



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OPM-0293-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: [ ] New [X] Renewal [ ] Update to Pre-CBC 2013 OPA Number: OPM-0293-13

Manufacturer Information

Manufacturer: Skytron LLC.
Manufacturer's Technical Representative: Bob Vreeland
Mailing Address: Skytron US, 5085 Corporate Exchange Blvd SE, Grand Rapids, MI 49512
Telephone: (616) 656-1189 Email: Dpvreeland@skytron.us

Product Information

Product Name: Stellar 270 Sterilizers
Product Type: Sterilizer
Product Model Number: Integrity 270SD, Integrity 270 DDey Enzler
General Description: Integrity Sterilizers provide superior performance within a compact foot print. An integrated water recirculation system reduces water usage. Simple touch screen controls make for ease of operation. Full steam jacket assures precise temperature control.

Applicant Information

Applicant Company Name: ISAT Seismic Bracing
Contact Person: William V Joerger
Mailing Address: 1020 Crews Road, Suite Q, Matthews NC 28105
Telephone: 510-714-0216 Email: wvjoerger@isatsb.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2013.

Signature of Applicant: [Signature] Date: April 1, 2016
Title: Principal Structural Engineer Company Name: ISAT Seismic Bracing

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





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FACILITIES DEVELOPMENT DIVISION**

**Registered Design Professional Preparing Engineering Recommendations**

Company Name: ISAT Seismic Bracing  
Name: William V Joerger California License Number: S4545  
Mailing Address: 1020 Crews Rd, Matthews NC 28105  
Telephone: 510-714-0216 Email: wvjoerger@isatsb.com

**OSHPD Special Seismic Certification Preapproval (OSP)**

- Special Seismic Certification is preapproved under OSP-  
(Separate application for OSP is required)
- Special Seismic Certification is no preapproved

**Certification Method(s)**

- Testing in accordance with:  ICC-ES AC156  FM 1950-10
- Other\* (Please Specify): \_\_\_\_\_

Equipment is considered to be rugged. OPM is for anchorage to concrete slabs.

\*Use of criteria other than those adopted by the California Building Standards Code, 2013 (CBSC 2013) 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 2013 may be used when approved by OSHPD 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 – OSHPD APPROVAL VALID FOR CBC 2013 ONLY**

Signature: *Jeffrey Enzler* Date: 04/25/2016  
Print Name: Jeffrey Enzler  
Title: DSE  
Condition of Approval (if applicable): \_\_\_\_\_





# INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY

A Division of Tomarco Contractor Specialties

Submittal Documents

OPM-0293-13

**OSHPD OPM-0293-13**

BY: Jeffrey Enzler

**SUPPORT AND ATTACHMENT  
CONSTRUCTION DRAWINGS**

**270 STERILIZER**

**SKYTRON, LLC**

ISAT  
1020 Crews Road Suite Q  
Matthews, N.C. 28105  
704-841-4080



FILE NO.: CLT-1015-145

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REV2



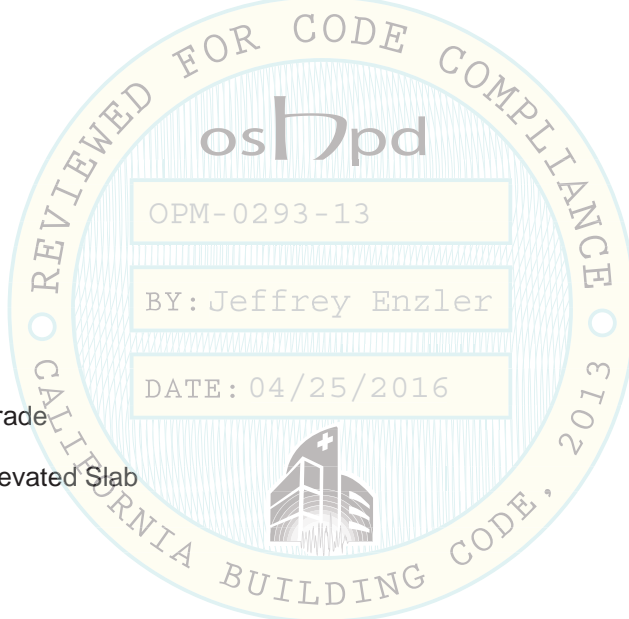
# OSHPD OPM-0293-13

## SKYTRON 270 STERILIZER

### CONSTRUCTION DRAWING INDEX

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**OSHPD OPM-0293-13**

MANUFACTURE: SKYTRON  
EQUIPMENT TYPE: STERILIZERS

**GENERAL NOTES:**

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. SEISMIC CRITERIA USED:  $S_{DS} = 2.5$   $I_p = 1.5$   $a_p = 1.0$   $R_p = 2.5$  (WET SIDE EQUIPMENT). FOR  $z/h = 0$   $F_pH = 1.13$  AND FOR  $z/h \leq 1.0$   $F_pH = 1.80$  AND  $F_pV = 0.50$ .
3. SUPPORT AND ATTACHMENT FORCES ARE DETERMINED USING ASCE 7-10 CHAPTER 13 "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". AN OVERSTRENGTH FACTOR  $\Omega_0 = 2.5$  IS USED FOR CONCRETE MATERIALS PER ASCE 7-10 SUPPLEMENT 1 TABLE 13.6-1. LOADS SHOWN ARE STRENGTH DESIGN LOADS PER CBC 2013 SECTION 1909A.
4. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.
5. STEEL MATERIALS: ANGLES AND PLATE ASTM A36, ALL THREAD ROD ASTM F1554 GRADE36 ( $F_u = 58$  KSI). BOLTS SUPPLIED BY SKYTRON ARE ISO 898 CLASS 12.9 ( $F_u = 177$  KSI).
6. CONCRETE SLABS:
  - a. FOR ELEVATED SOLID CONCRETE SLABS: 6" THICKNESS OF NORMAL WEIGHT CONCRETE WITH 4000 PSI MINIMUM STRENGTH.
  - b. METAL DECK: 3" DEEP COMPOSITE STEEL DECK, 20 GAGE MINIMUM, 4 1/2 INCH MINIMUM BOTTOM FLUTE WIDTH AND FLUTE SPACING OF 12", WITH 3 1/4 INCH SAND LIGHT WEIGHT CONCRETE CONCRETE COVER AT 4000 PSI MINIMUM STRENGTH.
  - c. FOR SLAB ON GRADE: 6" THICKNESS NORMAL WEIGHT CONCRETE AT 4000 PSI MINIMUM STRENGTH.
7. POST-INSTALLED CONCRETE ANCHORS: HILTI KWIK BOLT TZ (ESR-1917) STAINLESS STEEL 3/4" DIAMETER x 4 1/2" MIN. HOLE DEPTH (3 3/4" EFFECTIVE EMBEDMENT) AND 110 FT-LBS INSTALLATION TORQUE (SUPPLIED BY INSTALLATION CONTRACTOR).
8. EXERCISE DUE CARE WHEN DRILLING POST-INSTALLED ANCHORS TO AVOID DAMAGING CONCRETE REINFORCEMENT OR TENDONS.

**RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD**

1. CONFIRM THE MATERIAL PROPERTIES AND THICKNESS OF THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ATTACHED MEETS THE REQUIREMENTS OF THIS OPM.
2. PROVIDE A PLAN FOR INSPECTION OF SUPPORTS AND ATTACHMENTS AND VERIFY ITS IMPLEMENTATION.
3. CONFIRM THE SPECIFIED MINIMUM CONCRETE EDGE DISTANCES ARE MAINTAINED BASED ON THE ACTUAL EQUIPMENT LOCATION. VERIFY THAT EXISTING OR NEW ANCHORS ARE AN ADEQUATE DISTANCE FROM THIS UNIT'S ATTACHMENT.
4. VERIFY THAT THE EXISTING STRUCTURE IS ADEQUATE FOR THE IMPOSED DEAD, LATERAL AND TENSION FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.
5. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH CBC 2013 AND WITH THE OPM-0293-13 DETAILS INCLUDING MATERIALS AND DIMENSIONS OF THE SUPPORT WHERE THE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN.
6. VERIFY THAT THE PROJECT SPECIFIC  $S_{DS}$  AND  $z/h$  VALUES RESULT IN SEISMIC FORCES ( $E_h$  AND  $E_v$ ) DO NOT EXCEED THE VALUES SHOWN IN THESE DETAILS.
7. DESIGN THE SUPPLEMENTAL STEEL BELOW THE SLAB (PAGE "MISC STEEL") AND DETAIL THE CONNECTIONS TO STRUCTURE.

