ALL TABLES INCLUDE ASD DESIGN LOAD CAPACITIES FOR USE WITH ALL ACCEPTED VERSIONS OF THE 2004 AISI LATERAL STANDARDS / 2006 IBC / 2006 IRC / 2007 CBC / AND THE ASCE/SEI 7-05 CODES

SURE-BOARD®

Series 200W For Shear

IAPMO ES ER-0126 / ICC ES ER-6151
LARR #25576

◀WOOD▶
Framing

TABLE 4 - NOMINAL AND ALLOWABLE SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200W STRUCTURAL PANELS ATTACHED TO DF STUDS AT 16" O.C. WITH 10D NAILS[1]

FRAMING	10d (2.25"min X .148) NAIL SPACING AT PANEL EDGES AND FIELD, INCHES ON CENTER[3]											
	4/6			3/6			2/6			2/6 Two Sided*		
Stud: 2 x 4 stud grade DF End post: 4 x 4 No. 1 grade DF *4 by 6 No. 1 grade DF Sill and top plate: 2 by 4 standard grade DF	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)
	1,453	583	0.18	——	——	——	2,357	950	0.23	4,884	1,827	0.24

For **SI:** 1 inch = 25.4 mm, 1 plf = 0.0146 N/mm.
[1] These values are for short term loads due to wind or earthquake
[2] The nails are described in Section 2.2.2 and are installed in accordance with Section 2.4 in **IAPMO ES ER-0126**.
[3] All panel edges must be blocked. Panels are installed vertically or horizontally. Fasteners must be spaced a minimum of 6 inches on center along field framing members.
[4] For load and resistance factor design (LRFD) loads, the tabulated **Vn** load values must be multiplied by the resistance factor Φ = 0.55 for Seismic / 0.60 for Wind.
[5] Tabulated values are for panels applied to one side and two sides of a wall.
[6] **Vn** = Nominal Strength.
[7] **Vasd** = ASD Design Load.
[8] Δ **Vasd** = Deflection at **Vasd** design Load.

SURE-BOARD®

Series 200W For Shear

IAPMO ES ER-0126
LARR #25563

◀STEEL▶
Framing

TABLE 2 - NOMINAL AND ALLOWABLE SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SUREBOARD® SERIES 200W STRUCTURAL PANELS ATTACHED TO LIGHT GAGE C-STUDS AT 16" O.C. WITH #10 SCREWS[1]

STEEL FRAMING	#10 SCREW SPACING AT PANEL EDGES AND FIELD 2/6, INCHES ON CENTER[6]		
Minimum Gage[5]	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	Δ Vasd [9] (inch)
18-Ga. (0.043 in.)	2,168	703	0.14
16-Ga. (0.054 in.)	2,704	923	0.18
14-Ga. (0.071 in.)	2,755	934	0.15
14-Ga. (0.071 in.) 2 Sided	5,091	1,922	0.29

For **SI:** 1 inch = 25.4 mm, 1 plf = 0.0146 N/mm.
[1] These values are for short term loads due to wind or earthquake
[2] The screws as described in Section 2.2.2 and installed in accordance with Section 2.4 of **IAPMO ES ER-0126**
[3] Tabulated values are for panels applied to one or two sides of a wall.
[4] For load and resistance factor design (LRFD) loads, the tabulated **Vn** load values must be multiplied by the resistance factor Φ = 0.55 for Seismic / 0.60 for Wind.
[5] Section 2.2.3 in evaluation report **IAPMO ES ER-0126**, describes minimum base metal thickness associated with gages.
[6] All panel edges must be blocked. Panels are installed vertically or horizontally. Fasteners must be spaced a minimum of 6 inches on center along intermediate framing members.
[7] **Vn** = Nominal Strength.
[8] **Vasd** = ASD Design Load.
[9] Δ **Vasd** = Deflection at **Vasd** design Load.
Note: Series 200W maybe installed on 24" O.C. CFS framing. Refer to **IAPMO ES ER-0126** Table #3

SURE-BOARD®

Series 200 For Shear

IAPMO ES ER-0126 / ICBO ES ER-5762
LARR #25461 / DSA PA132

◀STEEL▶
Framing

TABLE 1 - NOMINAL AND ALLOWABLE SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200 STRUCTURAL PANELS ATTACHED TO LIGHT GAGE STEEL C-STUDS AT 24" O.C. WITH SCREWS (pounds per foot)[1]

