



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD PREAPPROVAL OF  
MANUFACTURER'S CERTIFICATION (OPM)

OFFICE USE ONLY

APPLICATION #: OPM-0547-19

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: ☒ New ☐ Renewal ☐ Update to Pre-CBC 2013 OPA Number: \_\_\_\_\_

Manufacturer Information

Manufacturer: Smoke Guard Inc.

Manufacturer's Technical Representative: Herb Kaup

Mailing Address: 287 N. Maple Grove, Boise, ID 83704

Telephone: 208-639-7871

Email: herb@smokeguard.com

Product Information

Product Name: Smoke Curtain

Product Type: Other mechanical and electrical components

Product Model Number: M200 & M400

General Description: Closes off elevator openings to curtail smoke migration between spaces.

Applicant Information

Applicant Company Name: SGW Designworks LLC

Contact Person: Tasche Streib

Mailing Address: 3131 W State Street, Suite 230, Boise, ID 83703

Telephone: 208-391-4021

Email: tasche.streib@sgwdesignworks.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2019.

Signature of Applicant: Tasche Streib

Date: 08/01/2019

Title: Co-founder, President

Company Name: SGW Designworks LLC



## OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

### Registered Design Professional Preparing Engineering Recommendations

Company Name: Structural Engineering Consultants, LLC

Name: Patrick Van Kleek California License Number: M32977

Mailing Address: 410 S. Orchard St, Suite 116, Boise, ID 83705

Telephone: 208-887-7760 Email: pat@secidaho.com

### OSHDP Special Seismic Certification Preapproval (OSP)

- ☐ Special Seismic Certification is preapproved under OSP-  
(Separate application for OSP is required)
- ☒ Special Seismic Certification is not preapproved

### Certification Method(s)

- ☐ Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16
- ☐ Other\* (Please Specify): \_\_\_\_\_

\*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracing, test criteria other than those adopted in the CBSC 2019 may be used when approved by OSHDP prior to testing.

- ☒ Analysis
- ☐ Experience Data
- ☐ Combination of Testing, Analysis, and/or Experience Data (Please Specify): \_\_\_\_\_

### List of Attachments Supporting the Manufacturer's Certification

- ☐ Test Report ☒ Drawings ☒ Calculations ☐ Manufacturer's Catalog
- ☐ Other(s) (Please Specify): \_\_\_\_\_

### OFFICE USE ONLY – OSHDP APPROVAL VALID FOR CBC 2019 & ALL PRE-2019 CODE BASED PROJECTS

Signature: Jeffrey Kikumoto Date: December 10, 2020

Print Name: Jeffrey Kikumoto

Title: Senior Structural Engineer

Condition of Approval (if applicable): \_\_\_\_\_

OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT  
**PREAPPROVAL OF MANUFACTURER'S CERTIFICATION**  
**OPM-0547-19**

THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE

**MANUFACTURER:** SMOKE GUARD  
**EQUIPMENT NAME:** M200/M400 SMOKE CURTAIN



Digitally signed by Patrick D. Vankleek  
 Date: 12/10/2020

**GENERAL NOTES**

1. THIS OSHPD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2019. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2019.
2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED BELOW FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.
3. THIS PRE-APPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE WHERE  $S_{DS}$  IS NOT GREATER THAN 2.5.
4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2, & 13.3-3.  
 WHERE  $S_{DS} = 2.5$ ,  $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 1.5$ ,  $z/h \leq 1$ . SEE FOLLOWING SHEETS FOR APPLICABILITY OF  $\Omega_0$ .
5. THIS PRE-APPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.
7. SHEET METAL SCREWS SHALL BE TEKS SCREWS BY ITW BUILDEX. (ICC ESR-1976).
8. CONCRETE WALL DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION. (i.e.  $z/h \leq 1$ )

**9. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING**

- A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHTS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
- B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS, MATERIAL AND GAUGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PRE-APPROVAL DOCUMENTS.
- C. VERIFY THAT PROJECT SPECIFIC VALUES OF  $S_{DS}$  &  $z/h$  RESULT IN SEISMIC FORCES ( $E_h$ ,  $E_v$ ) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.
- D. VERIFY THAT THE CONCRETE WALL TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR REPORT AND THIS OPM.
- E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY CONCRETE WALL EDGES OR OPENINGS (SEE TYPICAL DETAILS ON SHEET 2).
- F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR  $6h_{ef}$  FROM THIS UNIT'S ANCHORS.
- G. DESIGN BACKING BARS, STUDS, ETC. WHICH THE UNITS ARE ATTACHED TO AS NOTED ON THE DRAWINGS.

