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RESEARCH REPORT: RR 25461T
(CSI #13030)

BASED UPON ICC-ES LEGACY
REPORT NO. ER-5762

REEVALUATION DUE DATE:
September 1, 2010
Issued: October 1, 2009
Code: 2008 LABC

GENERAL APPROVAL – Reevaluation - Sure-Board Series 200 Structural Panels for Shear Walls and Fire Rated Walls.

DETAILS

I. Shear Walls

The above assemblies and/or products are approved when in compliance with the description, use, identification and findings of Legacy Report No. ER-5762, dated July 1, 2003, of the ICC Evaluation Service, Incorporated. The Legacy report, in its entirety, is attached and made part of this general approval.

The parts of Legacy Report No. ER-5762 marked by the asterisks are modified by the Los Angeles Building Department from this approval.

II. Fire Rated Walls

a. 1-Hour Interior Wall Assembly

Steel Studs and Track: - 20 gauge 1 ½ in. By 3 ½ in. Studs, spaced 24 in. on centers

Horizontal Bracing: - Installed in stud holes, 3/8 in. by 1 ½ in. by 16 gauge, fastened with steel angles at each stud intersection.

Sure Board Series 200 - Applied steel against studs on one side or both sides, oriented vertically with edge joints.

Gysum Wallboard - USG “sheetrock” 5/8 in Type X gymsum wallboard, 1-5/8 in. Long No. 6 bugle head screws, 6 in on centers at board perimeter, and 12 in. on center in middle studs gypsum board fastened to each side of wall assembly.

b. 2-Hour Interior Wall Assembly

Steel Studs and Track - 20 gauge 1 ½ in. by 3 ½ in. studs, spaced 24 in. on centers.

Horizontal Bracing - Installed in stud holes, 3/8 in. by 1 ½ in. by 16 gauge, fastened with steel angles at each stud intersection

Sure Board Series 200 - Applied steel side against studs on one side or both sides oriented vertically with edge joints centered on studs.

Gypsum Wallboard - USG “sheetrock” 5/8 in Type X gypsum wall board, 3 in. long No. 8 bugle head screws, 6 in. on centers at board perimeter, and 12 in. on centers in middle studs, 2 layers of gypsum board fastened to each side of wall assembly. Screws for gypsum may be screwed into sure board instead of studs for attachment for fire rating.

The approval is subject to the following conditions:

1. The approval is valid until September 1, 2010. Further approval is pending on acceptance of the AC154 by ICC-ES.

2. Structural calculations and plans shall be prepared by an engineer or architect licensed in the state of California and approved by the structural plan check.

3. The Panels are limited to applications where there is no direct exposure to the weather or damp environments.

4. Shear wall design table are nominal shear values for wind or earthquake forces. To determine the allowable shear value or design strength value, the appropriate safety factor or strength reduction factor in accordance with Section 2210 of the 2008 Los Angeles Building Code shall be applied.

5. The Sure-Board Series 200 Structural Panels are identified by a label located on the top right and bottom left hand corner of the metal facing.

DISCUSSION

The approval is through September 1, 2010. Customer must revise ICC Acceptance Criteria to comply with 2008 LABC.

The approval is based on test and analysis.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval will remain effective provided the Evaluation Report is maintained valid and unrevised with the issuing organization. Any revisions to the report must be submitted to this Department, with appropriate fee, for review in order to continue the approval of the revised report.

The status of the reference Legacy Report No. ER-5762 dated July 1, 2003, which is currently beyond its reexamination date is still valid. The validity of the report was verified with ICC.

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WS:ws
RR25461/Word.2003
R10/05/09
7G4/2210

Attachments: ICC ES Legacy Report No. ER-5762 (2 Pages).

TABLE 1 - NOMINAL 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]

STEEL FRAMING	FASTENER SPACING AT PANEL EDGES (Inches)[6]											
	6			4			3			2		
Minimum Gage[5]	Load (lb/linear foot)2,3,4	Δ_n (inch)	Δ_s (inch)	Load (lb/linear foot)2,3,4	Δ_n (inch)	Δ_s (inch)	Load (lb/linear foot)2,3,4	Δ_n (inch)	Δ_s (inch)	Load (lb/linear foot)2,3	Δ_n (inch)	Δ_s (inch)
18 (0.043 inch)							2,823 [7]	1.82	0.30	3,149 [7]	1.56	0.24
16 (0.054 inch)							2,957 [7]	1.72	0.34	3,650 [7]	1.82	0.26
14 (0.071 inch)										3,302 [7]	1.64	0..24
14 (0.071 inch) 2-Sided *fasteners at 6" O.C. At intermediate framing										4,633 [7]	1.42	0..40
14 (0.071 inch) 2-Sided (16" OC Stud Spacing)										5,080 [7]	1.98	0.46

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 in this IAPMO report.

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

[4]For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor $\Omega = 2.5$. For load and resistance factor design (LRFD) loads, the tabulated load values must be multiplied by the resistance factor $\Phi = 0.55$.
[5]

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

[7] All tested/stated values require end posts to be increased one gage higher double c-stud **minimum requirement**, to qualify for stated capacity.

Δ_n = approximate deflection at nominal load.

Δ_s = approximate deflection at design load.

TABLE 2 - NOMINAL SHEAR RESISTANCE TO WIND OR EARTHQUAKE FORCES AND DISPLACEMENT (inches) FOR SHEAR WALLS WITH SURE-BOARD® SERIES 200 STRUCTURAL PANELS ATTACHED TO DF STUDS AT 16" O.C. WITH #8 X 2" SCREWS[1]

FRAMING	#8 X 2" SCREW SPACING AT PANEL EDGES AND FIELD, INCHES ON CENTER[2,3]											
Stud: 2 by 4 stud grade df End post: 4 by 4 No. 1 DF Sill and top plate: 2 by 4 standard DF				2/12								
	S_{nom}[7] Nominal Shear Resistance[4,5] (plf)	Δ_n[8] Lateral Displacement (inches)	Δ_s[9] Lateral Displacement (inches)	S_{nom}[7] Nominal Shear Resistance[4,5] (plf)	Δ_n[8] Lateral Displacement (inches)	Δ_s[9] Lateral Displacement (inches)	S_{nom}[7] Nominal Shear Resistance[4,5] (plf)	Δ_n[8] Lateral Displacement (inches)	Δ_s[9] Lateral Displacement (inches)	S_{nom}[7] Nominal Shear Resistance[4,5] (plf)	Δ_n[8] Lateral Displacement (inches)	Δ_s[9] Lateral Displacement (inches)
	-----	**-----**	**-----**	**2,333**	**1.37**	**0.320**	**-----**	**-----**	**-----**	**-----**	**-----**	**-----**

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]

[3] All panel edges must be blocked. Panels are installed vertically or horizontally. Fasteners must be spaced a minimum of 12 inches on center along field framing members.

[4]Tabulated values are for panels applied to one side of a wall.

[5]For allowable stress design (ASD) loads, the tabulated load values must be divided by the safety factor of 2.5. For load and resistance factor design (LRFD), the tabulated resistance values must be multiplied by 0.55.

[6]NCP represents values without compression posts installed.

[7] Snom =nominal strength

[8]Δ_n = Lateral displacement at S_{nom}

[9]Δ_s = Lateral displacement at ϕS_{nom}, where ϕ (resistance factor) = 0.55