



### I. Maximum Allowable Shear Values

Table 1 indicates the maximum allowable shear values for various materials or combinations of materials applied to a wood stud shear wall. All shear values shown in Table 1 are in pounds per linear foot of shear wall. The

letters in superscript refer to footnotes listed below the table.

Let-in braces shall not be permitted to resist lateral loads unless justifying data is submitted.

Table 1: Allowable Shear for Wood Stud Walls (pounds per linear foot)										
Note: The Same Footnotes and Sections Apply to Both Sides  Material Applied to Other Side	Material Applied to One Side									
	1" Diagonal Sheathing Section 2314.2.1	1" Diagonal Sheathing <sup>a, j</sup> 2 layers Section 2314.2.2	2" Diagonal Sheathing <sup>a, p</sup> Section 2314.5.4	Metal Lath and Cement Plaster <sup>h, k</sup>	Wood Structural Panels <sup>r, o</sup> Section 2314.3	Particleboard <sup>r</sup>	Gypsum Lath and Plaster <sup>b, h</sup>	Gypsum Sheathing Board, Unblocked <sup>b, h</sup> 1/2" x 2' x 8'	Gypsum Sheathing Board, Blocked <sup>b, h</sup> 1/2" x 4'	Gypsum Wallboard or Veneer Base <sup>b, h</sup>
No Finish Material	300	600	300	180	d	n	100	75	175	b
1" Diagonal Sheathing	600	600	600	300	c, d	m, n	300	300	300	300
1" Diagonal Sheathing 2 layers		600	600	600	c, d	m, n	600	600	600	600
2" Diagonal Sheathing			600	300	c, d	m, n	300	300	300	300
Metal Lath and Cement Plaster				360	d, g	m, n	180	180	180	b, c
Wood Structural Panels					d, e, l	d, g, m, n	d, g	d, g	d, g	d, g
Particleboard					d, g, m, n	m, n	m, n	m, n	m, n	m, n
Gypsum Lath and Plaster							200	100	175	b, c
Gypsum Sheathing Board, Unblocked, 1/2" x 2' x 8'								150	175	b, c
Gypsum Sheathing Board, Blocked, 1/2" x 4'									350	b, c
Gypsum Wallboard or Veneer Base										b, e, i

### Footnotes

- a. Total shear value must not exceed 600 pounds/linear foot.
- b. See Table No. 25-I of the UBC. Note that values are for short-term loading due to wind or seismic loading in seismic zone 0, 1, 2A and 2B. Values must be reduced 50 percent for dynamic loading due to earthquake in Seismic Zones Nos. 3 and 4.
- c. Use twice the lesser shear value or the value of the other side, whichever is greater.
- d. See Table No. 23-I-K-1 of the UBC.
- e. Where fastener spacing differs from opposite side of wall, use twice the lesser shear value.
- f. Two layers of paneling on same side — no value for the outside layer.
- g. Wood Structural Panels combined with materials other than diagonal sheathing shall not have additive values. Use the single greater shear value.
- h. Shear values of cement plaster, gypsum lath and plaster, gypsum sheathing board, veneer board and wallboard are not additive with shear values of other materials applied to the same wall (Section 2513.1 of the UBC).
- i. Values are additive.
- j. 90 degrees to each other on same side.
- k. Metal lath may be woven wire or expanded metal.
- l. See Building Newsletter 23-6.
- m. Particleboard when combined with itself or other materials shall not have additive values. Use the single greater shear value.
- n. See Table No. 23-I-K-2 of the UBC.
- o. Includes veneer plywood, composite panels such as veneer, wood based mats, oriented strand board & wafer board.
- p. 16<sup>d</sup> nails are to be used.

The values shown in Table 1 will apply only where an adequate shear transfer connection is provided between the shear wall and the connecting structural elements such as roof and floor diaphragms and foundations. Details of these connections must be shown on the plans. Values are for short-time loading due to wind or earthquake and must be reduced 25 percent for normal loading with the exception of values listed in Table No. 25-I.

This table differs in that values for gypsum products must be reduced 50 percent for dynamic loading due to earthquake in Seismic Zone Nos. 3 and 4.

**II. Nailing Requirements**

Table 2 below tabulates nailing requirements for various materials.

<b>Material</b>	<b>Nailing Requirements</b>
1" diagonal sheathing	See Section 2314.2.1 of the UBC
2 layers of 1" diagonal sheathing at 90 degrees to each other on same side (3" edge members required)	1st layer — See Section 2314.2.2 2nd layer — 2-16d interior and boundary
2" diagonal sheathing	See Section 2314.5.4 of the UBC (16d nails shall be used instead of 8d)
Wood Structural Panel	See Table No. 23-I-K-1 of the UBC
Particleboard	See Table No. 23-I-K-2 of the UBC
Gypsum lath and plaster	See Table No. 25-I of the UBC
Gypsum wallboard	See Table No. 25-I of the UBC
Gypsum sheathing board	See Table No. 25-I of the UBC
Metal lath and cement plaster	See Table No. 25-I of the UBC