MANUFACTURER:		NAME	DATE
Smoke Guard		J. WALIN	5/15/2019
PRODUCT:		ENG APPR.	
M200 & M400		CHKD BY	SC 4/22/2020
REV:	SIZE: A	SHEET 1 OF 6	CUST. APPR.

**PROPRIETARY & CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF SMOKE GUARD. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SMOKE GUARD IS PROHIBITED.



**DESIGNWORKS**

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# 10. EXPANSION ANCHORS:

A) ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

Anchor Diameter	Concrete Type	Min. F'c (psi)	Anchor Type	ICC Report No.	Min. Embed.	Min. Spacing.	Min. Edge Dist.	Min. Conc. Thickness	Install Torque	Direct Tension
1/4"	Normal Weight	3000	Hiti Kwik Bolt Hus-EZ	ESR-3027	1.92"	6"	6"	6"	18 FT-LB	799lb

B) THIS PRE-APPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE WALL EDGES, 6" AWAY MINIMUM (i.e. - CORNER). SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C) TESTING AND SPECIAL INSPECTION OF SCREW ANCHORS SHALL BE PREFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER, AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

i. AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST AT LEAST 50% OF THE ANCHORS.

ii. ACCEPTANCE CRITERIA:

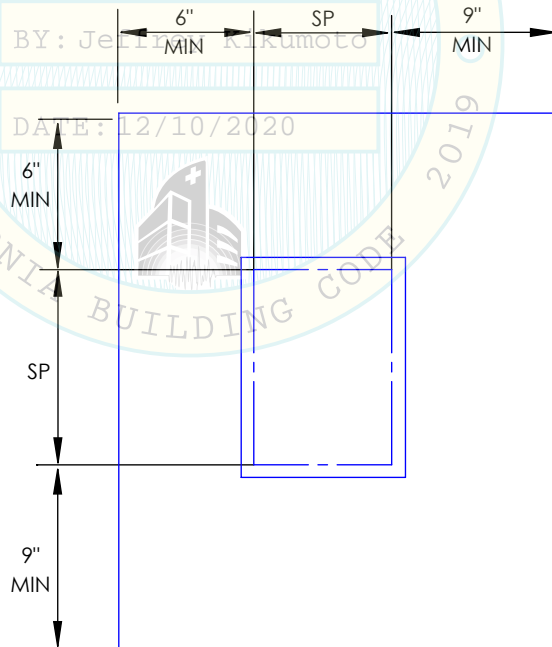
· DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.

iii. IF ANY ANCHORS FAIL, TEST ALL ANCHORS.

D) AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE WALL WHEN INSTALLING CONCRETE SCREW ANCHORS.



Digitally signed by Patrick D. Vankleek  
Date: 12/10/2020



SP = BOLT SPACING

MANUFACTURER:  
M200 & M400

PRODUCT:  
Smoke Guard

REV: SIZE: A SHEET 2 OF 6 CUST. APPR.

NAME DATE

DRWN BY J. WALIN 5/15/2019

ENG APPR.

