

**06212 For Wood Framing**  
**05160 For Metal Framing**  
**09180 For Finishes**

## **Specifications for SURE-BOARD® Series 200 and 200W Panel for shear**

**Standard from CSI Part Section Format.**

### **PART 1 GENERAL**

#### **1.01 WORK INCLUDED**

A. Inclusion:

1. The extent of SURE-BOARD® shear panel is shown on the drawings, including basic layout, gypsum, non-combustible or combustible sheathing materials to be laminated to our steel sheet, fastener type, spacing for attachment of Series 200 and Series 200W Sure-Board® that may be required for interior and exterior use.

#### **1.02 RELATED WORK SPECIFIED ELSEWHERE.**

A. Related Sections:

1. Structural Steel framing Section 05400.
2. Wood framing Section 06000.
3. Rigid insulation; Section 07240.
4. Insulating concrete; Section 03410.
5. Painting; Section 09900.
6. Sheet Metal: Section 07600.

#### **1.03 WORK FURNISHED BUT NOT INSTALLED:**

A. Related products:

1. Acoustical batts: Section 07500.

#### **1.04 QUALITY ASSURANCE**

A. Codes and standards:

1. AISI, North American Specifications for the Design of Cold-Formed Steel Structural Members, 2001 Edition with 2004 Supplement.
2. 2006 IBC/ASCE/SEI 7-05/2007 CBC/2008 LABC/1997 UBC
3. ASTM, designations as specified.
4. ICC-ES Evaluation Report Number ER 5762 for steel framing or ER 6151 for wood framing.
5. IAPMO-ES Evaluation Report Number ER-0126 for Steel and Wood framing.
6. Sure-Board® Shear Panel Quality Assurance Manual.

#### **1.05 PERFORMANCE REQUIREMENTS**

A. Shear wall shear capacity:

1. The gage for framing and attachment of the Sure-Board® Shear panel is designed by the EOR (engineer of record) to provide a panel shear capacity in accordance with IAPMO-ES evaluation report number ER-0126/DSA PA-132/ICC-ES evaluation report

- numbers ER 5762 and ER 6151/Los Angeles City Research Report numbers 25461 25563/25576/Miami-Dade/City of New York and State of Florida. Whichever should apply to the specific project and Geographical or Seismic Zone or Wind Zone location.
2. No other methods of attachment or framing gage other than stated on these approvals for Sure-Board® products will be acceptable as an equal, unless specified on structural Drawings by EOR.
- B. Fire Rated Use:
1. Sure-Board® Series 200 and 200W Sure-Board® panels have been fire tested by ITS INTERTEK Testing Laboratory and have passed and are approved for use on 1 and 2 hour fire rated, load bearing assemblies for interior and exterior use.

## 1.06 SUBMITTALS

### A. Shop drawings:

1. Shear wall layout, framing and supports, with dimensions and sections.
2. Shear wall table with Sure-Board® Series type, fastener type, spacing, end posts and wall framing.
3. Details of proprietary or non-proprietary components if included.

## 1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

### A. Sure-Board® panel:

1. All Sure-Board® panels shall be packaged and handled to prevent damage during shipping and unloading.
2. Cover Sure-Board® panels with waterproof material and ventilate to avoid condensation before installation.
3. Store Sure-Board® off ground with one end elevated for moisture drainage.
4. Do not bend sheet steel or break/mar gypsum board sheet while handling. If damage to panel should occur, repair of panel may be approved by manufacturer.

## PART 2 PRODUCTS

### 2.01 MATERIALS, FASTENERS, ADHESIVE AND FINISHED PANELS

#### A. Galvanized Steel:

1. No.22 ga. 0.027 inch (0.686mm) base-metal thickness minimum per ASTM A 653 CS Grade 33.
2. Hot dipped galvanized G40 minimum per ASTM A 924.

