1				
	500	1	1	1	2	2	2	2	2	2	2	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1				
	600	1	1	1	2	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	1				
	700	1	1	2	2	2	2	2	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1	1	1	1	2	2			

Figure 5 and 6 show the details of the retrofit.

EXAMPLE:

FOR AN EXISTING CHIMNEY 6000 mm HIGH, 600 mm WIDE (l) AND 500 mm IN DEPTH (d). USE FRAME FOR SUPPORTING THE BRICK VENEER AT THE FOUNDATION CONSTRUCTED AS SHOWN, AND USE ONE 12 mm DIAMETER REDHEAD 'WEDGE' ANCHOR BOLT AT EACH TOP SIDE OF THE FRAME. USE THE SAME ANCHORS FOR BOTTOM.

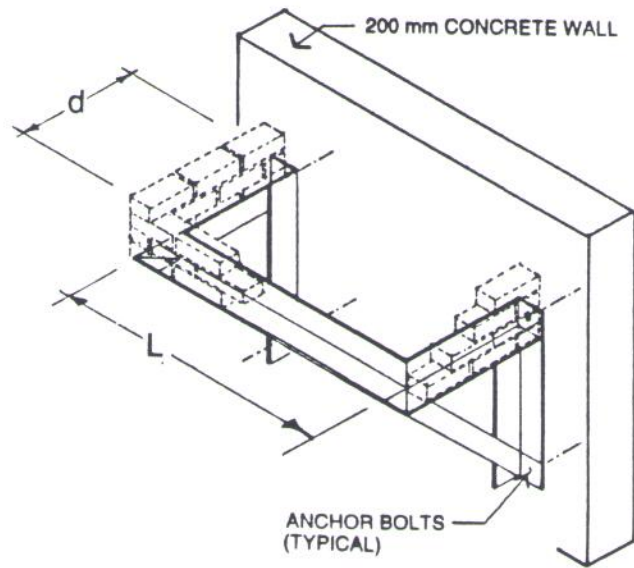


Figure 5: Isometric view of the cantilever support

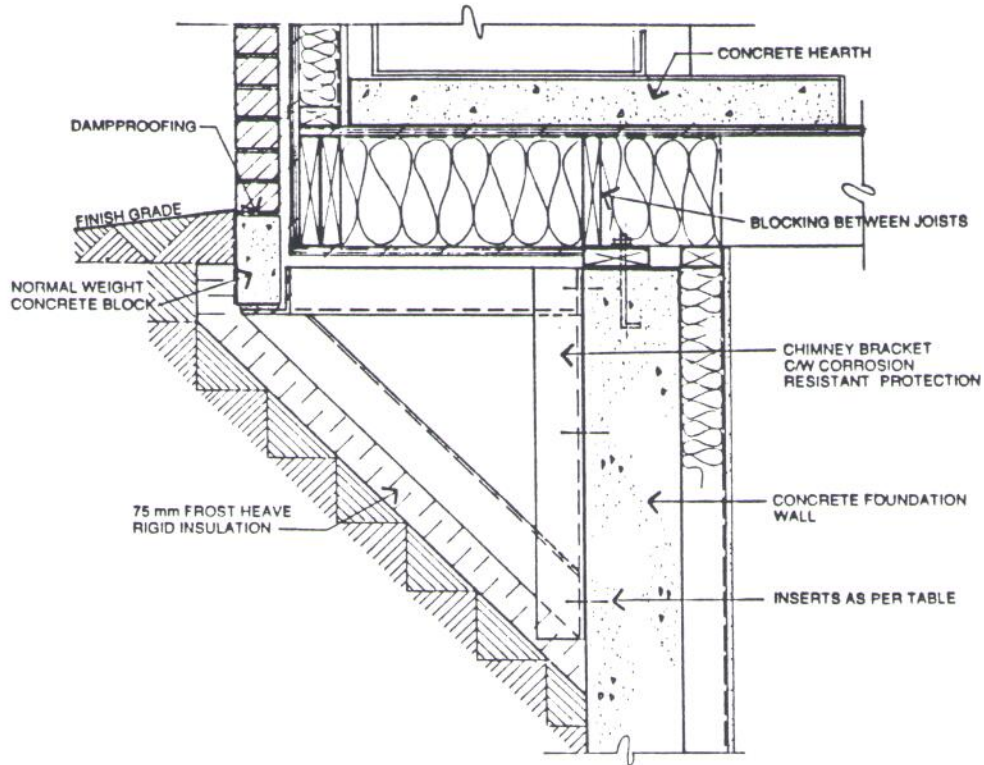


Figure 6: Connection details of the cantilever support

The veneer is tied to the frame of the wood chase by using 0.76 mm (22 ga.) standard corrugated strip ties and 3.18 mm diameter spiral nails (having a minimum wood penetration of 63 mm), spaced at 600 mm vertically and 400 mm horizontally. The incorporation of 25 mm airspace between the brick and the existing chase is recommended. Figure 7 shows these details.

