

SURE-BOARD[®] ...FOR SHEAR



SURE-BOARD[®]

...FOR SHEAR



Improve the quality
of your next
framing project
with *Sure-Board*[®]

The revolutionary
Sure-Board[®] improves
quality and successfully
eliminates shear wall
problems often
encountered in the
framing and
construction process.

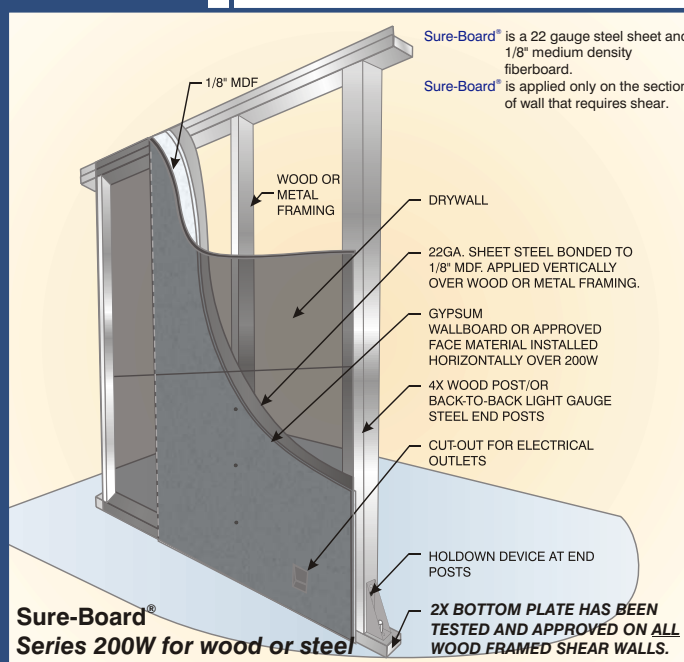


Sure-Board[®] Series 200 and 200W

The Sure-Board[®] Series 200 and 200W Structural Shear Panels are Patented, ICC and City of Los Angeles approved products. The Series 200 is manufactured with a single 22 gage galvanized sheet of steel laminated to any manufactured version of gypsum panel with a water based PVA adhesive to create an incredibly **STRONG** shear panel that is 1 and 2 hour fire approved. Series 200W is also a Structural Shear Panel with one **Dynamic** difference. Since 200W is laminated to 1/8" MDF (medium density fiberboard) the attachment can be with nails or screws. This allows 200W to be attached to **WOOD** or **STEEL** framing members with exceptional results. 200W is used as a substrate shear panel and can be installed in the field or in a panelized process, saving even more time in the field. And as we all agree, **TIME** is **MONEY**.

Replace your Present Shear Panels with Sure-Board[®] Today

*The use of cross bracing, brace frames and plywood sheathing are the commonly used methods of our time. For the first time you can reduce your **INSTALLED COSTS** relating to lateral shear by as much as 30%. Don't hesitate, you need to make the change **TODAY**.*



Sure-Board**[®] 200 and 200W require no additional furring of the interior and exterior surfaces. The Series 200W when used as shear panels on Wood framing, require only a **1 1/2" thick bottom plate** per the tested and approved assemblies. This item alone reduces the cost of cutting all of the studs and posts and reduces the labor time of framing on the first floor shear walls **FOREVER!



Sure-Board®

is available through California Expanded Metal Products, Inc., (CEMCO)

Founded in 1974, CEMCO is recognized as the largest manufacturer of steel framing and metal lath systems in the Western United States.

With over 125 years combined experience in the manufacturing and marketing of steel products, there is no question why architects specify and contractors alike, request CEMCO products on more projects than any other manufacturer.

CEMCO's commitment to quality and service has awarded them some of the most prestigious projects ever built. CEMCO provided all of the steel framing and lath products for the most talked about construction project this century; The Getty Museum. 4.4 million feet of steel studs and track were produced and not one shipment was missed or one quality complaint received. More recently, over 3 million Sq. ft. of Sure-Board® structural panel were used on the West Coast alone. Sure-Board® is quickly becoming the shear panel of choice on many large steel and wood framing projects in the United States.

CEMCO distributes their products throughout the Western United States, Canada, Mexico and the Pacific Rim.

CEMCO products are available through a network of national building material dealers. We also continue to work very closely with the contractors for technical assistance, specifications, and submittals to ensure that quality and service remain synonymous with the CEMCO name.

