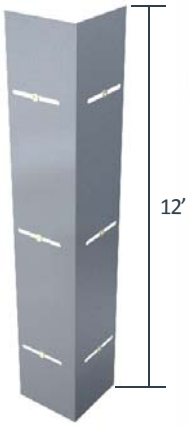
DriftCorner®

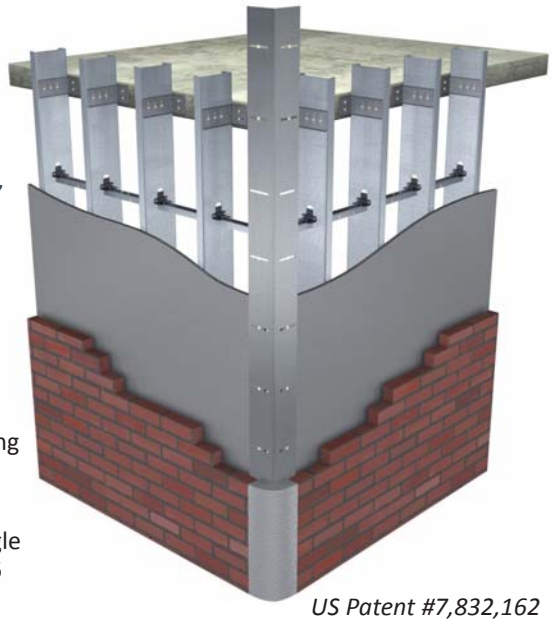
Infill or Bypass Corners

The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876

Material Composition

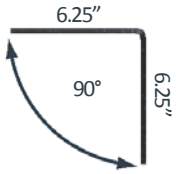
ASTM A1003/A1003M Structural Grade 33 (230) Type H, ST33H (ST230H): 33ksi (230MPa) minimum yield strength, 45ksi (310MPa) minimum tensile strength, 33mil minimum thickness (20 gauge, 0.0346" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.





US Patent #7,832,162

Important Considerations



Attachment of DriftCorner is made with #8 screws through pre-installed step bushings. Screws are not included since screw length and type will vary with the thickness and type of sheathing used. If using gypsum board (or similar) sheathing, install 1.5"x9"x43mil (18ga) angle behind the sheathing on each side of the DriftCorner to allow for proper screw placement and penetration. If requested, TSN will provide the backing angle with DriftCorner. For ½" sheathing with 43mil backing angle, use 1" long screws. For thicker sheathing, use 1 ½" long screws.

Shown below are two detailed examples of DriftCorner application. More details are available for download at www.steelnetwork.com, including those with the backing angle and with other drift products. Contact TSN's Technical Services Team at (888) 474-4876 for design recommendations.

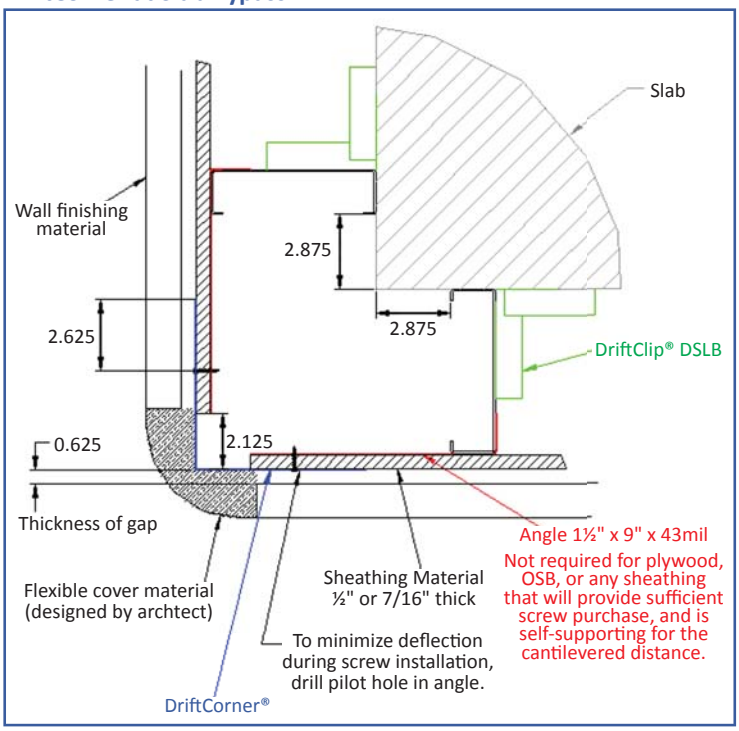
Notes:

- DriftCorner may be utilized in either infill or bypass conditions.
- 2.625" horizontal slots are positioned vertically every 12" on each leg of a 12ft long angle.
- Each slot has a pre-installed Step-Bushing designed for use with a #8 screw. (Screws are not Included)
- Provides up to 2" of lateral drift at corners.

