

## **In-plane shear Capacity of Unreinforced Timbercrete (kN)**

Wall length (m)	Thickness of wall (mm)			
	95	120	150	200
0.4	0.1	0.1	0.1	0.1
0.6	0.1	0.2	0.2	0.3
0.8	0.3	0.3	0.4	0.6
1.0	0.4	0.5	0.6	0.9
1.2	0.6	0.7	0.9	1.2
1.8	1.3	1.7	2.1	2.8
2.4	2.4	3.0	3.7	5.0
3.0	3.7	4.7	5.8	7.8
4.0	6.6	8.3	10.4	13.8
5.0	10.3	12.9	16.2	21.6
6.0	14.8	18.6	23.3	31.1
7.0	20.1	25.4	31.7	52.3
8.0	26.2	33.1	41.4	55.2
9.0	33.2	42.0	52.4	69.9
10.0	41.0	51.8	64.7	86.3

These figures are based on standard unreinforced masonry, including (assuming) bond strength of 0.2 MPa. However the bond strength of Timbercrete is typically 0.3 MPa.

If a damp-proof course is incorporated, the first course above the damp proof course must be prevented from sliding off by the installation of a suitable stop. The shear capacity may be increased by the incorporation of vertical and horizontal reinforcement. Design of such systems may be carried out using Timbercrete design software on the website.

Typically a 200 mm and 300 mm thick single leaf Timbercrete walls include vertical and horizontal reinforcing. Horizontal reinforcing is achieved by securing bracing strap in every second or third course of blocks. Please refer to the "Building with Timbercrete manual" and the bracing values in the "Structural Design -Bracing and Tie down Values".

Also refer to "In Plane Racking Load Test Appraisal" for test appraisal information regarding: "Partially Reinforced Timbercrete Walls"