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

OFFICE USE ONLY

APPLICATION #: OPM-0687

HCAI Preapproval of Manufacturer's Certification (OPM)

Type: [X] New [ ] Renewal/Update

Manufacturer Information

Manufacturer: Milestone Medical Technologis, Inc.

Manufacturer's Technical Representative: Elia Rosetta

Mailing Address: 6475 Technology Avenue, Suite F, Kalamazoo, MI 49009

Telephone: (269) 488-4959 Email: e.rosetta@milestonemed.com

Product Information

Product Name: UltraSAFE

Product Type: Formalin Dispensing System

Product Model Number: REF 107000

General Description: An automated system for dispensing formalin for histologic specimens used in operating rooms and histopathological laboratories.

Applicant Information

Applicant Company Name: Milestone Medical Technologies, Inc.

Contact Person: Elia Rosetta

Mailing Address: 6475 Technology Avenue, Suite F, Kalamazoo, MI 49009

Telephone: (269) 488-4959 Email: e.rosetta@milestonemed.com

Title: CEO

Registered Design Professonal Preparing Engineering Recommendations

Company Name: DEGENKOLB ENGINEERS

Name: Wayne Low California License Number: S4463

Mailing Address: 1300 Clay Street, 9th Floor, Oakland, CA 94612

Telephone: (510) 272-9040 Email: walow@degenkolb.com

HCAI Special Seismic Certification Preapproval (OSP)

☐ Special Seismic Certification is preapproved under OSP OSP Number:

Certification Method

Testing in accordance with: ☐ ICC-ES AC156 ☐ FM 1950-16

☐ Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2022 (CBSC 2022) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2022 may be used when approved by HCAI prior to testing.

☒ Analysis

☐ Experience Data

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

HCAI Approval

Date: 4/30/2024

Name: Timothy Piland Title: Senior Structural Engineer

Condition of Approval (if applicable):

GENERAL NOTES

I. GENERAL

1. THIS HCAI PRE-APPROVAL OF MANUFACTURE'S CERTIFICATION (OPM) IS BASED ON THE CBC 2022. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE ASCE7-16.
2. THIS PRE-APPROVAL IS VALID FOR THE EQUIPMENT DESCRIBED IN THESE DRAWINGS THROUGHOUT THE STATE OF CALIFORNIA, AND IS VALID FOR EQUIPMENT INSTALLED AT ANY HEIGHT WITHIN THE BUILDING.
3. SHEET METAL SCREWS (SMS) ARE TEK SCREWS BY ITW BUILDEX (ICC-ES ESR-1976).

II. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

1. VERIFY MATERIALS AND WORKMANSHIP TO CONFORM WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE AND THE REQUIREMENTS OF THIS PRE-APPROVAL DOCUMENT.
2. VERIFY THE INSTALLATION LOCATION SITE SEISMIC FACTORS DO NOT EXCEED THE DESIGN CRITERIA NOTED IN THIS OPM
3. VERIFY THE ADEQUACY OF THE EXISTING FLOOR TO SUPPORT THE LOADS INDICATED IN THIS OPM. SEE SCHEDULE ON S2 FOR LOADING
4. VERIFY ANCHORS ARE ADEQUATE DISTANCES FROM OPENINGS AND EDGES OF SLABS.
5. VERIFY ANCHORS ARE ADEQUATE DISTANCES FROM NEW OR EXISTING ANCHORS.
6. DESIGN ANY SUPPLEMENTARY MEMBER AND THEIR ATTACHMENTS OTHER THAN THOSE DETAILED WITHIN THIS PRE-APPROVAL.
7. VERIFY THE EQUIPMENTS WEIGHT, LOCATION. ANCHOR LOCATIONS AND ANCHOR DETAILS AGREE WITH THE INFORMATION SHOWN IN THIS PRE-APPROVAL.

III. STRUT FRAMING

1. CHANNEL FRAMING COMPONENTS AND CONNECTORS MANUFACTURED BY UNISTRUT COMPORATION. SEE SHEET S6.
2. CHANNEL FRAMING TO CONFORM TO ASTM A1011 SS, GRADE 33 .
3. STRUT TYPE: SOLID SECTIONS ONLY.PRE-DRILL AS REQUIRED TO INSTALL SMS

IV. MECHANICAL ANCHORS

1. WEDGE ANCHORS INTO CONCRETE: USE ZINC PLATED CARBON STEEL HILTI KB-TZ2 (ICC ESR-4266 ISSUED DEC. 2023. INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT
2. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT APPROVED BY THE ENGINEER OF RECORD. NOTIFY THE ENGINEER OF RECORD IF ANY REINFORCING IS DAMAGED.
3. ANCHORS WILL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY. WITH A REPORT OF THE TEST RESULTS SUBMITTED TO HCAI.
4. IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME INITIAL TESTING FREQUENCY.
5. TEST 50% WEDGE ANCHORS PER THE FOLLOWING METHOD:
   A. TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED INTHE TABLE BELOW WITHIN THE FOLLOWING LIMITS:
      a. ONE-HALF TURN OF THE NUT.