OPM-0293-13 SKYTRON 270 STERILIZERS GENERAL NOTES



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**OSHPD OPM-0293-13**

MANUFACTURE: SKYTRON  
EQUIPMENT TYPE: STERILIZERS


**ATTACHMENT NOTES:**

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. PERIODIC SPECIAL INSPECTION PER CBC 2013 SECTION 1705A AND TABLE 1705A.3 INCLUDING VERIFICATION OF ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MEMBER THICKNESS, TIGHTENING TORQUE, HOLE DIMENSIONS, ANCHOR EMBEDMENT AND ADHERENCE TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. IN ADDITION, FOLLOW THE PROVISIONS OF THE 2013 CALIFORNIA BUILDING CODE SECTION 1913A.7.2 BY CONFIRMING THE INSTALLATION TORQUE SPECIFIED BY THE MANUFACTURER. TESTING IS NOT TO OCCUR UNTIL A MINIMUM OF 24 HOURS HAS ELAPSED AFTER THE INSTALLATION OF THE SUBJECT ANCHORS. TESTING SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR. TEST 50% OF THE ANCHORS FOR EACH PIECE OF EQUIPMENT. USING A CALIBRATED TORQUE WRENCH VERIFY THE INSTALLATION TORQUE IS OBTAINED WITHIN 1/2 TURN OF THE NUT. REPORT OF TEST RESULTS ARE TO BE SUBMITTED TO THE ENFORCEMENT AGENCY. THE SEOR SHALL PROVIDE REMEDIAL ANCHORAGE DETAILS IN THE EVENT THAT AN ANCHOR FAILS TO MEET THE TEST REQUIREMENTS.
3. STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS INCLUDING  $\Omega_0$  PER ACI 318-11 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.


Equipment Data			Seismic Design Forces at Grade				Seismic Design Forces at Elevated		
Model Series	Model Type	Weight	ex (in)	ey (in)	ez (in)	Vu (lbs.)	Tu (lbs.)	Vu (lbs.)	Tu (lbs.)
270	Vacuum Pump	4495	3.00	0	37.5	596	1,990	954	1,398
270	Jet Pump	4495	3.00	0	38.75	596	1,990	954	1,398

1. WEIGHTS AND MOMENTS ARE FACTORED LOADS USING STRENGTH DESIGN AND INCLUDE THE FOLLOWING FACTORS: DL = 0.9, FpH AT GRADE = 1.13, FpH ELEVATED = 1.8 AND FpV = 0.5.
2. FORCES ARE AT STRENGTH DESIGN LEVEL AND INCLUDE A CONCRETE OVERSTRENGTH FACTOR  $\Omega_0 = 2.5$ .

OPM-0293-13 SKYTRON 270 STERILIZERS ATTACHMENT NOTES



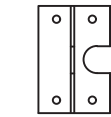
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(4 x 6 = 24) STAINLESS STEEL POST-INSTALLED ANCHORS SEE GEN. NOTE 7 ON PAGE "GEN NOTES".  
SEE PAGE "ATTACH NOTES" FOR FORCES

(2) PART NO. 6447SB-SKY  
SEE PAGE "MISC STEEL"



CG MASS

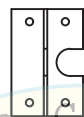


CG RIGIDITY

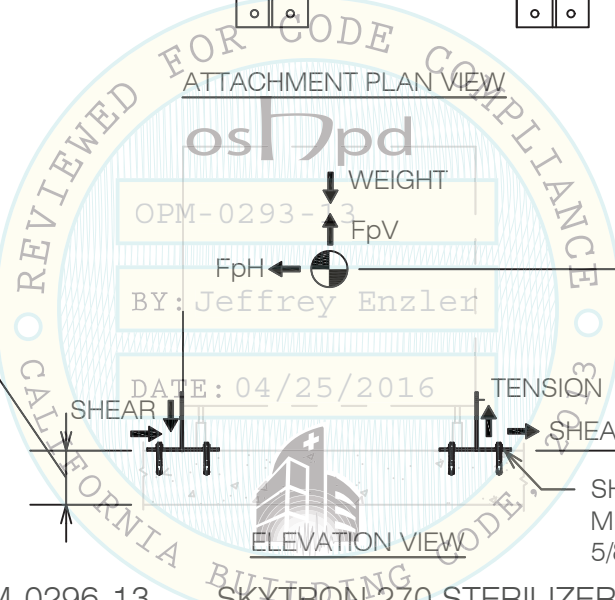
3"

1'-4" MIN EDGE  
DISTANCE TYP.

(4) PART NO. 6448LB-SKY  
SEE PAGE "MISC STEEL"



ATTACHMENT PLAN VIEW



6" MIN. SEE PAGE  
"GEN NOTES" NOTE 6

WEIGHT

OPM-0293-13

FpV

FpH

CG HEIGHT  
38 3/4" MAX.