CHKD BY SC 4/22/2020

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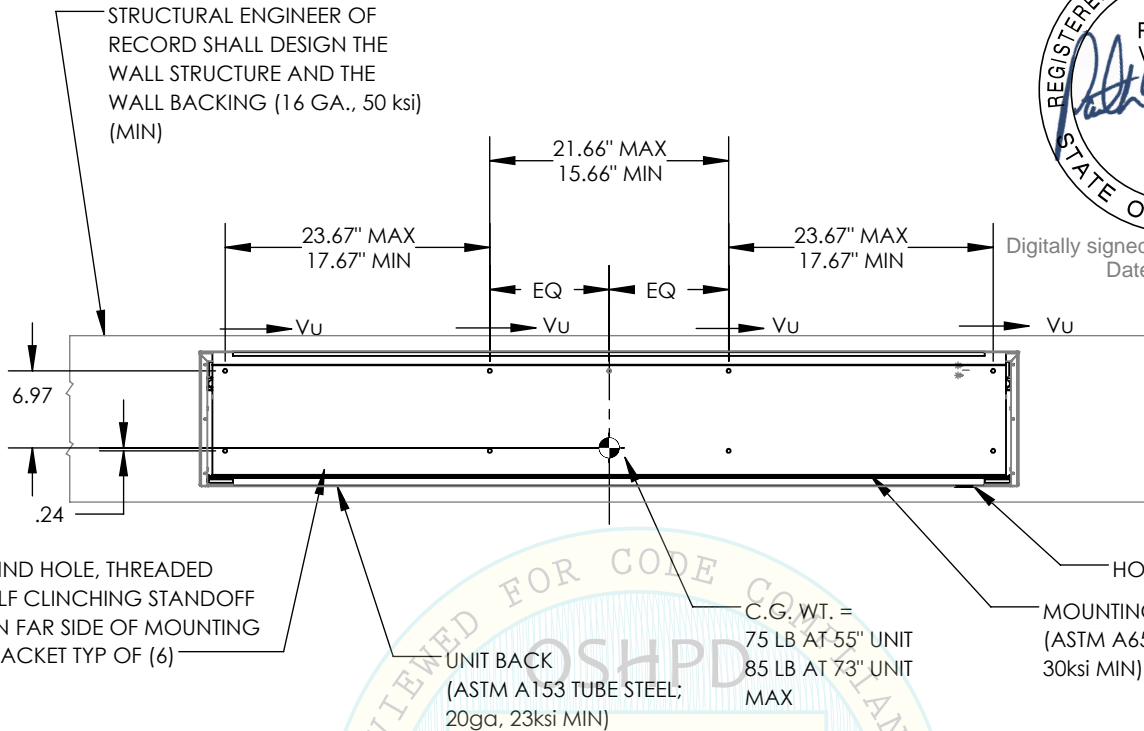
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# SEISMIC SUPPORTS & ATTACHMENTS

WALL MOUNTED



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Date: 12/10/2020



## FRONT ELEVATION (M200/M400)

DATE: 12/10/2020

### NOTES:

- FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16. STRENGTH DESIGN IS USED:  $S_{DS}=2.5g$  ( $a_p = 1.0$ ,  $I_p = 1.5$ ,  $R_p = 1.5$ ,  $\Omega_0 = 1.5$ ,  $z/h \leq 1$ ) PER ASCE 7-16 TABLE 13.5-1, OTHER RIGID COMPONENTS  
  
HORIZONTAL FORCE ( $E_h$ ) =  $3.0W_p = (3.0) \cdot (85\text{LBS}) = 255\text{LBS}$   
HORIZONTAL FORCE ( $E_{mh}$ ) =  $4.5W_p = (4.5) \cdot (85\text{LBS}) = 383\text{LBS}$   
VERTICAL FORCE ( $E_v$ ) =  $0.5W_p = (0.5) \cdot (85\text{LBS}) = 43\text{LBS}$   
( $E_{mh} = E_h \times \Omega_0$ ; FOR CONCRETE ANCHORAGE)
- CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PRE-APPROVAL ENCOMPASSES ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
- STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHTS AND FORCES SHOWN IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
- SEE GENERAL NOTE: PAGES 1 AND 2

MANUFACTURER:

Smoke Guard

PRODUCT:

M200 & M400

REV:

SIZE:

A

SHEET 3 OF 6

CUST. APPR.