Performance of Sure-Board®

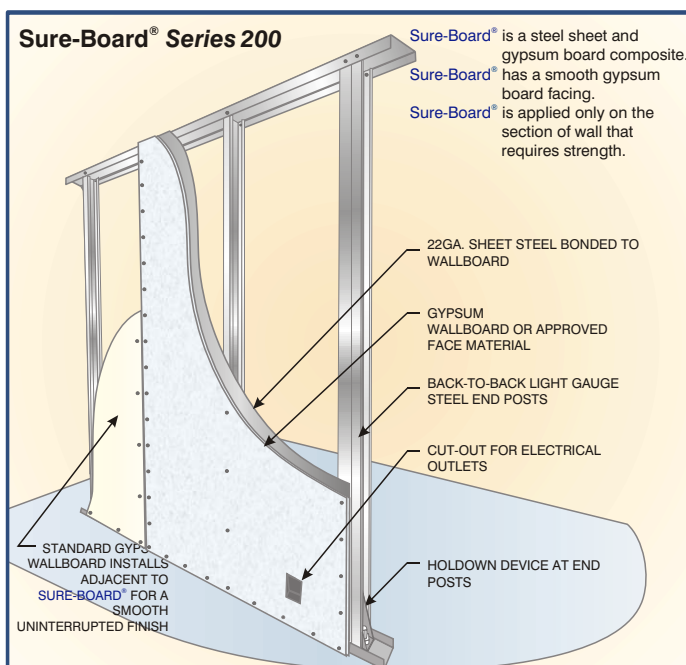
Sure-Board® has the highest tested strength to resist lateral load as well as significantly reduced lateral movement available with shear panel sheathing TODAY. Our patented products guarantee these tested results for our customers.

Sure-Board® has been tested with rigorous reverse cyclic testing protocol, unlike the accepted monotonic method used in the past. Our results are guaranteed to provide you with the safest and most reliable earthquake protection available. Our Series 200W has the ability to produce a wood framed shear wall that can perform far beyond anything that has been built in the past. Design your buildings with Sure-Board® "for Shear" TODAY.

Reduced Costs and Stronger Walls using Sure-Board®

*Sure-Board® Series 200 and 200W have revolutionized the Wood and Light Gage framing industry. The reduced **Installed Costs** of Sure-Board® can also save time during the construction phase. Sure-Board® has exceptional resistance to earthquake as well as unequaled 1 and 2 hour fire performance.*

Use Sure-Board® Series 200 and 200W on all of your Future Projects "for Shear".





SURE-BOARD®
Series 200W For Shear

ICC ES ER-6151
LARR #25576



TABLE - NOMINAL 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

FRAMING	10d NAIL SPACING AT PANEL EDGES AND FIELD, INCHES ON CENTER ^{3,5}					
	4/6		2/6		2/6 NCP ⁶	
2 by 4 No. 2 DF Endpost	Snom ^{5,6,7} Nominal Shear Resistance (plf)	Δ ⁸ Lateral Displacement (inches)	Δ ⁹ Lateral Displacement (inches)	Snom ^{5,6,7} Nominal Shear Resistance (plf)	Δ ⁸ Lateral Displacement (inches)	Δ ⁹ Lateral Displacement (inches)
4 by 4 No. 1 DF	1,453	1.74	0.331	2,211	0.90	0.475
4 by 6 No. 1 DF	—	—	—	2,382	2.79	0.475
Slit and top plate	—	—	—	—	—	—
2 by 4 standard DF	—	—	—	—	—	—
2 by 4 Intermediate bottom plate	—	—	—	—	—	—

For Sl: 1 inch = 25.4 mm, 1 lb/linear foot = 0.0146 N/mm.

¹These values are for short-term loads due to wind or earthquake.

²The nails are described in section 2.2.2, and are installed in accordance with section 2.4 in ICC ES ER-6151.

³All panel edges must be blocked. Panels are installed vertically. Fasteners must be spaced a minimum of 6 inches on center along field framing members.

⁴Tabulated values are for panels applied to one side and two sides of a wall.

⁵For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor of 3.0. For load and resistance factor design (LRFD) loads, the tabulated resistance values must be multiplied by 0.55.

⁶NCP represents values without compression posts installed.

⁷Snom = nominal strength

⁸Δ_L = Lateral displacement at Snom

⁹Δ_L = Lateral displacement at ϕ Snom, where ϕ (resistance factor) = 0.55



SURE-BOARD®
Series 200W For Shear

Pending ICCBO ES ER-5762
LARR #25563



TABLE - NOMINAL SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (Inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200W STRUCTURAL PANELS ATTACHED TO METAL STUDS AT 16" O.C. WITH #10 SCREWS¹

STEEL FRAMING	#10 SCREW SPACING AT PANEL EDGES AND FIELD 2/6, INCHES ON CENTER ^{3,5}		
	Minimum Gauge ⁶	Snom ^{7,8,9} Load	Δ ⁷ Lateral Displacement
14-Ga. (0.071 in.)	2,755	0.96	0.340
16-Ga. (0.054 in.)	2,704	1.14	0.290
18-Ga. (0.043 in.)	2,168	0.79	0.200
14-Ga. (0.071 in.) 2 Sided	5,102	2.09	0.491

For Sl: 1 inch = 25.4 mm, 1 lb/linear foot = 0.0146 N/mm.

¹These values are for short-term loads due to wind or earthquake.

²The screws are described in Section 2.2.2, and are installed in accordance with Section 2.4 in ICC ES ER-5762.

³All panel edges must be blocked. Panels are installed vertically. Fasteners must be spaced a minimum of 6 inches on center along field framing members.

⁴Tabulated values are for panels applied to one side and two sides of a wall.

⁵For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor of 2.5.

⁶For load and resistance factor design (LRFD) loads, the tabulated resistance values must be multiplied by 0.55.