WEDGE	
ANCHOR DIA. (IN)	TORQUE LOAD (FT-LBS)
3/8	30
1/2	50
5/8	40

VI. STRUCTURAL STEEL

1. STRUCTURAL STEEL TO CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED:

SECTIONS	TYPE
MACHINE BOLTS	ASTM A307
NUTS FOR BOLTS AND MACHINE BOLTS	ASTM A563
PLAIN WASHERS	ANSI B18.22.1

2. HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STRUCTURAL STEEL AND FASTENERS THAT ARE PERMANENTLY EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENTS

VII. STRUCTURAL TESTS, INSPECTIONS, AND OBSERVATIONS

1. THE OWNER SHALL RETAIN AN INDEPENDENT TESTING AGENCY AND SPECIAL INSPECTORS TO PERFORM THE FOLLOWING TESTS AND INSPECTION. PROVIDE ACCESS AND FURNISH SAMPLES TO THE AGENCY AS REQUIRED.
2. THE FOLLOWING ITEMS REQUIRE TESTS AND INSPECTIONS IN ACCORDANCE WITH THE REQUIREMENTS OF THE CHAPTER "STRUCTURAL TESTS AND INSPECTIONS" OF THE CODE.
   A. PERIODIC INSPECTION OF CLEANING OF THE EQUIPMENT PRIOR TO INSTALLATION OF ADHESIVE PADS
   B. PERIODIC INSPECTION OF FIELD CUTTING OF NYLON WEBBING (IF APPLICABLE).
3. MECHANICAL ANCHORS:
   A. VERIFY TYPE OF ANCHOR, ANCHOR DIMENSIONS, CONCRETE TYPE AND COMPRESSIVE STRENGTH, PREDRILLED HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCE, SLAB THICKNESS AND ANCHOR EMBEDMENT.
   B. PROOF-TEST AS INDICATED IN THE MECHANICAL ANCHORS SECTION OF THESE GENERAL NOTES.

VIII. DESIGN CRITERIA

1. APPLICABLE CODE: 2022 CALIFORNIA BUILDING CODE.
2. SEISMIC DESIGN:
   SEISMIC FORCE F = 1.44Wp for z/h = 1 Ev = 0.40 Wp
   F = 1.2Wp for z/h ≤ 0.75
   Rp = 2.5 LAB TYPE EQUIPMENT
   ap = 1.0 RIGID COMPONENT
   Ω = 2.0
   WHERE:
   Sds = 200% G WORST CASE ACCEL.
   Ip = 1.5 FOR NON-ESSENTIAL EQUIP.
   Z/h= 1 and Z/h ≤ 0.75 FOR ANY FLOOR

IX. HOW TO USE THIS PRE-APPROVAL

1. REVIEW AND UNDERSTAND ALL GENERAL NOTES AND FIGURES BEFORE PROCEEDING.
2. FOR THE SELECTED UNIT, DETERMINE THE ANCHORAGE, STRUT LAYOUT AND DIMENSIONS.
3. DETERMINE THE MAXIMUM DEMANDS ON THE EXISTING STRUCTURE FROM THE NEW UNIT FROM THE TABLE ON SHEET S2, AND VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE WITH THE ENGINEER OF RECORD FOR THE BUILDING.
4. ALL LOADS IN THIS PRE-APPROVAL ARE @ ULTIMATE DESIGN LEVEL U.O.N. AND ARE USED FOR ALLOWABLE DESIGN. SEE SCHEDULE FOR MAXIMUM PERMITTED EQUIPMENT WEIGHT. VERIFY PRIOR TO EQUIPMENT INSTALLATION.
5. ALLOWABLE SMS ARE PER ICC ESR REPORTS 1976(ITW BUILDEX), 2196(HILTI), OR 1408(DARTS).