FRAMING	FASTENER SPACING AT PANEL EDGES, INCHES ON CENTER[6]											
Minimum Gage[5]	6			4			3			2		
	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)
20 (0.033 in)	1,085	434	0.21	1,545	618	0.21	1,730	692	0.24	1,915	766	0.26
18 (0.043 in)	1,405	562	0.24	1,925	770	0.23	2,821[10]	1,126	0.25	2,989[10]	1,196	0.21
16 (0.054 in)	1,697	678	0.25	2,306	922	0.25	2,957[10]	1,092	0.26	3,647[10]	1,253	0.28
14-Ga. (0.071 in)										3,292	1,257	0.24
14-Ga. (0.071 in) 2-Sided *Fasteners 6" O.C. into intermediate framing										4,635*	1,700*	0.22*
14-Ga. (0.071 in) 2-Sided – 16" O.C. Stud Framing										5,079	1,897	0.26

For SI: 1 inch = 25.4 mm, 1 lb/linear = 0.0146 N/mm.
[1] These values are for short-term loads due to wind or earthquake.
[2] The screws are described in Section 2.2.2 and are installed in accordance with Section 2.4 of **IAPMO ES ER-0126**.
[3] Tabulated values are for panels applied to one side or two sides of a wall.
[4] For load and resistance factor design (LRFD) loads, the tabulated **Vn** load values must be multiplied by the resistance factor Φ = 0.55 for Seismic / 0.60 for Wind.
[5] Section 2.2.3 in **IAPMO ES ER-0126**, describes minimum base metal thickness associated with gages.
[6] All panel edges must be blocked. Panels can be installed vertically or horizontally. Fasteners must be spaced a maximum of 12 inches on center along intermediate framing members, except as noted with (*) in Table 1 above.
[7] **Vn** = Nominal Strength.
[8] **Vasd** = ASD Design Load.
[9] Δ **Vasd** = Deflection at **Vasd** design Load.
[10] Nominal strength is based on double c-stud collector to be designed using one gage thicker than the framing material used in shear wall

Note: Sure-Board® Series 200 may be installed on Wood Framing. Refer to **IAPMO ES ER-0126** Evaluation Report, Table 5 on page 8 of 10 in report, for requirements of use.

Sure-Board® Series 200 & 200W Information Table

SURE-BOARD® STANDARDS & SPECIFICATIONS
The Sure-Board® Series 200 Structural Panel is fabricated using all thicknesses of cement or Type X gypsum board complying with ASTM C1396, or Exterior Gypsum Sheathing having an exterior water repellant paper and water resistant treated core gypsum sheathing, complying with ASTM C79-97, also approved glassmat gypsum substrate ASTM C1177 and fiber reinforced gypsum panels ASTM C1278. Our Series 200W is fabricated using non-combustible sheathing or composite MDF, laminated with water soluble adhesive to sheet steel. The sheet steel is No.22 gauge (0.027", 27 mil) minimum base metal thickness complying with ASTM A653, Grade 33 minimum, hot-dipped galvanized coating conforming to ASTM A653 and A924. Panel is available in standard 8, 10, and 12 ft. lengths. The Sure-Board® panel is identified with a label located on top right or bottom left hand corner on the metal facing. Sure-Board® shear panel is also available cut to special lengths upon request.

FASTENERS SPECIFICATIONS
Fasteners used to attach the Sure-Board® Series 200 Panel to steel framing are self-drilling (3/4" long drill-tip) bugle head screws having a minimum #8 shank diameter (0.138"), minimum 0.3145" head diameter and 1 1/4" long, complying with SAE J78 and ASTM C954. 200W Panel on steel studs require the use of #10 pan head self-drilling screws, as tested. Screw fastener head may be flush with the panel surface and must penetrate into the cold-formed steel-framing member a minimum of three exposed threads. Fastener must be installed at a minimum 3/8" edge distance. Sure-Board® Series 200W panels on wood framing are fastened with 10D smooth ply nails, as tested.

STEEL AND WOOD STUD SPECIFICATION
Steel studs used for shear walls are C-shaped, with a minimum 1 5/8-inch flange and 3/8-inch return lip. Steel track shall have a minimum 1 1/4-inch flange. Steel studs are fabricated from 14 gauge (0.071"), 16 gauge (0.054") steel complying with ASTM C653 Grade 50. 18 gauge (0.043") and 20 gauge (0.033") steel complying with ASTM C653 Grade 33. Wood studs are 2x4 or stud grade D.F., end posts 4x4 #1 D.F., as tested (actual shear wall to be specifically engineered).