NAME

DATE

DRWN BY

J. WALIN

5/15/2019

ENG APPR.

CHKD BY

SC

4/22/2020

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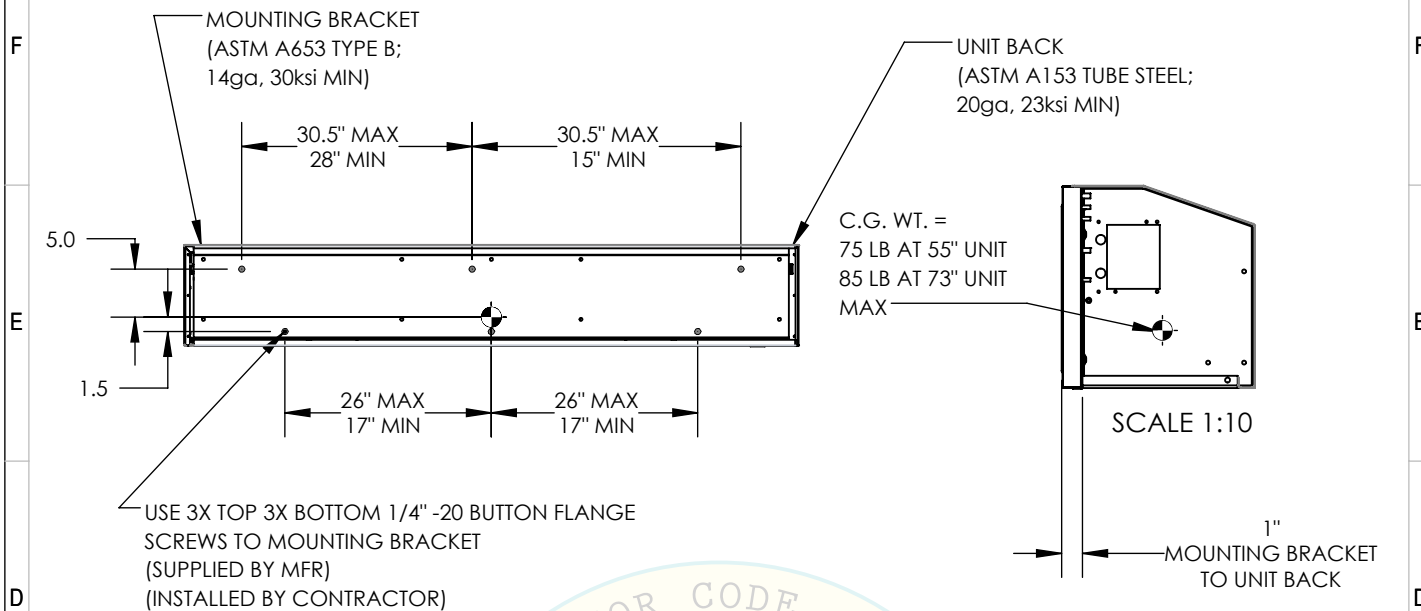
DESIGNWORKS

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# SEISMIC SUPPORTS & ATTACHMENTS FOR MOUNTING BRACKET TO UNIT BACK CONNECTION

WALL MOUNTED



## REAR ELEVATION (M200/M400)

OPM-0547-19

BY: Jeffrey Kikumoto

## SIDE ELEVATION (M200/M400)

The M200 and M400 are attached to the mounting bracket with 3 top and 3 bottom fasteners.

### Mounting Bracket to Unit

Top Screws:  $T_u = 45 \text{ lb/screw}$   
 $V_u = 56 \text{ lb/screw}$   
 Bot Screws:  $T_u = 115 \text{ lb/screw}$   
 $V_u = 56 \text{ lb/screw}$



Digitally signed by Patrick D. Vankleek  
Date: 12/10/2020

MANUFACTURER:		NAME	DATE
Smoke Guard		J. WALIN	5/15/2019
PRODUCT:		ENG APPR.	
M200 & M400		CHKD BY	SC 4/22/2020
REV:	SIZE: A	SHEET 4 OF 6	CUST. APPR.