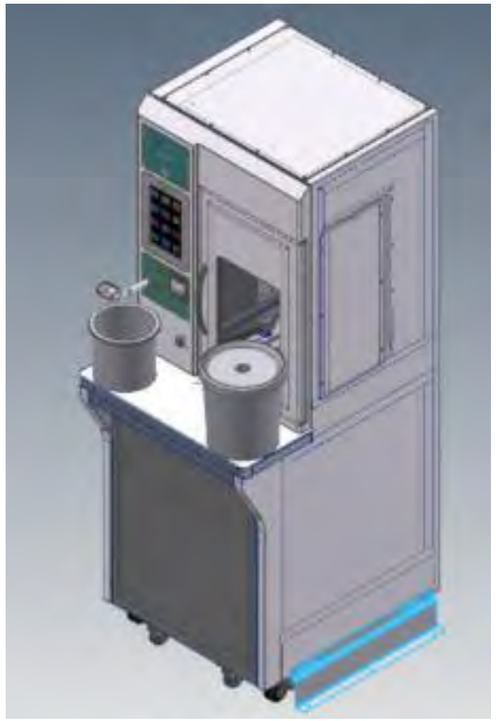
SHEET LIST

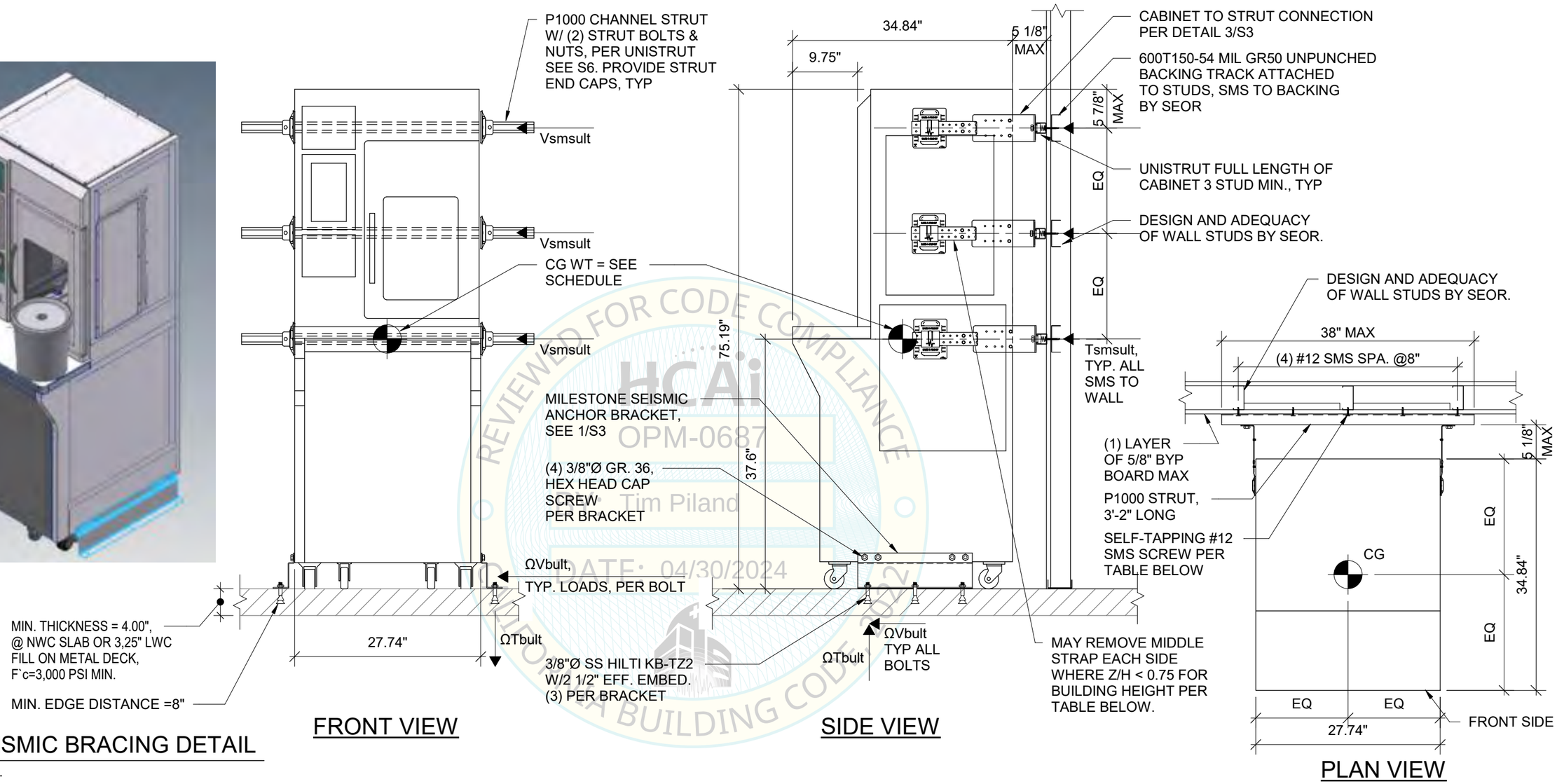
Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.9040 PHONE
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOTT
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Signed: 04/26/2024

Title: GENERAL NOTES			
Drawn	MSA	Job number:	C3206002.00
Design:	WAL	Rev:	
Check:	WAL	Scale:	N.T.S.
Date	4/26/24		

Sheet Number
S1





1 SEISMIC BRACING DETAIL

N.T.S.

MODEL	Wp (LBS)	CABINET DIMENSIONS			MAX FLOOR LOADS AT ULTIMATE				MAX WALL LOADS AT ULTIMATE				# OF STRAPS PER SIDE	# OF #12 SMS SCREW PER METAL STUD
		L	D	H	Vbult	Tbult	ΩTtult	ΩTtult	Vsmsult	Tsmsult	ΩTtult	ΩTtult		
		(IN)	(IN)	(IN)	(LBS/BOLT)	(LBS/BOLT)	(LBS/BOLT)	(LBS/BOLT)	(LBS/SMS)	(LBS/SMS)	(LBS/BOLT)	(LBS/BOLT)		
ULTRASAFE z/h>0.75	749	27.74"	34.84"	75.19"	90	794	180	1588	270	192	540	392	3	1
ULTRASAFE z/h<0.75	749	27.74"	34.84"	75.19"	75	662	150	1324	225	219	450	438	2	2

Definition: Vbult = Ult. Shear/Bolt || Tbult = Ult. Tenion/Bolt. || ΩVbult = ΩxUlt. Shear/Bolt || ΩUlt. = ΩxUlt. Ten./Bolt || Vsmsult = Ult. Shear/SMS || Tsmsult = Ult. Ten./SMS

Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.3040 PHONE
www.degenkolb.com

