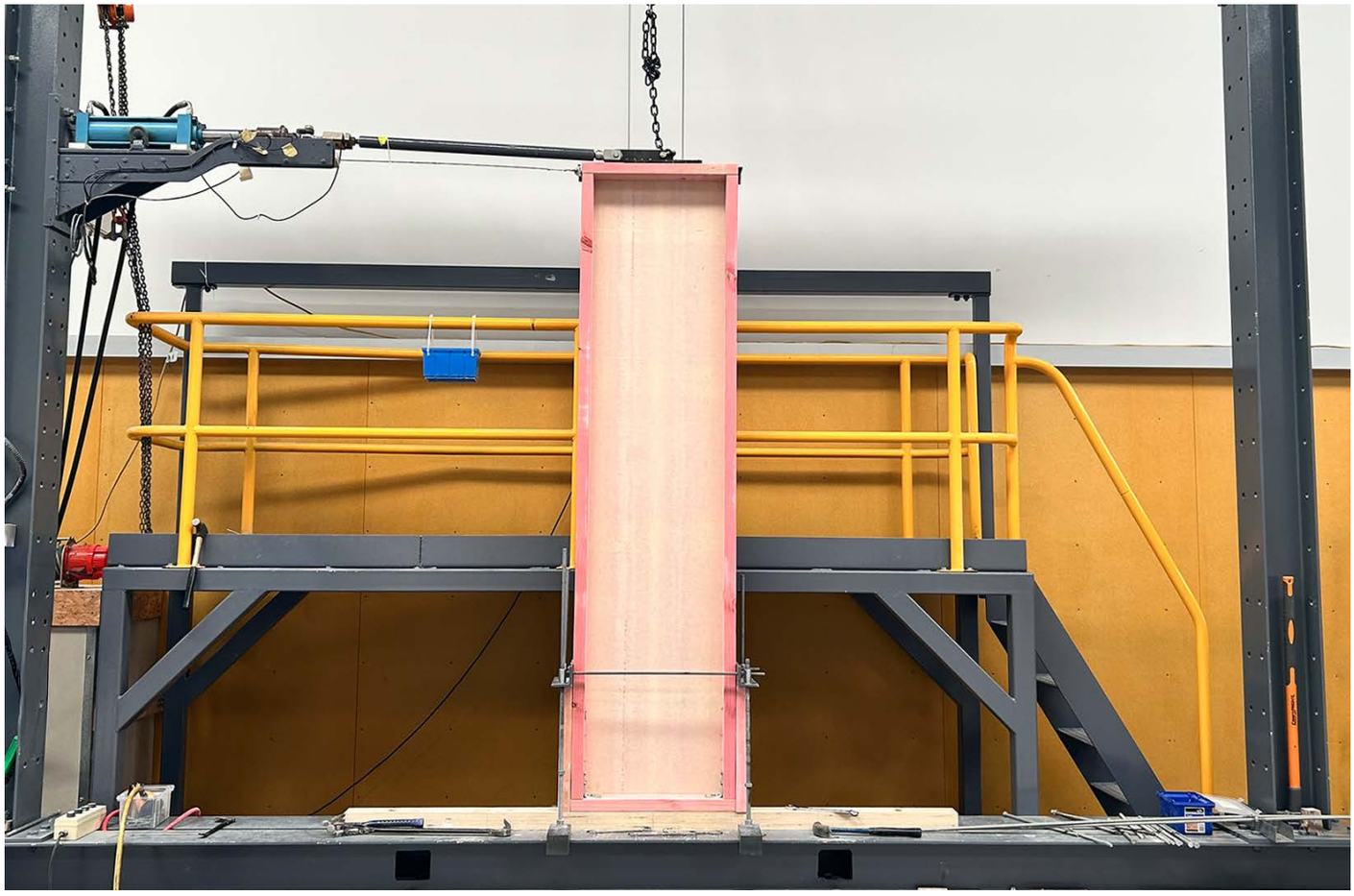
Insulation
New Zealand

Bracing Supplementary
Kingspan Kooltherm K17 Insulated Plasterboard 35mm

The bracing aspect of Kooltherm K17 Insulated Plasterboard is not covered by the Codemark Certification CM20314.



Kooltherm®

Kingspan®

Koolthem K17 Insulated Plasterboard 35mm
Bracing Supplementary

Koolterm K17 Insulated Plasterboard is a fibre free rigid thermoset phenolic insulation, sandwiched between a front facing tapered edge gypsum based plasterboard, and a tissue based back facing autohesively bonded to the insulation core during manufacture. To achieve the required bracing resistance requirements, please follow the guidelines below.

Bracing Guidelines

Bracing Resistance (Bu's/m)		35mm Koolterm K17 panel width (mm)	GIB HandiBrac hold-down required?
Wind	Earthquake		
56	56	400	No
67	61	600	No
62	65	1200	No
60	56	400	Yes
67	64	600	Yes
76	73	1200	Yes

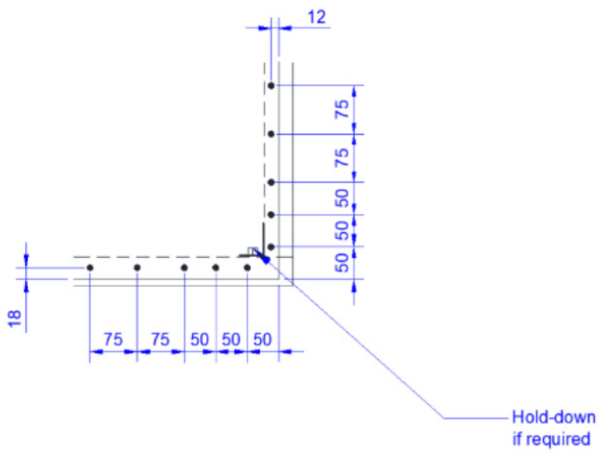


Figure 1. Koolterm K17 **Insulated** Plasterboard corner fixing pattern for the bracing testing

Testing of Bracing

Bracing testing was conducted by Winstone Wallboards following the P21 BRANZ Procedure (Shelton, 2010). Based on this testing, 35mm Koolterm K17 Insulated Plasterboard can be used as a bracing component in a building.

Two different hold-down arrangements were tested:

1. Panels with GIB HandiBrac hold-downs
2. Panels held down in accordance with NZS3604:2011 with 3 mm diameter by 90 mm gun nails at 300 mm centres

Koolterm K17 Insulated Plasterboard panel sizes of 400mm, 600mm and 1200mm were tested using the two different hold-down arrangements as per the above. Fixings used were 51mm long 7 gauge GIB Grabber high thread drywall screws at 75mm centres, the screw pattern at the corners of the panels were as per the below diagram. In tests with hold-downs, the edge studs were connected to the bottom plate with GIB HandiBracs.

Based on this testing, 35mm thick Koolterm K17 Insulated Plasterboard can be used as a bracing component in a building, when the fixings and the fixing pattern used are installed as per the Winstone Wallboards test report. Failing to follow this may mean the bracing performance of 35mm Koolterm K17 is compromised. It is the responsibility of the building designer to use the component bracing values to ensure the overall bracing demands of the building are met.

References

Shelton R., 2010, "P21 (2010) A wall bracing test and evaluation procedure", BRANZ Technical Report, Judgeford, 2010

Bracing Test Report
Kingspan K17Timber Framed Bracing Elements

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