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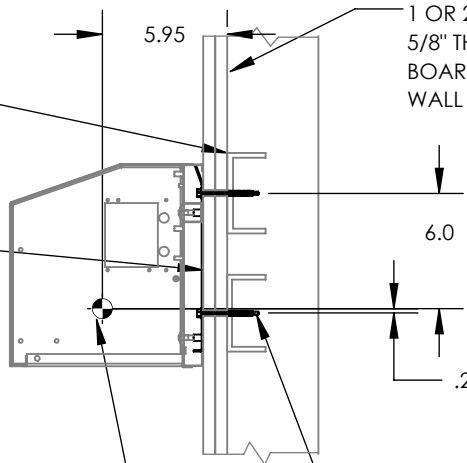
# SEISMIC SUPPORTS & ATTACHMENTS FOR MOUNTING BRACKET TO STEEL AND WOOD STUD WALL

WALL MOUNTED

The mounting bracket is attached to wall through 4 top and 4 bottom fasteners.

STRUCTURAL ENGINEER OF  
RECORD SHALL DESIGN THE WALL  
STRUCTURE AND THE WALL  
BACKING (16 GA., 50ksi MIN)

MOUNTING BRACKET  
(ASTM A653 TYPE B  
14 GA., 30ksi MIN)



1 OR 2 LAYERS OF  
5/8" THK. WALL  
BOARD AT FIRE RATED  
WALL PER ARCH. DWGS.

## Mounting Bracket to Structure

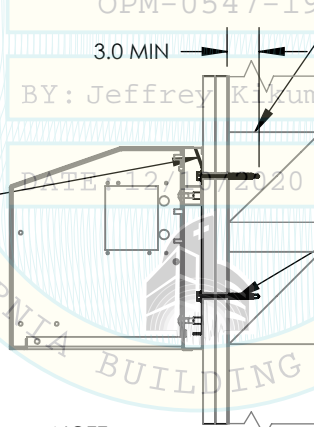
Top Screws:  $T_u = 33 \text{ lb/screw}$   
 $V_u = 125 \text{ lb/screw}$   
Bot Screws:  $T_u = 100 \text{ lb/screw}$   
 $V_u = 125 \text{ lb/screw}$

C.G. WT. =  
75 LB. AT 55" UNIT  
85 LB. AT 73" UNIT  
MAX

USE (4) TOP (4) BOTTOM 1/4" Ø TEK SCREWS  
TO WALL STRUCTURE  
(BY STRUCTURAL ENGINEER  
OF RECORD)

## SECTION AT STEEL STUD WALL (M200/M400)

1 OR 2 LAYERS OF  
5/8" THK. WALL  
BOARD AT FIRE RATED  
WALL PER ARCH. DWGS.



3X STUDS OR 4X BLKG  
(DOUGLAS-FIR LARCH  
NUMBER 2 MIN) DESIGNED  
BY STRUCTURAL ENGINEER  
OF RECORD

USE (4) TOP AND (4) BOTTOM  
SIMPSON SDWH19600DB SCREW  
TO WOOD STUD OR BLKG.  
W/ 3" PENTR. (MIN)  
(PRE-DRILL HOLES TO  
70% SHANK DIAMETER)

NOTE:  
MIN EDGE DISTANCE = 1"  
MIN END DISTANCE = 2"

## Mounting Bracket to Structure

Top Screws:  $T_u = 33 \text{ lb/screw}$   
 $V_u = 29 \text{ lb/screw}$   
Bot Screws:  $T_u = 164 \text{ lb/screw}$   
 $V_u = 69 \text{ lb/screw}$

## SECTION AT WOOD STUD WALL (M200/M400)



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Date: 12/10/2020

MANUFACTURER:		NAME	DATE
Smoke Guard		J. WALIN	5/15/2019
PRODUCT:		ENG APPR.	
M200 & M400		CHKD BY	SC 4/22/2020
REV:	SIZE: A	SHEET 5 OF 6	CUST. APPR.

