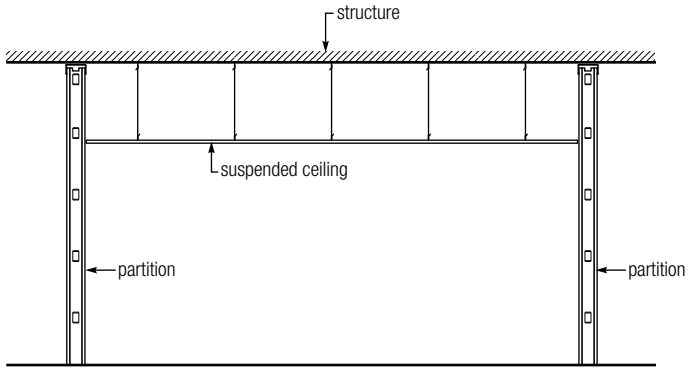
Partition Attachment

Code Requirements[1]

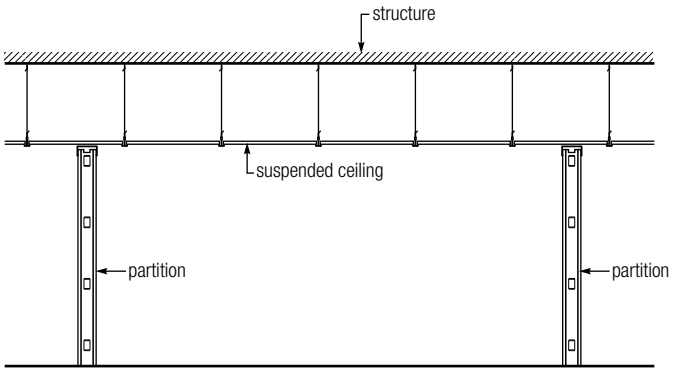
The International Building Code (IBC) defines the requirement for the lateral bracing of non-structural partitions also known as partition attachment.

Generally, partition attachment and their supports and attachments must be defined in the project drawings. However, there are exceptions and the actual construction of partition attachment in a seismic design category can meet code requirements in different ways.

Partition extending from floor to structure



Partition attached to suspended ceiling



[1] See last page for Seismic Code Reference Standards

Partition Attachment

Categories D, E, F

The following data applies to Seismic Design Category D, E, F. In Seismic Design Category C, the ceiling system shall not provide lateral support for walls or partitions. Walls or partitions shall only be attached to ceiling suspension provided they allow the ceiling membrane to move laterally to accommodate the required clearance, minimum 3/8 in. (9 mm).

Requirements

Partitions that are tied to the ceiling and all partitions greater than 6 ft (1.8 m) in height shall be laterally braced to the building structure. Such bracing shall be independent of any other ceiling splay bracing. Bracing shall be spaced to limit horizontal deflection at the partition head to be compatible with ceiling deflection requirements.

- Partitions that are tied to the ceiling shall be laterally braced to the building structure.
- Partitions greater than 6 ft (1.8 m) in height shall be laterally braced to the building structure.
- Partitions may not be supported by the braced suspended ceiling alone unless designed by an engineer.
- Lateral force bracing for the partition must be independent of the bracing of the suspended ceiling.
- Plenum depth should not exceed 10 ft.

Exceptions

Partitions that meet all of the following conditions are exempt from the above requirement:

1. The partition height does not exceed 9 ft (2.7 m).
2. The linear weight of the partition does not exceed the product of 10 lb (0.479 kN) times the height (ft) of the partition.
3. The partition horizontal seismic load does not exceed 5 psf.

USG recommends that the design team, consulting engineers and code officials work together to analyze these factors and determine the appropriate construction and application of partition attachment. Because codes continue to evolve, check with a local official prior to designing and installing a partition bracing system.

Options

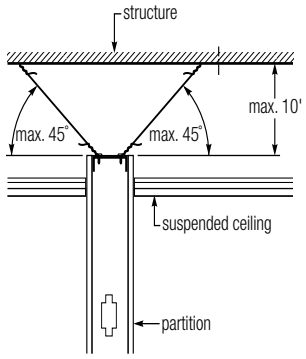
1. Two min. 12 gauge splay wires installed at maximum 45° from horizontal axes in opposite directions, perpendicular to partition at a maximum 8 feet on center.
2. Rigid bracing, minimum 25 gauge (18 mils) metal studs installed at maximum 45° from horizontal axes at maximum 8 feet on center, alternating sides.
3. Connection to the suspension system with two min. 12 gauge splay wires installed at maximum 45° from horizontal axes in opposite directions, perpendicular to partition along with a vertical strut at a maximum 4 feet on center.
4. A perpendicular intersecting wall may substitute for a rigid brace.
5. Support by a suspended drywall ceiling. Drywall suspension ceiling must be flat and extend from load bearing wall to load bearing wall.
6. Approval by engineer of record to use the suspension system of a lay-in ceiling for partition support.

Note: Non-structural partition bracing requirements must be independent of any other suspended ceiling bracing requirement. When required they are installed in addition to the other suspended ceiling bracing elements.

