

**Shear Values for QuietBrace™ Sound-deadening Structural Wall Sheathing**

**SHEAR VALUE VS. FASTENER SPACING**

The shear capacity of an installed bracing material is significantly affected by the type and spacing of the fasteners used.

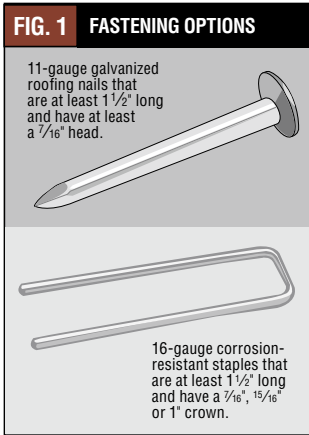
FASTENER TYPE	SHEAR VALUE (plf of wall length) <sup>1</sup>		
	Fastener Spacing at Edges <sup>2</sup>		
	2"	3"	4"
11 gauge 1 1/2" galv. roofing nail with 7/16" head	260	230	170
16 gauge galv. staple, 1 1/2" long with 7/16" crown	225	200	150
16 gauge galv. staple, 1 1/2" long with 1" crown	340	300	230

<sup>1</sup> All panel edges shall be backed with nom. 2" or wider Douglas fir, larch or southern pine framing. For framing lumber of other species, find specific gravity for lumber in the AF&PA National Design Specification. If specific gravity is 0.42 or greater, for design multiply the shear value from the above table by 0.82, or by 0.65 for species with specific gravity less than 0.42.

<sup>2</sup> Fastener spacing is every 6" on the intermediate studs.

**NOTE:**

1. Fiberboard sheathing diaphragms shall not be used to brace concrete or masonry walls.
2. Fiberboard sheathing installed on one side only.
3. Shear values above include ultimate load to design load reduction of 2.8.



Shear Value is the allowable shear stress that a material can resist. For properly installed QuietBrace™, it is expressed as pounds per linear foot. Shear value becomes important when one or more of the following apply:

1. Specific design of the building is necessary because of non-conventional construction.
2. Building site is in a special, high-wind area.
3. Site is in a high-risk seismic zone.

To assure that specifically designed shear walls and bracing are structurally safe and sound, and to give designers and specifiers a means of determining whether their construction will provide the required resistance to external lateral forces, shear values have been determined for bracing materials through a series of standard, full-scale wall tests. (CHART)

Shear value information is used in a two-part process:

1. First, specific forces that may act on a building are determined.
2. Then, shear values for wall bracing and other structural materials are referenced in order to specify materials and construction designed to resist the expected forces.

For wind design under the IBC, summing the shear capacities for structural fiberboard and gypsum wallboard, when on opposite sides of the studs, is permissible. (Ref. 2003 IBC 2305.3.8) QuietBrace may be installed using code-compliant galvanized roofing nails or staples. (FIG. 1)