Full scale reverse cyclic testing demonstrates strengths well in excess of those achieved with plywood or sheet metal only diaphragms, using identical test assemblies.

Sure-Board®
U.S. Patent #5,768,841 • ICC ES ER-5762 Series 200 • ICC ES ER-6151 Series 200W • IAPMO ES ER-0126 Series 200/200W

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ALL TABLES INCLUDE ASD DESIGN LOAD CAPACITIES FOR USE WITH ALL ACCEPTED VERSIONS OF THE 2004 AISI LATERAL STANDARDS / 2006 IBC / 2006 IRC / 2007 CBC / AND THE ASCE/SEI 7-05 CODES

SURE-BOARD®

Series 200W For Shear

IAPMO ES ER-0126 / ICC ES ER-6151
LARR #25576

◀WOOD▶
Framing

TABLE 4 - NOMINAL AND ALLOWABLE SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200W STRUCTURAL PANELS ATTACHED TO DF STUDS AT 16" O.C. WITH 10D NAILS[1]

FRAMING	10d (2.25"min X .148) NAIL SPACING AT PANEL EDGES AND FIELD, INCHES ON CENTER[3]											
	4/6			3/6			2/6			2/6 Two Sided*		
Stud: 2 x 4 stud grade DF End post: 4 x 4 No. 1 grade DF *4 by 6 No. 1 grade DF Sill and top plate: 2 by 4 standard grade DF	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)	Vn [2,3,4,5,6] (plf)	Vasd [2,3,5,7] (plf)	ΔVasd [8] (inch)
	1,453	583	0.18	——	——	——	2,357	950	0.23	4,884	1,827	0.24

For **SI:** 1 inch = 25.4 mm, 1 plf = 0.0146 N/mm.
[1] These values are for short term loads due to wind or earthquake
[2] The nails are described in Section 2.2.2 and are installed in accordance with Section 2.4 in **IAPMO ES ER-0126**.
[3] All panel edges must be blocked. Panels are installed vertically or horizontally. Fasteners must be spaced a minimum of 6 inches on center along field framing members.
[4] For load and resistance factor design (LRFD) loads, the tabulated **Vn** load values must be multiplied by the resistance factor Φ = 0.55 for Seismic / 0.60 for Wind.
[5] Tabulated values are for panels applied to one side and two sides of a wall.
[6] **Vn** = Nominal Strength.
[7] **Vasd** = ASD Design Load.
[8] Δ **Vasd** = Deflection at **Vasd** design Load.

SURE-BOARD®

Series 200W For Shear

IAPMO ES ER-0126
LARR #25563

◀STEEL▶
Framing

TABLE 2 - NOMINAL AND ALLOWABLE SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SUREBOARD® SERIES 200W STRUCTURAL PANELS ATTACHED TO LIGHT GAGE C-STUDS AT 16" O.C. WITH #10 SCREWS[1]

STEEL FRAMING	#10 SCREW SPACING AT PANEL EDGES AND FIELD 2/6, INCHES ON CENTER[6]		
Minimum Gage[5]	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	Δ Vasd [9] (inch)
18-Ga. (0.043 in.)	2,168	703	0.14
16-Ga. (0.054 in.)	2,704	923	0.18
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[7] **Vn** = Nominal Strength.
[8] **Vasd** = ASD Design Load.
[9] Δ **Vasd** = Deflection at **Vasd** design Load.
Note: Series 200W maybe installed on 24" O.C. CFS framing. Refer to **IAPMO ES ER-0126** Table #3

SURE-BOARD®

Series 200 For Shear

IAPMO ES ER-0126 / ICBO ES ER-5762
LARR #25461 / DSA PA132

◀STEEL▶
Framing

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FRAMING	FASTENER SPACING AT PANEL EDGES, INCHES ON CENTER[6]											
Minimum Gage[5]	6			4			3			2		
	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)	Vn [2,3,4,7] (plf)	Vasd [2,3,8] (plf)	ΔVasd [9] (inch)
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Note: Sure-Board® Series 200 may be installed on Wood Framing. Refer to **IAPMO ES ER-0126** Evaluation Report, Table 5 on page 8 of 10 in report, for requirements of use.

Sure-Board® Series 200 & 200W Information Table

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Sure-Board®
U.S. Patent #5,768,841 • ICC ES ER-5762 Series 200 • ICC ES ER-6151 Series 200W • IAPMO ES ER-0126 Series 200/200W

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