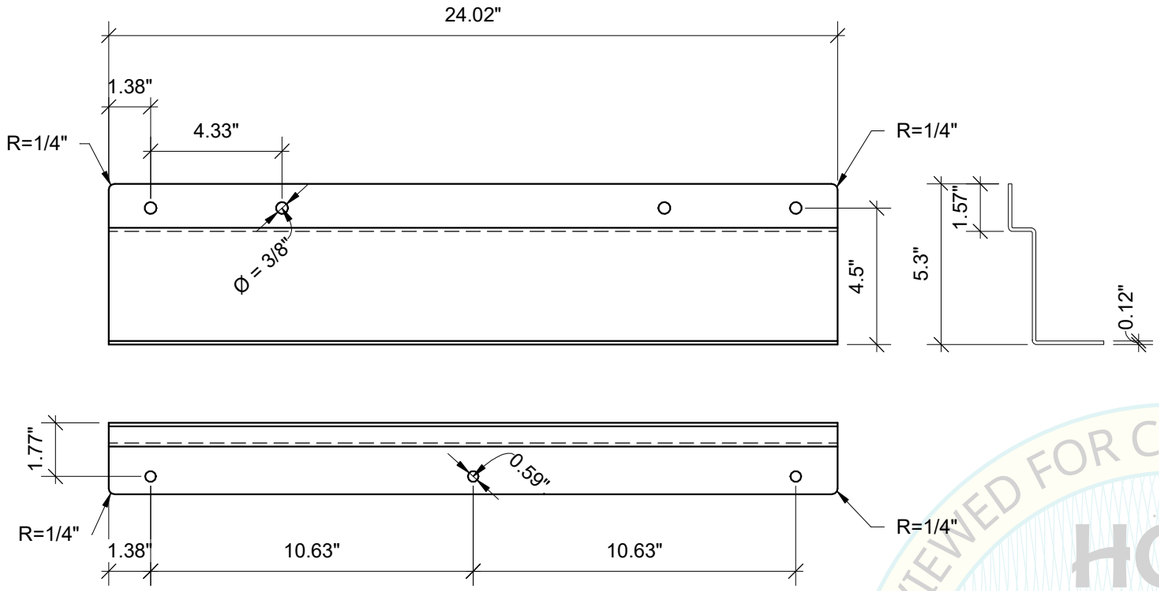
REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOTT
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Signed: 04/26/2024

OPM-0687: Reviewed for Code Compliance by Timothy Piland

Title:
SEISMIC BRACING PLAN & ELEVATIONS METAL STUD OPTION

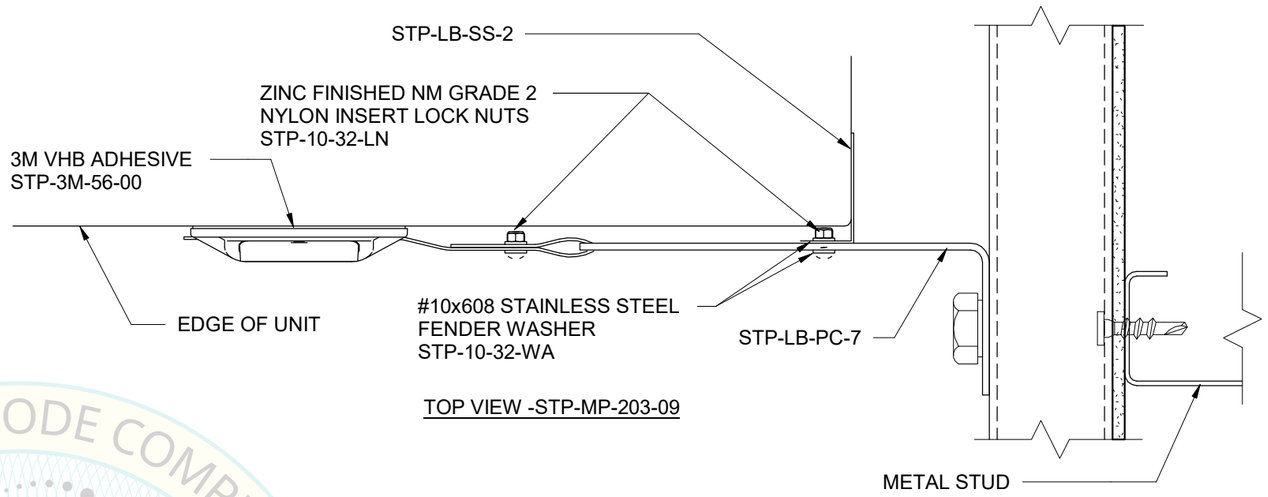
Drawn	MSA	Job number:	C3206002.00
Design:	WAL	Rev:	
Check:	WAL	Scale:	N.T.S.
Date	4/26/24		