#### B. Wallboard Compliance:

1. Wallboard complies with ASTM C 1369, C 1177 and C 1278.

#### C. Fasteners:

1. The fasteners used to fasten the Sure-Board® **Series 200** Structural Panels to the steel framing are self-drilling/self-tapping pilot point bugle head screws, #8 minimum diameter 0.138-inch (3.5 mm), with a minimum 0.3145-inch (8.0 mm) head diameter, 1.5-inch (31.7 mm) long, and a **1/2-inch minimum drill tip**, complying with SAE J78 and ASTM C 954. ER 5280 by John Grabber & Assoc. or equal. **Series 200W** Structural Panels when fastened to steel framing are attached with #10 X 3/4" minimum self-drilling/self-tapping pan-head screws. For wood framing the Sure-Board® **Series 200** Structural Panels are fastened with #8 X 2" minimum wood screws. Sure-Board® **Series 200W** Structural Panels when attached to wood framing are fastened with 10d X 1 1/4" minimum smooth plywood nails.

D. Adhesives:

1. The adhesive used to attach the steel to the wallboard shall be a water soluble type adhesive. The adhesive is a non-combustible material.

E. Sheet Steel Panels:

1. The sheet steel is No. 22 ga. /0.027 inch (0.686 mm) minimum base-metal thickness complying with ASTM A 653 CS, Grade 33, and is provided with a G40 minimum hot-dipped galvanized coating conforming to ASTM A 924. Available width of 48 inches (1219 mm) and lengths of 8 through 12 feet (2438 through 3658 mm).

F. Finished Sure-Board® Panels:

1. Sure-Board® Series 200 Structural Panels:

Each panel consist of 1/2, 5/8 or 3/4 inch (12.7, 15.9 or 19.1 mm) thick square or tapered-edge type X gypsum wallboard or water resistant core sheathing complying with ASTM C 1369 as well as glassmat gypsum substrate complying with ASTM C 1177 and fiber reinforced gypsum panels complying with ASTM C 1278, laminated with water soluble adhesive to steel sheet. The steel sheet is No. 22 ga. /0.027 inch (0.686 mm) minimum base-metal thickness, complying with ASTM A 653 CS, Grade 33, and is provided with G40 minimum hot-dipped galvanized coating conforming with ASTM A 924. Available width of 48 inches (1219 mm) and lengths of 8 through 12 feet (2438 through 3658 mm).

2. Sure-Board® Series 200W Structural Panels:

Each panel consist of a 1/8 inch (3.18 mm) thick sheet of medium density fiberboard or non-combustible substrate, laminated with water based adhesive to sheet steel. The sheet steel is No. 22 ga. /0.027 inch (0.686 mm) minimum base metal thickness complying with ASTM A 653 CS, Grade 33, and provided with a G40 minimum hot-dipped galvanized coating conforming to ASTM A 924. Available width of 48 inches (1219 mm) and lengths of 8 through 12 feet (2438 through 3658 mm).

## **Part 3 INSTALLATION**

### **Installation and Cutting Sure-Board® Series 200/200W**

#### **Condition of Material Pre-Installation Sure-Board® Series 200**

Always install Sure-Board® Series 200 when conditions and material are dry. If the Sure-Board® Series 200 panels are not covered or stored in a dry location, and should get wet due to inclement weather conditions, allow them to air dry before installing. We suggest, as with all gypsum products, you keep materials dry at all times, before installation. All gypsum panels are different in their physical composition and manufactured for specific uses. Follow all appropriate manufacturers recommendations for storage, handling and installation of your Sure-Board®. The steel sheet is always attached against the framing studs to accomplish resistance capacities stated in Manufacturers tables for lateral force resistance.

#### **Tools, Fasteners and Application for installing Sure-Board® Series 200**

Installing Sure-Board® Series 200 only requires the use of standard electric gypsum screw guns, if you intend to use hand fed screws. If you choose to use a collated screw gun, which can be very cost effective, due to the large quantity of fasteners required for some Sure-Board® panels, that is

acceptable as well. **Note:** We have noticed over the years, that when contractors are field installing Sure-Board®, instead of building walls using panelization or a prefabricated system in a factory controlled environment, the Sure-Board® panels are commonly cut and tacked in place by the more experienced or journeyman installers, and then the actual “screwing off” process is commonly performed by an apprentice individual at a lower cost per hour to the contractor. With the collated screw gun application, this method can be very cost effective.

