

AWCI Tendering Protocol for Grid Suspended Ceiling Installations

1. All installed suspended ceilings must comply with AS/NZS 2785:2000 and the seismic restraint requirements of AS/NZS 1170.5:2004.
2. AWCINZ members are encouraged to submit tenders for grid suspended ceilings based on this AWCI Tendering Protocol to assure compliance.
3. Options for the design of seismic restraints for Grid Suspended Ceilings include:

Option 1: Full design of ceiling seismic restraints system by structural engineer tender documents

Full seismic restraints design incorporated in building consent documentation and tender documents.

This option is preferred to encourage fully conforming and untagged tenders, and to assure fully compliant ceiling installations.

Option 2: Generic Design Guides

New Zealand manufacturer/supplier Generic Design Guidesⁱ provide seismic bracing installation details for basic ceilings within product limitations and structural performance assumptions, for subcontractor design and pricing.

This option encourages fully conforming tenders generally limited to Category P.7 (AS/NZS 1170.5:2005 Table 8.1) ceilings to Serviceability Limit State (SLS1) (with limited ULS options also available). Option 2 tenders should identify the proposed bracing concept, the applicable Generic Design Guide, and any underlying design assumptions*¹.

Any ceilings outside the scope of Generic Design Guides (generally being greater than 30/40 metres above ground level, or where individual components weigh more than 10 kg and are able to fall more than 3 metres onto a publicly accessible area) should be nominated in the tender and identified for specific engineering design, and a Provisional Sum allowed for engineer-designed bracing as Option 3.

*¹ Unless otherwise stated in the ceiling contractor's tender underlying assumptions include building importance level of 3 or less (AS/NZS 1170.0:2002 Table 3.2), relevant geographic location (AS/NZS 1170.5:2004 Table 3.3), annual probability of exceedance 1/25 (AS/NZS 1170.0:2002 Table 3.3), and adequate space and fixing provisions for installation of compliant seismic restraints. The main contractor or the client's structural engineer should verify tenderers' stated assumptions post-tender when full engineering data is available, and any required additional bracing should be a variation.

Option 3: Specific engineering design

Specific engineering design (required where Option 1 does not apply, and Option 2 does not apply to some or all ceilings).

Unless full engineering data has been provided within the tender documents such design must be carried out post-tender when full structural and building performance data is available. Where the scope of seismic bracing cannot be accurately ascertained at tender a Provisional Sum*² should be nominated for the added cost of bracing.

*² A Provisional Sum (not being an estimate) for seismic bracing should identify the ceiling areas requiring specific engineering design, to cover the cost of specialist engineering design, design producer statements (PS1), supply and installation of seismic bracing, and engineer producer statements (PS4) for the actual seismic restraints. Unless otherwise stated such Provisional Sum would be additional to the tender price.

General

- Minimum structural engineering information requirements for Options 2 and 3 include return period, building importance level, building classification, SLS/ULS, provisions for load transfer to structure, requirements for producer statement, any confirmation that services loads will be restrained in accordance with AS/NZS 4219.
- Producer statements, where specified, shall be provided for the entire design and/or the completed ceiling installation. Any additional or interim producer statements for separate areas or completion stages shall be a variation.
- Shop drawings shall comprise as a minimum reflected ceiling plans marked up to show the position and type of seismic bracing and seismic control provisions.
- Shop drawings submitted for approval shall unless approved in writing be deemed approved within 10 working days of submittal.

Coordination of structure and services with ceiling fixings and bracing

The main contractor shall, without charge to the ceiling contractor:

- Provide suitable fixing points and all secondary steelwork, purlin blockings, etc. for fixing of ceiling hangers and bracing.
- Provide continuous nogs to allow solid fixings wherever ceilings abut partitions and bulkheads.
- Ensure that all in-ceiling services are installed strictly in accordance with AS/NZS 4219 including all components and services over 10kg are restrained from gravity and earthquake forces with proper clearances from ceiling and supports in accordance with AS/NZS 4219.
- Coordinate the required bracing with structure and in-ceiling services.

Any requirement for additional steelwork, to modify proposed bracing or support requirements due to a lack of structural fixings and support or for coordination with in-ceiling services would be a variation.

ⁱ**Armstrong:** Armstrong Seismic Design Guide - New Zealand Version; Seismic Installations and Armstrong Ceiling Systems

ⁱ**USG:** Generic Seismic Installation for USG DONN® Exposed Grid Suspended Ceilings; Seismic design Guidelines – Suspended Ceilings