Sheet Number
S2
4 of 8
OF Sheets

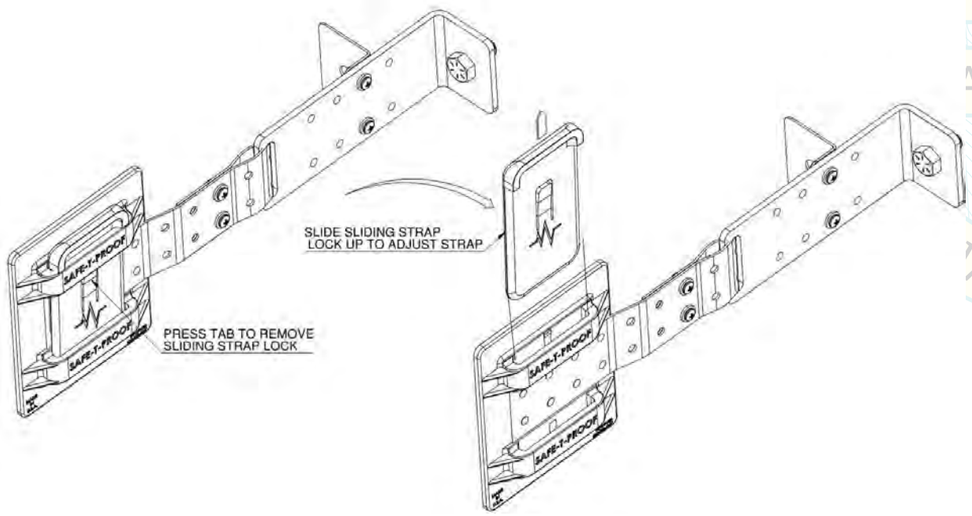


1 SEISMIC BRACKET AISI 304 S.S. ULTRASAFE

N.T.S.

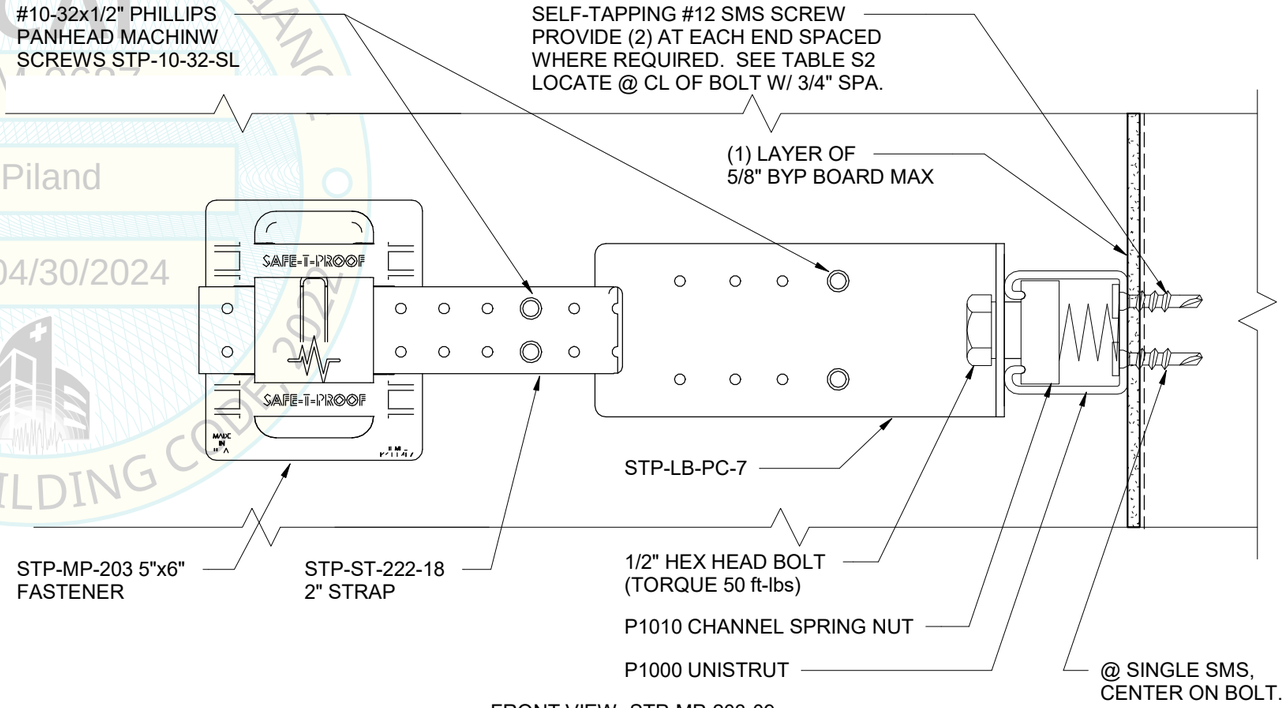


TOP VIEW -STP-MP-203-09



2 TRACK SECTIONS

N.T.S.



FRONT VIEW -STP-MP-203-09

3 STP-MO-203-09

N.T.S.

Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.3040 PHONE
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOH
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Signed: 04/26/2024

OPM-0687: Reviewed for Code Compliance by Timothy Piland

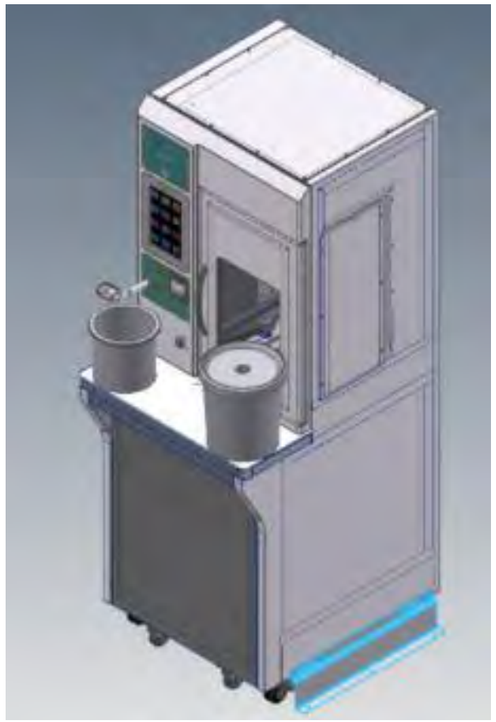
Title:
SEISMIC BRACING DETAILS

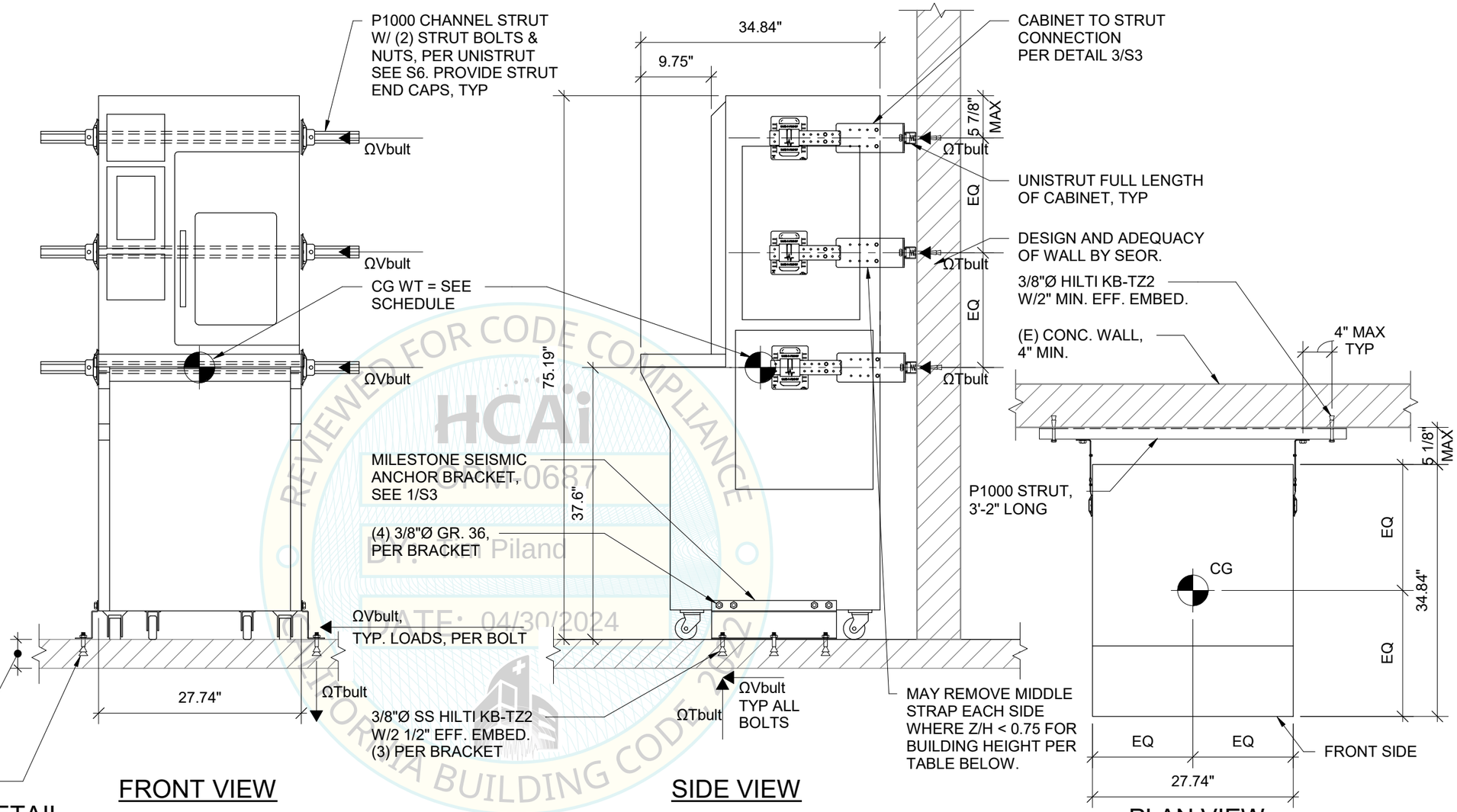
Drawn	MSA	Job number:	C3206002.00
Design:	WAL	Rev:	
Check:	WAL	Scale:	As indicated
Date	4/26/24		

Sheet Number

S3

5 of 8 OF Sheets





1 SEISMIC BRACING DETAIL

N.T.S.

