

TEG TAB

SEISMIC CAPACITY INVESTIGATION

Sinclair Knight Merz was commissioned by Conacc Ltd to investigate the seismic load capacity of their Teg Tab product. Testing was undertaken at USG's Australasian manufacturing plant in Penrose, Auckland on 06/04/2006. Eighteen direct tensile tests of the Teg Tab connection were undertaken using USG's on-site tensile test rig. The Teg Tab system was found to perform adequately for use in perimeter-fixed suspended ceilings as a method for providing seismic restraint, subject to the load capacities and limitations noted on our full test report, with key points summarised below.

INTENDED USE



TESTED COMPONENTS

- Tests used USG DONN DX30D & DXT30D main tees.
- Tests used USG DONN MT45 perimeter angle.
- Tests used a single $\phi 3.2$ mm aluminium rivet fixing.
- Perimeter angle was fixed to timber frame with 1x No.8 screw, no more than 50mm away from tee location.

TEST SET-UP



LOAD CAPACITY

- Ultimate design capacity was calculated according to AS/NZS4600:1996 "Cold-formed steel structures."
- The ultimate limit state design capacity of the Teg Tab connection was found to be $\phi N_t = 29.5\text{kg}$ (290 Newtons)
- Note minimum edge distance of 6mm for all fixings.

The ultimate design capacity of the overall connection was evaluated from test data using AS/NZS4600:1996 "Cold-formed steel structures", Section 6.2.2.7. The minimum failure load from testing is divided by a statistical 'safety' factor to account for the variability of structural units. Note that the riveted connection between the main tee and perimeter angle retains approximately 75% of its strength when a Teg Tab is installed using a $\phi 3.2$ mm Aluminium rivet, compared with tests where the riveted steel members are in direct contact.

It is the responsibility of the ceiling designer to ensure that ceilings are designed in accordance with all standards and codes as appropriate for their jurisdiction, e.g. for seismic loading, fire, thermal expansion, etc.

Reliance on this test data for establishing the performance of any connection configuration, ceiling materials, or fixings is entirely at the risk and discretion of the ceiling designer. Product testing was undertaken with the ceiling main tee member perpendicular to the perimeter trim, angled fixings are outside the scope of our report. The information contained in this flyer is subject to the limitations contained in our full test report.

For full test report or more information, email info@tegtab.com, or visit www.tegtab.com.