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DESIGNWORKS

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# SEISMIC SUPPORTS & ATTACHMENTS FOR MOUNTING BRACKET TO CONCRETE AND BLOCK WALL

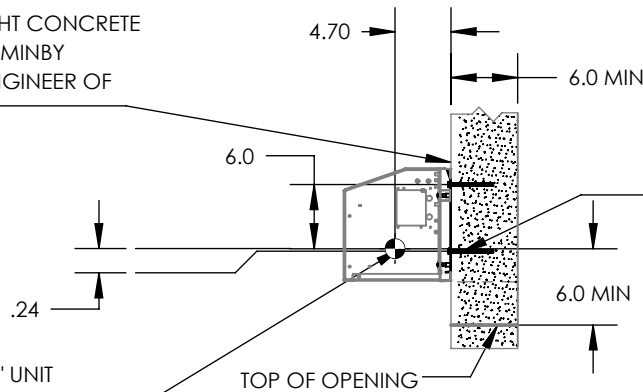
WALL MOUNTED

The mounting bracket is attached to wall through 4 top and 4 bottom fasteners.

Mounting Bracket to Structure  
(Values Include  $\Omega_0$ )  
Top Screws:  $T_u = 31$  lb/screw  
 $V_u = 187$  lb/screw  
Bot Screws:  $T_u = 144$  lb/screw  
 $V_u = 187$  lb/screw

NORMAL WEIGHT CONCRETE  
WALL (3000 PSI MIN BY  
STRUCTURAL ENGINEER OF  
RECORD)

C.G. WT. =  
75 LB. AT 55" UNIT  
85 LB. AT 73" UNIT  
MAX



USE (4) TOP AND (4)  
BOTTOM 1/4" HILTI HUS-EZ  
CONCRETE SCREWS  
(MIN. EMBED. hef = 1.92")

## SECTION AT CONCRETE WALL (M200/M400)

USE (4) TOP AND (4)  
BOTTOM 1/4"  $\emptyset$   
A307 BOLTS THRU WALL  
W/ 11/2"  $\emptyset$  x 1/8" WASHERS

C.G. WT. =  
75 LB. AT 55" UNIT  
85 LB. AT 73" UNIT  
MAX

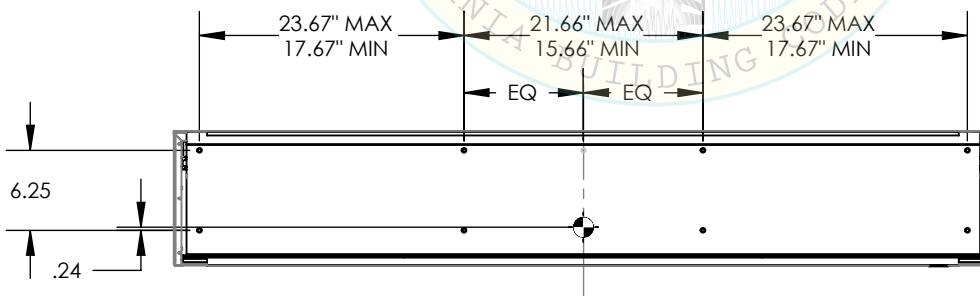
C.M.U. WALL  
DESIGNED BY  
STRUCTURAL  
ENGINEER OF  
RECORD  
( $f'_m = 2000$ psi)

MOUNTING BRACKET  
(ASTM A653 TYPE B  
14 GA., 30 ksi MIN)

TOP OF OPENING

## SECTION AT BLOCK WALL (M200/M400)

MIN AND MAX VALUES  
BASED ON SMALLEST (55")  
AND LARGEST UNIT (73")



## SCREW SPACING (M200/M400)



Digitally signed by Patrick D. Vankleek  
Date: 12/10/2020

MANUFACTURER:

Smoke Guard

NAME DATE

DRWN BY

J. WALIN 5/15/2019

PRODUCT:

M200 & M400

ENG APPR.

CHKD BY

SC 4/22/2020

REV:

SIZE: A

SHEET 6 OF 6

CUST. APPR.

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