MODEL	Wp (LBS)	CABINET DIMENSIONS			MAX FLOOR LOADS AT ULTIMATE				MAX WALL LOADS AT ULTIMATE				# OF STRAPS PER SIDE
		L	D	H	Vbult	Tbult	ΩVbult	ΩTbult	Vsmsult	Tsmsult	ΩVbult	ΩTbult	
		(IN)	(IN)	(IN)	(LBS/BO...	(LBS/BO...	(LBS/BO...	(LBS/BO...	(LBS/SMS)	(LBS/SMS)	(LBS/BOLT)	(LBS/BOLT)	
ULTRASAFE z/h>0.75	749	27.74"	34.84"	75.19"	90	794	180	1588	270	192	540	392	3
ULTRASAFE z/h<0.75	749	27.74"	34.84"	75.19"	75	662	150	1324	225	219	450	438	2

Definition: Vbult = Ult. Shear/Bolt || Tbult = Ult. Tenion/Bolt. || ΩVbult = ΩxUlt. Shear/Bolt || ΩxUlt. = ΩxUlt. Ten./Bolt || Vsmsult = Ult. Shear/SMS || Tsmsult = Ult. Ten./SMS

Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.9040 PHONE
www.degenkolb.com

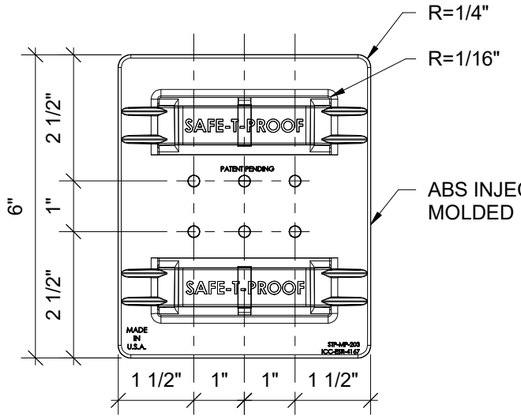
REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOK
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Signed: 04/26/2024

OPM-0687: Reviewed for Code Compliance by Timothy Piland

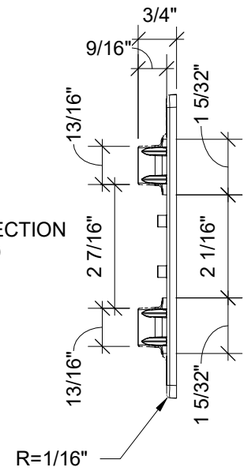
Title: SEISMIC BRACING PLAN & ELEVATIONS CONCETE WALL OPTION

Drawn	MSA	Job number:	C3206002.00
Design:	MM	Rev:	
Check:	WAL	Scale:	N.T.S.
Date	4/26/24		

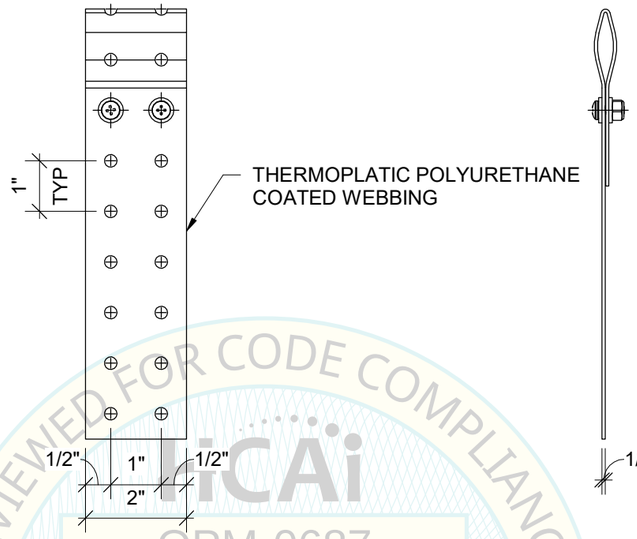
Sheet Number
S4
6 of 8 OF Sheets



1 FRONT VIEW - STP-MP-203 BASE UNIT

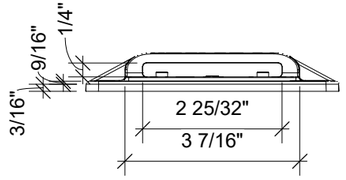


2 SIDE VIEW - STEP-MP-203 BASE UNIT

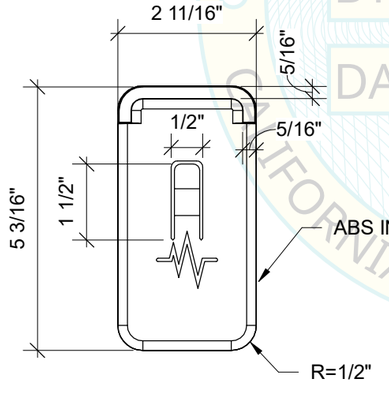


4 FRONT VIEW - STP-ST-222-18

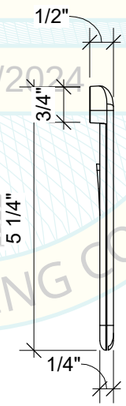
5 SIDE VIEW -STP-ST-222-18



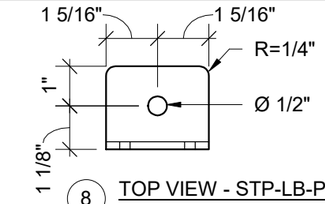
3 TOP VIEW - STEP-MP-203 BASE UNIT



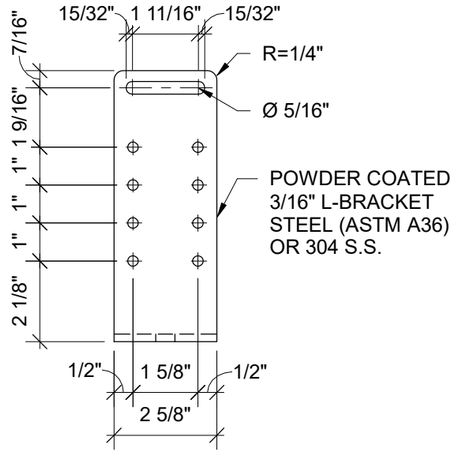
6 FRONT VIEW - STP-MP-203 SLIDING STRAP LOCK



