

GIB EzyBrace® Systems attached to Battens

Winstone Wallboards Ltd. - December 2016¹

A series of tests were undertaken to assess the performance of bracing elements with linings fixed to battens attached to the frames. The tests consisted of 400 and 1200 mm long BL1-H bracing elements lined with GIB Braceline®.

All frames were constructed using 90 x 45 mm SG 8 *Pinus radiata*. Top and bottom plates were end-nailed to each stud with 2/3.15 mm diameter by 90 mm long coated gun nails. 45 x 45 mm *Pinus radiata* battens were attached to the framing with 3.15 mm diameter by 90 mm long gun nails, placed 100 mm from batten ends and generally at 200 mm centres thereafter to top and bottom plates and 400 mm centres to studs. Intermediate battens are fixed at 600 mm centres horizontally as shown, or vertically direct to intermediate studs, fastened with 3.15 x 90 mm gun nails at nominally 600 mm centres.

Linings were attached to the battens with 32 mm long by 6 gauge GIB® Grabber® high thread screws spaced at the GIB EzyBrace® fastening pattern.

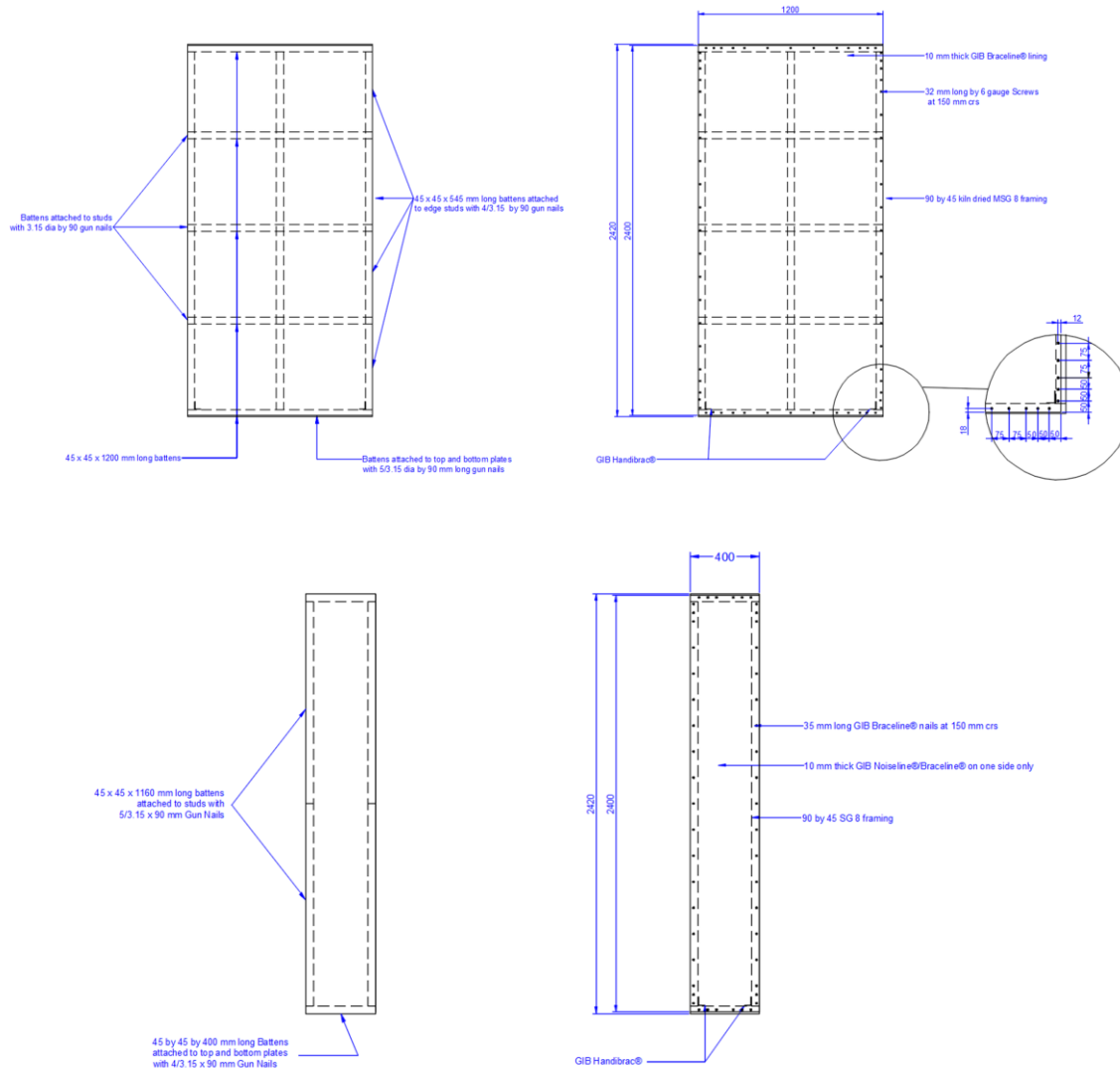


Figure 1 - 1200 mm and 400 mm Test Frames