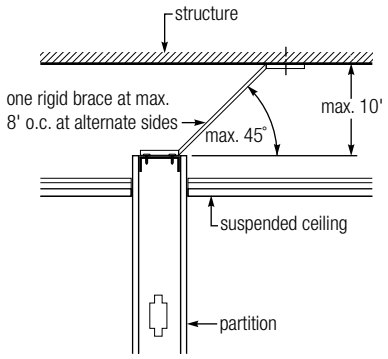
Patition Attachment

Independent Bracing

Two splay wires

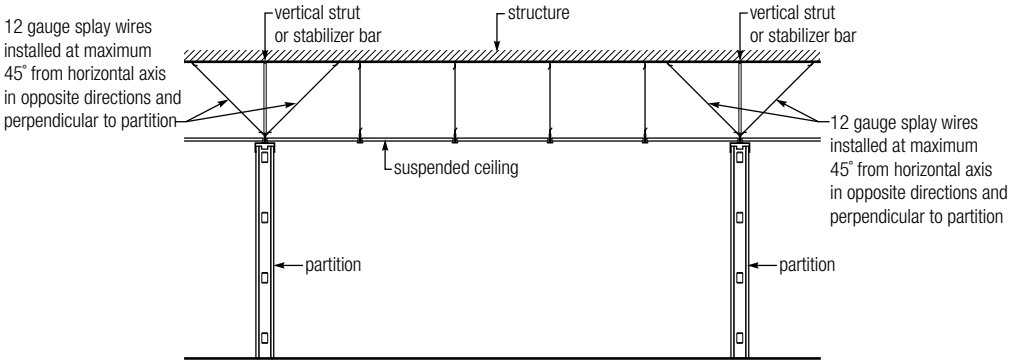


One rigid brace

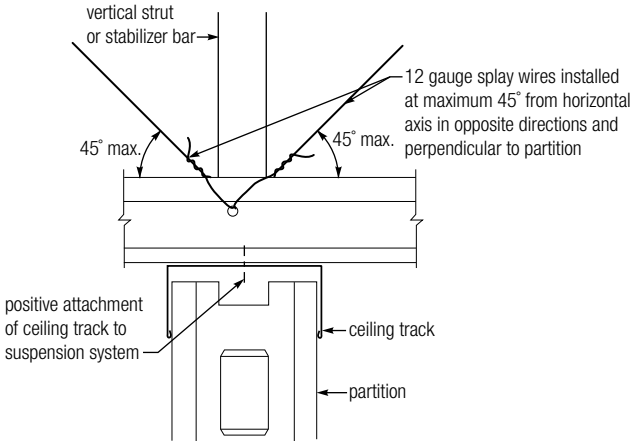


Connection to Suspension System

Overivew



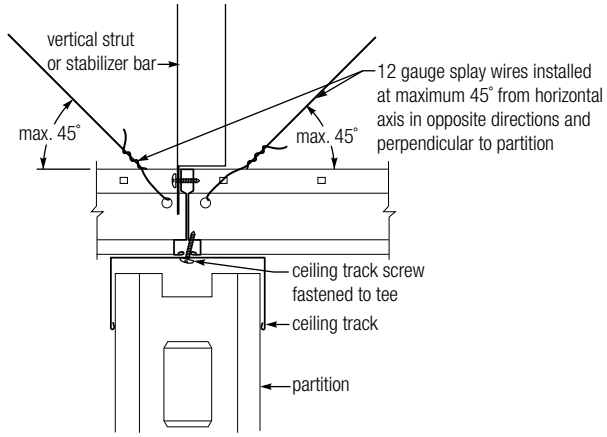
Detail



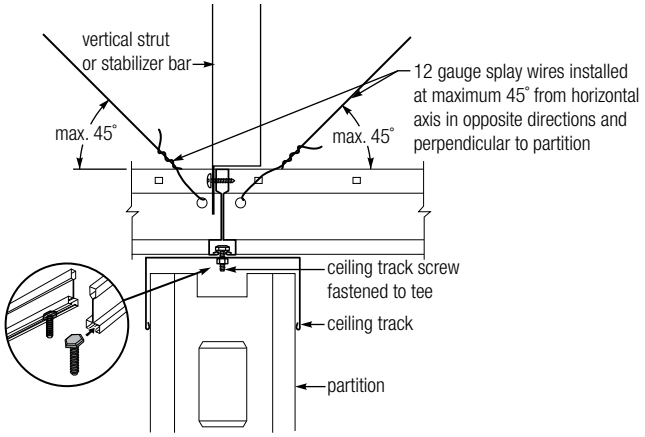
Partition Attachment

Connection to Suspension System, continued

Ceiling track screw attached to tee from bottom



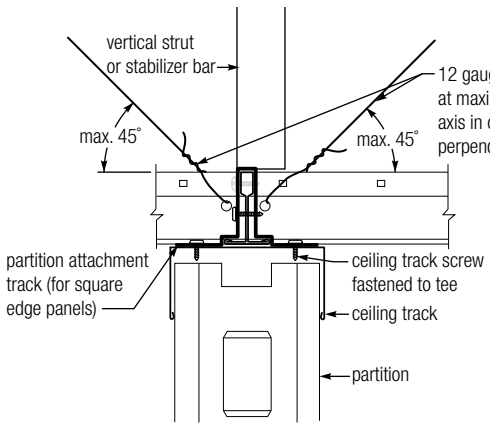
Ceiling track screw fastened from bottom with sliding bolt