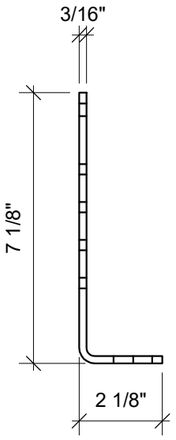
7 SIDE VIEW - STP-MP-203 SLIDING STRAP LOCK



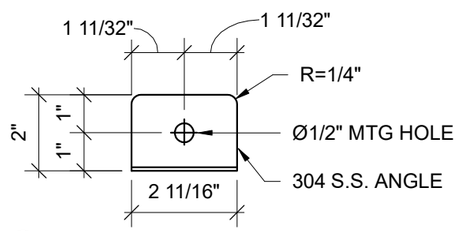
8 TOP VIEW - STP-LB-PC7



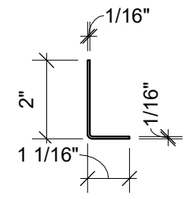
9 FRONT VIEW - STP-LB-PC7



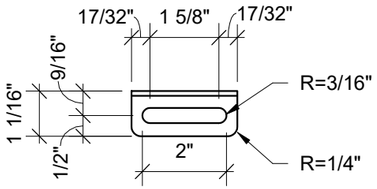
10 SIDE VIEW - STP-LB-PC7



11 FRONT VIEW - STP-LB-SS-2



12 SIDE VIEW - STP-LB-SS-2



13 TOP VIEW - STP-LB-SS-2

Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.3000 PHONE
www.degenkolb.com

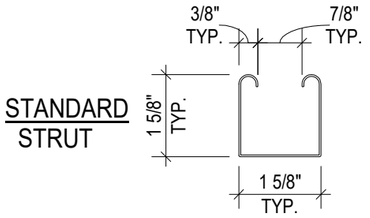
REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOH
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Wayne A. Loh
Signed: 04/26/2024

OPM-0687: Reviewed for Code Compliance by Timothy Piland

Title: SAFE-T-PROOF STRAP DETAILS

Drawn	MSA	Job number:	C3206002.00
Design:	WAL	Rev:	
Check:	WAL	Scale:	As indicated
Date	4/26/24		

Sheet Number
S5
7 of 8
OF Sheets



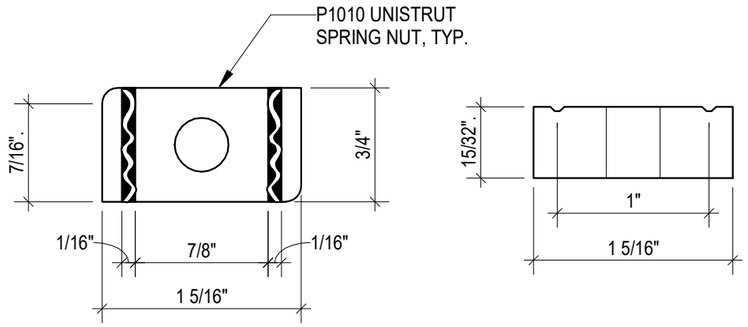
STRUT PROPERTIES

DESIGNATION	STD. STRUT
AREA IN^2	0.544
WEIGHT lbs/ft	1.89
Ix IN^4	0.180
Iy IN^4	0.233
Sx IN^3	0.195
Sy IN^3	0.287

NOTES:
1. ALL STRUT MANUF. BY ATKORE™ UNISTRUT ONLY.
2. ALL STRUT TO BE 12 GA.
3. ALL STRUT TO BE SOLID W/O PUNCHED HOLES OR SLOTS.

1 STRUT SECTIONS

N.T.S.



2 STRUT NUT DIMENSION

N.T.S.

SHEET NOTE: ALL PARTS ON THIS SHEET ARE TO BE PROVIDED BY UNISTRUT

Degenkolb
DEGENKOLB ENGINEERS
601 12th Street, Suite 400
Oakland, CA 94607
510.272.3040 PHONE
www.degenkolb.com

REGISTERED PROFESSIONAL ENGINEER
WAYNE A. LOK
No. 4463
EXP. 12/31/24
STRUCTURAL
STATE OF CALIFORNIA
Signed: 04/26/2024

OPM-0687: Reviewed for Code Compliance by Timothy Piland

Title: STRUT PARTS SHEET

Drawn	MSA	Job number:	C3206002.00
Design:	WAL	Rev:	
Check:	WAL	Scale:	As indicated
Date	4/26/24		

Sheet Number
S6
8 of 8 OF Sheets