All testing was undertaken at the Winstone Wallboards Ltd. development facilities, Penrose, Auckland. Tests were carried out in accordance with the BRANZ P21 Test and Evaluation Procedure. Load was applied at the top of the panel top using a double acting computer controlled hydraulic ram. Loading cycles were undertaken to ± 9 , ± 15 , ± 22 , ± 29 , ± 36 with a final cycle at ± 43 mm. Figure 2 shows details of the test arrangement.

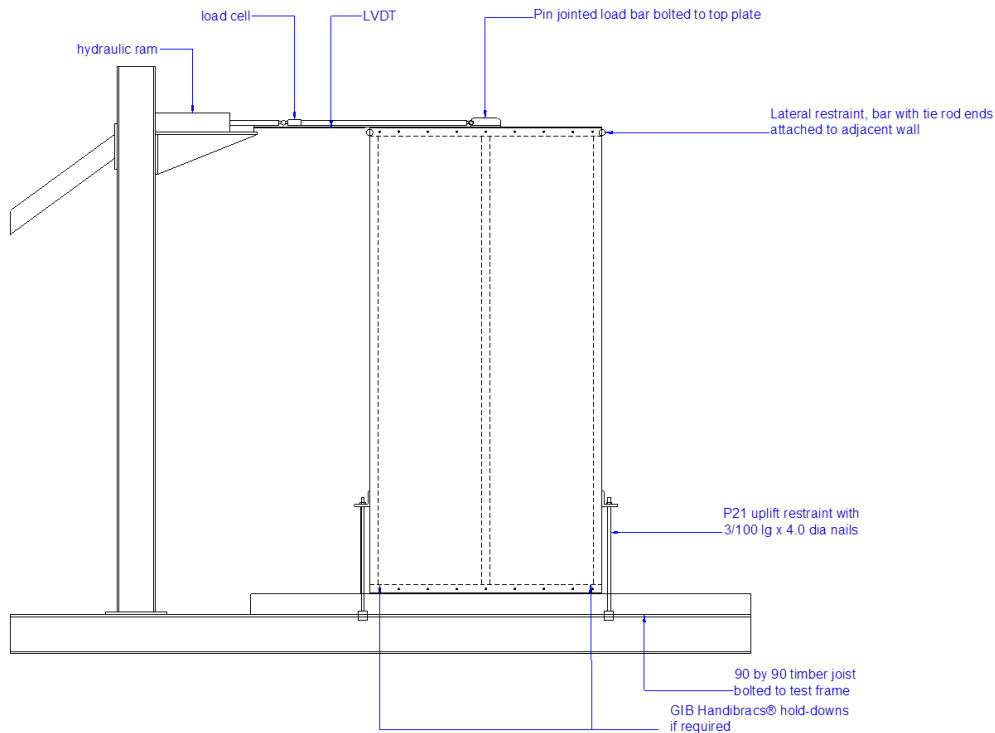


Figure 2 - Test Arrangement

A summary of test results is presented in Table 1 below along with bracing values determined from testing with linings fixed direct to framing. The results show that fixing GIB EzyBrace® Systems to 45 x 45 mm battens as described, does not affect the published Bracing Unit rating.

Table 1
Summary of Testing

BL1-H Length (mm)	Bracing Resistance (BU/m)			
	Frames with Battens		Bare Frames	
	Wind	EQ	Wind	EQ
1200	130	105	130	105
400	90	100	90	100

ⁱ Abridged from Hunt, R, *The testing of Bracing Systems with Plasterboard attached to Battens*. Winstone Wallboards Ltd. Confidential Report, 2006.