Nomenclature

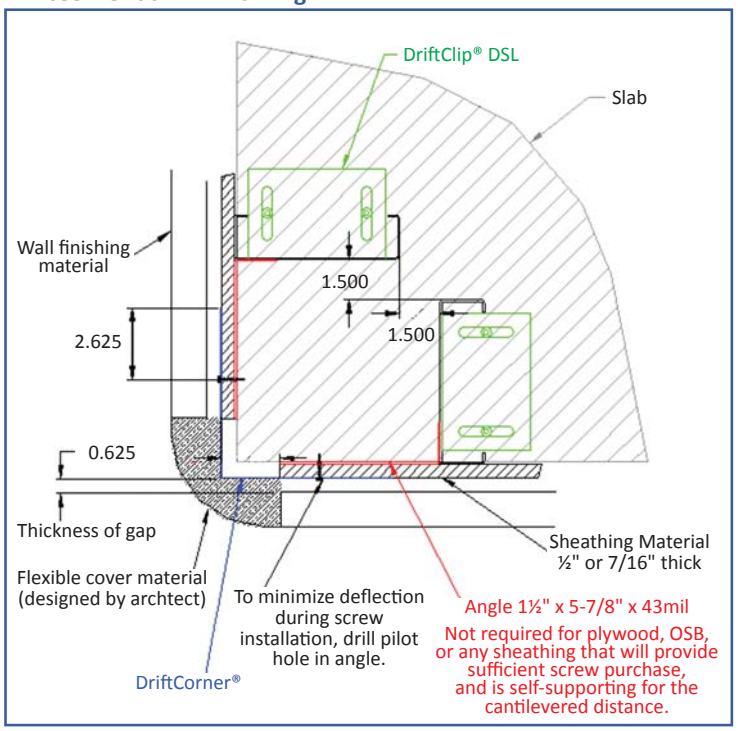
DriftCorner is made in one size and is designated *DriftCorner®*.

DriftCorner at Slab Bypass:



Bypass Condition using DriftClip® DSLB with Non-Supportive Sheathing Such as Gypsum

DriftCorner at Infill Framing:



Bypass Condition using DriftClip® DSL with Non-Supportive Sheathing Such as Gypsum

Wall Bridging

Background

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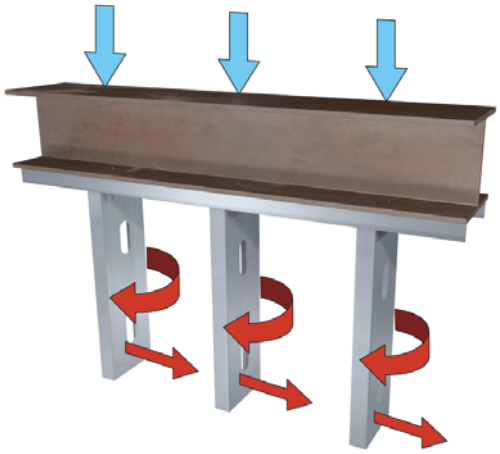
Bridging Background

Bridging for load bearing studs is needed to resist the following forces:

1 - Weak axis buckling induced by axial compression load.
2 - Torsion induced by wind load.

As axial compression and lateral wind loads are applied, wall studs react with weak axis buckling and torsional rotation. To offset these forces, a form of bridging is incorporated into the wall system. Bridging loads accumulate over the run of the wall, requiring transfer of lateral forces in bridging at columns or to the floor slab into the structural load path to the foundation.

AISI Wall Stud Design Standard (2007), referenced by 2009 IBC; or AISI-NAS Specification (2007) provides the load and stiffness requirements for bracing members due to the effects of axial compression load and wind load as given in the table below. Contact TSN Technical Support (888) 474-4876 if further information is needed regarding wall bridging design.

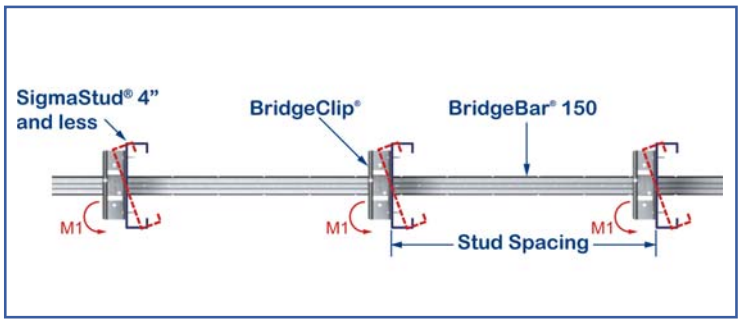


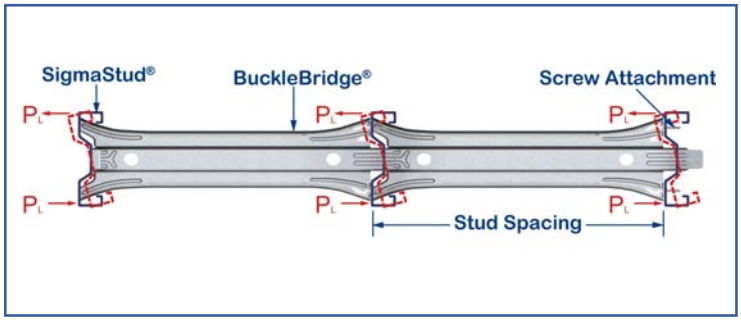
Bridging Requirements

	AISI Wall Stud Design Standard 2007	AISI-NAS Specification 2007
Stud Axial Compression	**Load Capacity:** Bracing Load P_{Brace}* = 0.02 x Stud Design Compression Force (P_{Stud}) x # of studs braced.	**Load Capacity:** Bracing Load P_{Brace}* = 0.01 x Stud Axial Strength (P_{Stud}) x # of studs braced.
		Stiffness Capacity: Lateral Stiffness β_{Brace} = 4 x Stud Nominal Axial Strength / Unbraced Length (for one row of bridging). Lateral Stiffness β_{Brace} = 6 x Stud Nominal Axial Strength / Unbraced Length (for two rows of bridging).
Wind	**Load Capacity:** Twist Load P_L = 1.5 x Wind Load x Bridging Spacing x Stud Spacing x m(Shear Center Distance) / Stud Depth. Twist Moment M_1 = P_L x Stud Depth.	

* Bracing forces accumulate over the run of the wall until anchored.

Bridging Load Bearing Studs Against Torsion By Wind





Bridging Load Bearing Studs Against Weak Axis Buckling