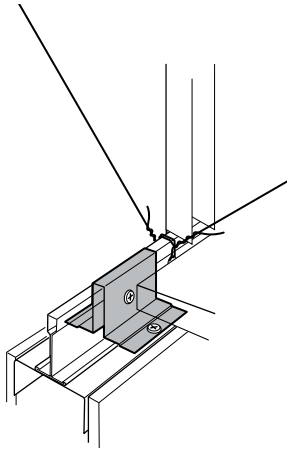
Partition Attachment

Partition Attachment Clip

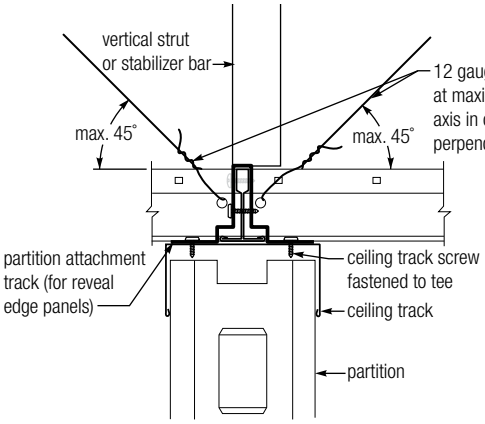
Square edge panels



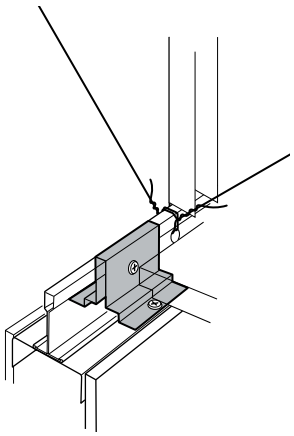
Square edge panels – Detail



Reveal edge panels



Reveal edge panels – Detail



Note: The attachment clip shown above is manufactured by Revoe Manufacturing of Canada (www.revoe.com) and can be purchased through USG.

Seismic Code Reference Standards

	Installation Guidelines for Suspended Ceilings			
International Building Code (IBC)	2003 IBC	2006 IBC	2009 IBC	2012 IBC
American Society of Civil Engineers (ASCE)	ASCE7-02	ASCE7-05	ASCE7-05	ASCE7-10
Ceilings Interior Systems Construction Association (CISCA) or **ASTM International (ASTM)**	CISCA Zones 0-2 CISCA Zones 3-4	CISCA Zones 0-2 CISCA Zones 3-4	CISCA Zones 0-2 CISCA Zones 3-4	ASTM E580

International Building Code (IBC) defines Seismic Design Categories A, B, C, D, E, and F.
www.iccsafe.org

ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structures
American Society of Civil Engineers/Structural Engineer Institute (ASCE/SEI)
www.asce.org

Guidelines for Seismic Restraint for Direct-hung Suspended Ceiling Assemblies (Zones 3-4)
Recommendations for Direct-hung Acoustical Tile and Lay-in Panel Ceilings (Zones 0-2)
CISCA Ceilings & Interior Systems Construction Association (CISCA)
www.cisca.org

ASTM Internationl E580/E580M Standard Practice for Installation of Ceiling Suspension Systems for Acoustical TIle and Lay-in Panels in Areas Subject to Earthquate Ground Motions.
ASTM International (formerly American Society for Testing and Materials)
www.astm.org

Further References

USG Seismic Ceiling Resource Center
Seismic Technical Guides
seismicceilings.com

Product Information
See usg.com for the most up-to-date product information.

Installation
Must be installed in compliance with ASTM C636, ASTM E580, CISCA, and standard industry practices.

Code Compliance
The information presented is correct to the best of our knowledge at the date of issuance. Because codes continue to evolve, check with a local official prior to designing and installing a ceiling system. Other restrictions and exemptions may apply. This is only intended as a quick reference.

Purpose
This seismic technical guide (STG) is intended as a resource for design professionals, to promote more uniform criteria for plan review and jobsite inspection of projects. This STG indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered and adopted.

ICC Evaluation Service, Inc., Report Compliance
Suspension systems manufactured by USG Interiors, Inc., have been reviewed and are approved by listing in ICC-ES Evaluation Report 1222. Evaluation Reports are subject to reexamination, revision and possible cancellation. Please refer to usgdesignstudio.com or usg.com for current reports.

L.A. Research Report Compliance
DONN brand suspension systems manufactured by USG Interiors, Inc., have been reviewed and are approved by listing in the following L.A. Research Report number: 25764.

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Safety First!
Follow good safety/industrial hygiene practices during installation. Wear appropriate personal protective equipment. Read MSDS and literature before specification and installation.

USG

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