One very important requirement when installing Sure-Board® Series 200, is to install the screws into the studs at the approved spacing, per your stamped construction drawings, and use our suggested #8 minimum diameter screw which are readily available, in the required length (per your specific conditions and approved plans). The screws must have a **longer drill tip (minimum 1/2” long)**, to avoid the “jacking” of the sheet steel from the stud and track during installation. The longer drill tip screws and a list of many other important tools and fasteners that are suggested for use with Sure-Board® may be attached to this installation letter. If not attached, they are also available on our website at [www.sureboard.com](http://www.sureboard.com) and at [www.sureboardtools.com](http://www.sureboardtools.com). The depth of the head of the bugle head screws into the gypsum, that occurs during the installation of the fasteners, is adjustable on all standard gypsum screw guns used today. We suggest that the fastener heads be installed flush to the panel face material or just below the surface at the field and perimeter edges, and a minimum of 3/8” setback from all edges of the panel. Sometimes this edge spacing will vary, but as long as the majority of the screws are within 1/4” from the edge of the panel, the structural integrity is not compromised. Unlike wood based products (plywood and OSB), Sure-Board® may have screws added where necessary, if some of the fasteners are over-screwed below the surface of the panel or even have some fasteners installed closer than the recommended 3/8” to center of fastener from the perimeter edge, without compromising the structural integrity of the panel. Note: If unintentional over-screwing occurs in excess as defined by EOR, additional screws between the existing screws may be added, with no adverse affect to the structural performance of the Sure-Board® panel.

### **Application of Vertical and Horizontal Strapping with Sure-Board® Series 200/200W**

For installation of Sure-Board® Series 200 and 200W in the Horizontal Orientation to the framing **must** include either flat strapping that is the same gage as the framing materials and a minimum of 2 inches wide or blocking of the same gage as the framing members installed at all horizontal joints. There are also situations where the engineer may require screw attached surface applied vertical floor to floor strapping. We suggest that those vertical straps be applied **over** the Sure-Board® sheet steel, instead of behind the Sure-Board® directly to the studs. The installation of the straps and fasteners under the Sure-Board® panels may cause unsightly bulges in the finish surface. Note: The standard in the industry for wood construction is for the straps to be applied over the wood shear panels. This method allows the inspector to see the fasteners into the strap during the required inspections. With Sure-Board®, it is important to allow the Sure-Board® sheet steel to be installed flush to the stud surface to allow for an even and undisturbed finish to the wall. Installing the straps over the Sure-Board® panels may be accomplished by first hanging and fastening the Sure-Board® panels to the studs. After installation is complete, through the use of a drywall knife or router, score the drywall and remove the screws in the Sure-Board® panels as necessary to allow for the removal of the unwanted gypsum where the strap is to be installed. Attach the strap over the Sure-Board® sheet steel and re-attach the sheet steel of the Sure-Board® panel into new holes with the appropriate self tapping **pan head** fasteners into the provided studs or backing through the Sure-Board® sheet steel. Now the Sure-Board® panel is ready for inspection. This method allows the Sure-Board® panel to be attached flush and the strap to be recessed into the gypsum panel and attached directly to the outer or inner wall surface with no affect to the finish.

After the inspection, the patch is easily filled and finished. (Note: The gypsum sheet is not a structural component, once the Sure-Board® Series 200 panel has been installed.)

There are also situations where the structural engineers use horizontal strapping to tie walls together and transfer loads. When this occurs, the same method of gypsum removal is acceptable. In certain situations. The Sure-Board® 22 ga (.027) sheet steel panel may be adequate for the horizontal drag attachment alone. In that case no strapping will be required at all. These conditions are ultimately the decision of the engineer of record and the existing governing agencies.