SHEAR

TENSION

SHEAR

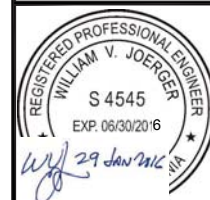
ELEVATION VIEW

SHIM PACK BY SKYTRON 4" x 11 1/4"  
MIN. W/ 13/16" HOLES  
5/8" MAXIMUM THICKNESS

OPM-0296-13 SKYTRON 270 STERILIZER AT GRADE



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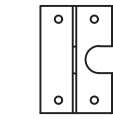
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(4 x 6 = 24) ASTM F1544 GRADE 36 3/4" Ø THRU BOLTS  
SEE PAGE "ATTACH NOTES" FOR FORCES

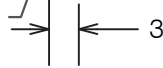
(2) PART NO. 6447SB-SKY  
SEE PAGE "MISC STEEL"



CG MASS

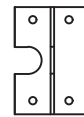
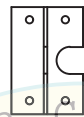


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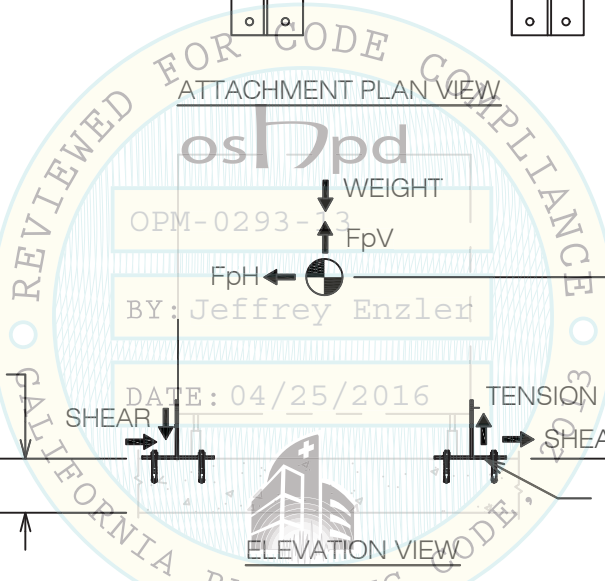


1'-4" MIN EDGE  
DISTANCE TYP.

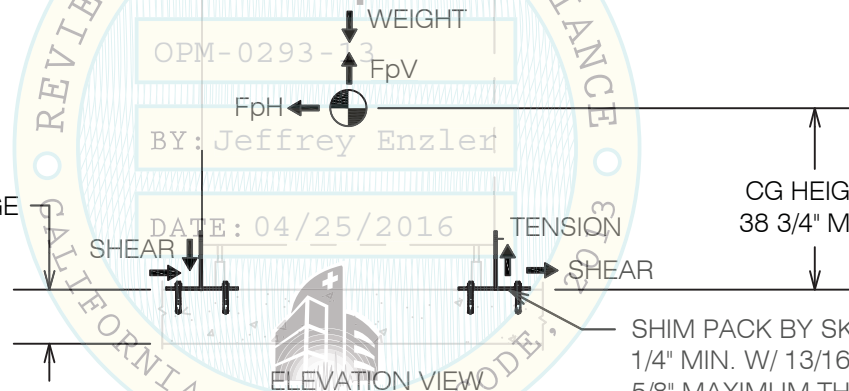
(4) PART NO. 6448LB-SKY  
SEE PAGE "MISC STEEL"