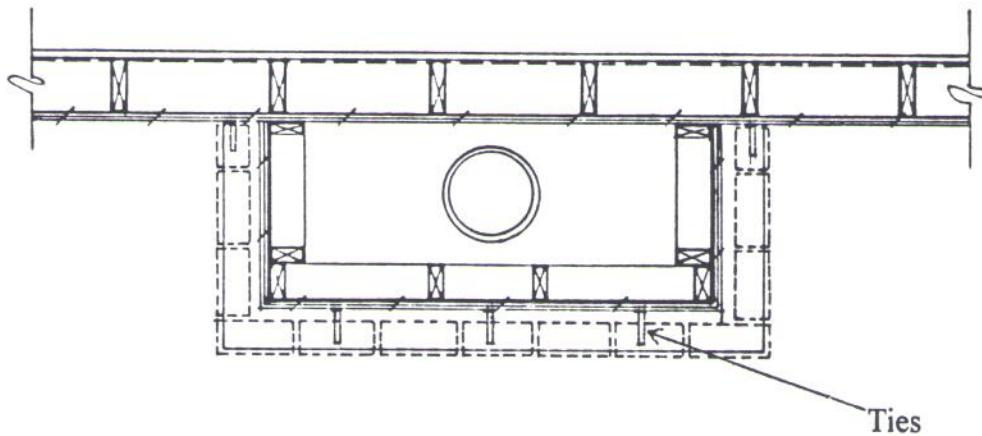


Figure 7: Section through retrofitted chimney

Support Chimney on Top of Roof

Use 100 mm x 100 mm x 8 mm (or 6 mm) angle iron supported by the brick veneer on both ends and anchored to wood studs by 5/8" bolts @ 400 mm spacing. Cut through roof and add flashing if required. Figure 7 shows these details.

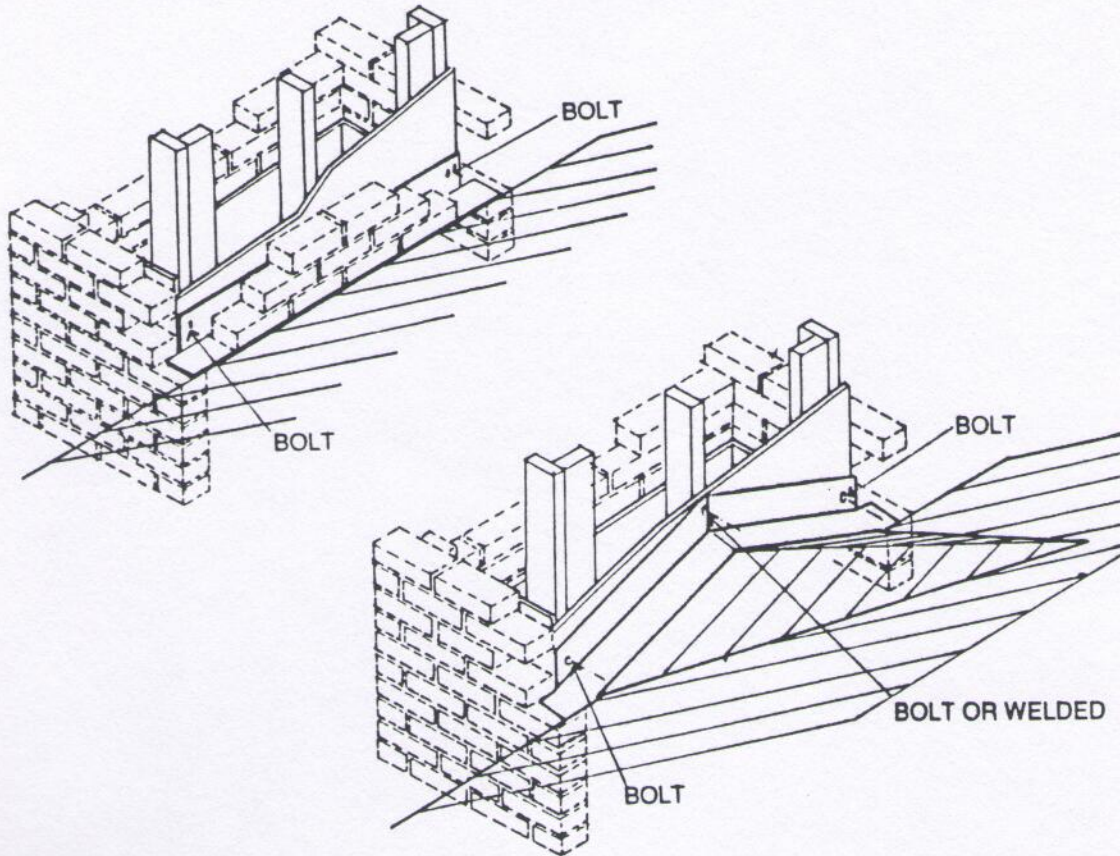


Figure 7: Brick veneer around the chimney at the top

Capping of Chimney

The chimney may be capped with a metal coping or a poured-in-place concrete cap with a flashing beneath it. Silicone caulking should be used at the chimney-cap junction. Figure 8 shows the capping details.

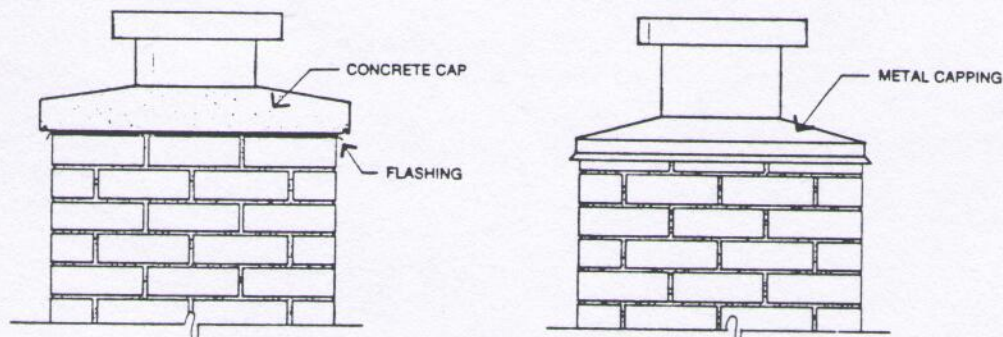


Figure 8: Typical capping details