### **Repairs on Field Damaged Gypsum on Sure-Board® Series 200**

There are isolated situations where the gypsum panel is damaged during construction by field staff, weather conditions, etc. In those cases, the repair of the damaged Sure-Board® panels may be completed using the following method: 1) Identify the damaged piece of gypsum. 2) Score the gypsum panel with a drywall knife or router (set to depth of gypsum sheet). 3) Remove existing bugle-head fasteners in the damaged portion and re-fasten the sheet steel at the prescribed spacing with a minimum #8 x 3/4" self tapping pan-head fasteners into **new** holes in the Sure-Board® sheet steel and the studs. 4) After completing this operation, the Sure-Board® panel is secure. Reinstall gypsum board patch and screw off only as necessary to accommodate the taping process. The gypsum patch need only be screwed to the sheet steel of the Sure-Board® to accommodate this process.

### **2-Hour Firewall Conditions and Sure-Board® Series 200/200W**

**Important Cost Saving Application** (Double layer 2-Hour condition) You may take advantage of the tested application of the 2<sup>nd</sup> layer of gypsum in a 2-hour firewall condition, where Sure-Board® Series 200 or 200W are the first layer. After inspection of the shear wall attachment, you may screw the 2<sup>nd</sup> layer into the 22 gage sheet steel. This is considerably easier than attaching the 2<sup>nd</sup> layer of gypsum to the heavier gage studs. When using this method, the two important requirements are to stagger the joints of each layer of gypsum, and use a minimum #6 x 2" laminating screw at the required spacing into the 22 gage sheet steel. This will save the contractor many man hours for the typical 2-hour firewall assembly or any double layer gypsum wall assembly. Note: If there is not, however, a first layer of Sure-Board® on the 2-hour assembly, unfortunately you have no other choice, you must screw into the studs on each layer.

### **Recommended Tools and Cutting of Sure-Board® Series 200**

Cutting Sure-Board® Series 200 or 200W is achieved very efficiently with the use of a ferrous metal cutting blade in a typical "sidewinder" type skilsaw. There are also several specifically designed metal cutting saws with a selection of metal cutting blades, described on our Sure-Board® Tools list, for cutting up to 3/8" thick steel plate. They significantly reduce the metal fragments exiting from the guard area with their revolutionary design, keeping in mind that all metal cutting tools require the use of eye and hand protection for the Safety of the operator. Refer to our website available list for recommended tools, blades and fasteners used today to make the installation of Sure-Board® efficient and ultimately more profitable for the contractor.

## **SAFETY FIRST**

**Be sure to wear proper eye and hand protection when cutting the Sure-Board® Series 200 and 200W Panels. Series 200 is best cut from the backside, while Series 200W is best cut from the front. Please contact manufacturer with any questions you might have. Contact Technical Support at (866) 469-7432 or [support@sureboard.com](mailto:support@sureboard.com)**

### **Type of Cut Required:**

#### **Full length or width cutting:**

- 1) Set blade depth to maximum 1/8" depth and score steel only.
- 2) Cut steel sheet for required length or width with skilsaw.
- 3) Score gypsum with razor knife, bend over to score paper on face side.
- 4) Snap cut-off piece and clean up edge with rasp if necessary.
- 5) Hang Sure-Board® as you would regular gypsum and screw off.

#### **Partial length or width, outlets and opening cuts:**

- 1) Set blade depth to maximum 1/8" depth and score steel only.
- 2) Cut steel where necessary, minimal over-cutting may be required to allow for routing and at corners.
- 3) Peel off steel in required areas and hang Sure-Board® Series 200 panel as you would a regular gypsum panel, and tack to studs.
- 4) Use router to cut off unwanted gypsum at opening or outlet, and complete the screwing of the Sure-Board® at the prescribed spacing.

#### **All cutting of Sure-Board® may be viewed on our Website:**

**[www.sureboard.com](http://www.sureboard.com) or we would be pleased to send you a copy of our installation video upon request.**

Cemco

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