⁷Snom = nominal strength

⁸Δ_L = Lateral displacement at Snom

⁹Δ_L = Lateral displacement at ϕ Snom, where ϕ (resistance factor) = 0.55

¹⁰Section 2.2.3 in ICC ES ER-5762, describes minimum base metal thickness associated with gages.



TABLE - NOMINAL SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (Inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200 STRUCTURAL PANELS ATTACHED TO LIGHT GAUGE STEEL STUDS WITH SCREWS (pounds per foot)¹

FRAMING	FASTENER SPACING A PANEL EDGES, INCHES ON CENTER ^{6,8}											
	6			4			3			2		
Minimum Gauge ⁹	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)
20 (0.033 in)	1,085	0.55	0.10	1,545	0.70	0.14	1,730	0.70	0.14	1,915	0.70	0.12
18 (0.043 in)	1,405	0.82	0.11	1,925	0.97	0.16	2,145	0.97	0.16	2,360	0.83	0.13
16 (0.054 in)	—	—	—	—	—	—	2,895	1.01	0.20	3,460	1.24	0.18
14-Ga. (0.071 in) 2-Sided	—	—	—	—	—	—	—	—	—	5,085	1.98	0.46

For Sl: 1 inch = 25.4 mm, 1 lb/linear foot = 0.0146 N/mm.

¹These values are for short-term loads due to wind or earthquake.

²The screws are described in Section 2.2.2 and are installed in accordance with Section 2.4 in ICC ES ER-5762.

³Tabulated values are for panels applied to one side and two sides of a wall.

⁴For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor Ω = 2.5. For load and resistance factor design (LRFD) loads, the tabulated load values must be multiplied by the resistance factor ϕ = 0.55.

⁵Section 2.2.3 in ICC ES ER-5762, describes minimum base metal thickness associated with gages.

⁶All panel edges must be blocked. Panels are installed vertically. Fasteners must be spaced a maximum of 12 inches on center along intermediate framing members.

⁷Δ_L = approximate deflection at nominal load.

⁸Δ_L = approximate deflection at design load.



SURE-BOARD®
Series 200 For Shear

ICCBO ES ER-5762
LARR #25461

TABLE - NOMINAL SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DEFLECTION (Inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200 STRUCTURAL PANELS ATTACHED TO LIGHT GAUGE STEEL STUDS WITH SCREWS (pounds per foot)¹

FRAMING	FASTENER SPACING A PANEL EDGES, INCHES ON CENTER ^{6,8}											
	6			4			3			2		
Minimum Gauge ⁹	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)	Load (lb/linear foot)	Δ _L ⁷ (inch)	Δ _L ⁸ (inch)
20 (0.033 in)	1,085	0.55	0.10	1,545	0.70	0.14	1,730	0.70	0.14	1,915	0.70	0.12
18 (0.043 in)	1,405	0.82	0.11	1,925	0.97	0.16	2,145	0.97	0.16	2,360	0.83	0.13
16 (0.054 in)	—	—	—	—	—	—	2,895	1.01	0.20	3,460	1.24	0.18
14-Ga. (0.071 in) 2-Sided	—	—	—	—	—	—	—	—	—	5,085	1.98	0.46

For Sl: 1 inch = 25.4 mm, 1 lb/linear foot = 0.0146 N/mm.

¹These values are for short-term loads due to wind or earthquake.

²The screws are described in Section 2.2.2 and are installed in accordance with Section 2.4 in ICC ES ER-5762.

³Tabulated values are for panels applied to one side and two sides of a wall.

⁴For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor Ω = 2.5. For load and resistance factor design (LRFD) loads, the tabulated load values must be multiplied by the resistance factor ϕ = 0.55.

⁵Section 2.2.3 in ICC ES ER-5762, describes minimum base metal thickness associated with gages.

⁶All panel edges must be blocked. Panels are installed vertically. Fasteners must be spaced a maximum of 12 inches on center along intermediate framing members.

⁷Δ_L = approximate deflection at nominal load.

⁸Δ_L = approximate deflection at design load.

Sure-Board® Series 200 & 200W Information Table

SURE-BOARD® STANDARDS & SPECIFICATIONS

The Sure-Board® Series 200 Structural Panel is fabricated from 5/8" thick or 1/2" thick Type X gypsum board complying with ASTM C36-97, or Exterior Gypsum Sheathing having an exterior water repellent 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, and 200W with composite MDF, laminated with water soluble adhesive to sheet steel. The sheet steel is No.22 gauge (0.027", 27 mil) base metal thickness complying with ASTM A653, Grade 33, and 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 available with other types of sheathing board, as well as 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 #6 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 screws as tested. Screw fastener head may be flush with the panel surface and 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 ring shank or 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 1/2-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 #2 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.

www.cemcosteel.com



www.sureboard.com

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Corporate Offices & Main Production Plant
263 N. Covina Lane • City of Industry, CA 91744
(800) 775-2362 • Fax (626) 330-7598

Northern California Manufacturing Facility
1001-A Pittsburg Antioch Hwy. • Pittsburg, CA 94565
(925) 473-9340 • Fax (925) 473-9341