ATTACHMENT PLAN VIEW



SOLID CONCRETE OR  
SLAB ON DECK SEE PAGE  
"GEN NOTES" NOTE 6

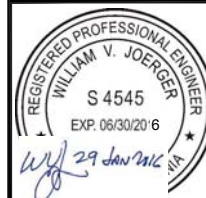


ELEVATION VIEW

OPM-0276-13 SKYTRON 270 STERILIZER AT ELEVATED SLAB



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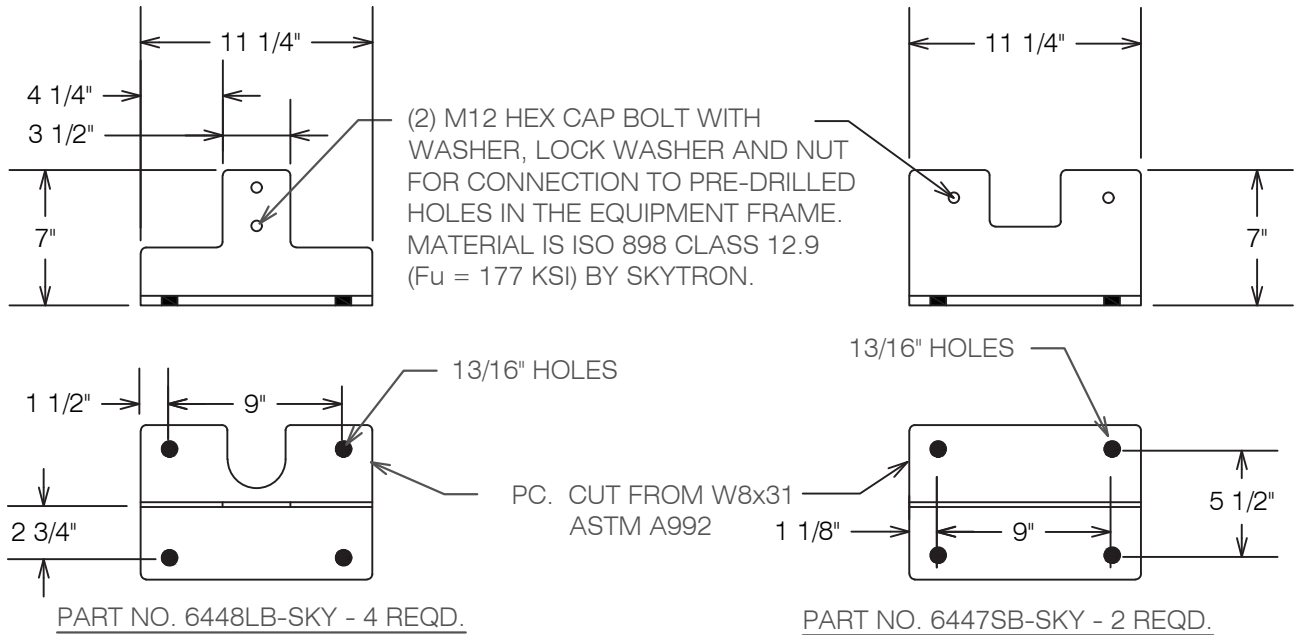


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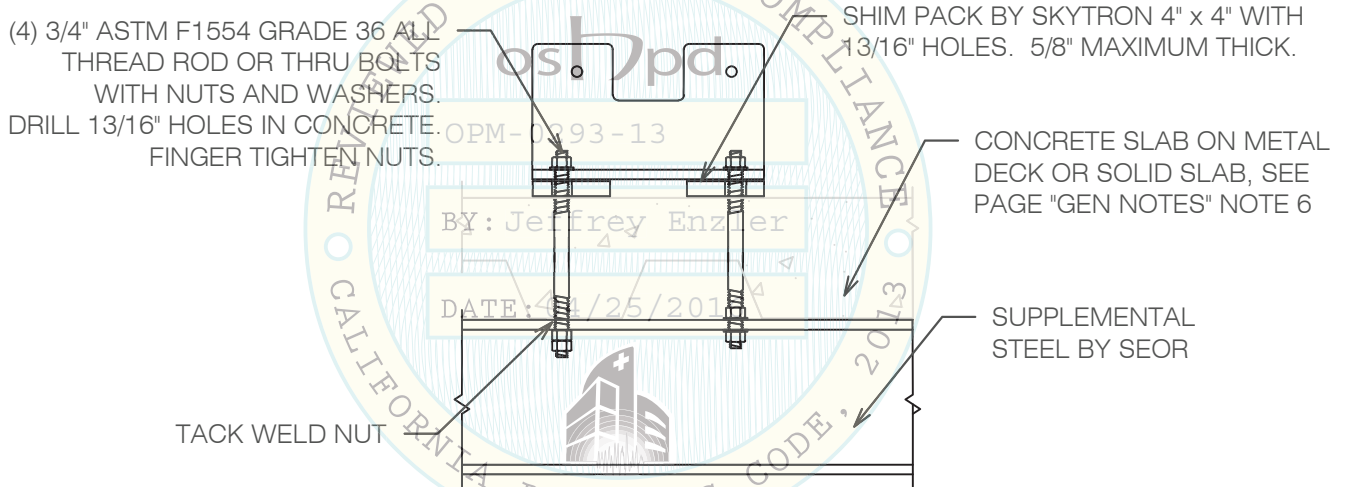
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DETAIL OF ATTACHMENT BRACKETS PROVIDED BY SKYTRON



OPM-0293-13 SKYTRON 270 STERILIZERS MISCELLANEOUS STEEL



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