



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

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

OFFICE USE ONLY

APPLICATION #: OPM-0331-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

Type: New Renewal Update to Pre-CBC 2013 OPA Number: _____

Manufacturer Information

Manufacturer: STERIS SAS

Manufacturer's Technical Representative: Sylvain LeCoq

Mailing Address: STERIS 116 Avenue de Magudas, 33185 Le Haillan, France

Telephone: 05 56 93 96 39

Email: Sylvain_LeCoq@steris.com

Product Information

Product Name: HexaLux Examination Lights

Product Type: Examination Lights

OPM-0331-13

Product Model Number: EXLCEIL and EXLWALL

General Description: The HexaLux™ examination light is intended for diagnostics offering variable field diameter and intensity, providing healthcare facilities staff with effective lighting for examination, treatment and emergency areas .

The HexaLux™ examination light system is especially designed for examination rooms, emergency rooms, maternity wards, intensive care units, recovery rooms and all other diagnostic applications.

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: 

Date: April 5, 2016

Title: Principal Structural Engineer

Company Name: ISAT Seismic Bracing

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





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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

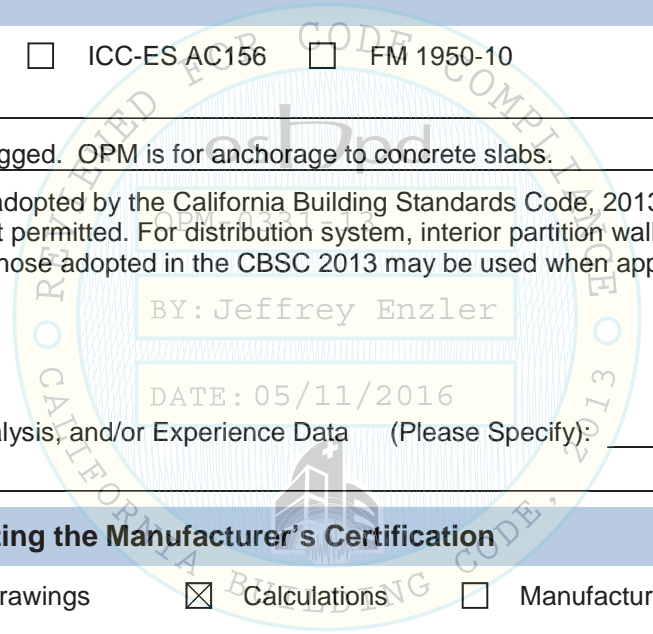
Certification Method(s)

- 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: 05-11-2016

Print Name: Jeffrey Enzler

Title: DSE

Condition of Approval (if applicable): _____

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

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY
OSH-FD-700 (REV 5/30/13)





INTERNATIONAL SEISMIC APPLICATION TECHNOLOGY

A Division of Tomarco Contractor Specialties

Submittal Documents

OPM-0331-13

OSHPD OPM-0331-13

ATTACHMENT CONSTRUCTION DRAWINGS HEXALUX CEILING AND WALL MOUNTED EXAMINATION LIGHTS

STERIS

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



WVJ 12 May 16
WVJ

FILE NO.: CLT-0316-046

“Empowered by Experience”

REV 3

OSHPD OPM-0331-13 DWG - i



**INTERNATIONAL SEISMIC
APPLICATION TECHNOLOGY**

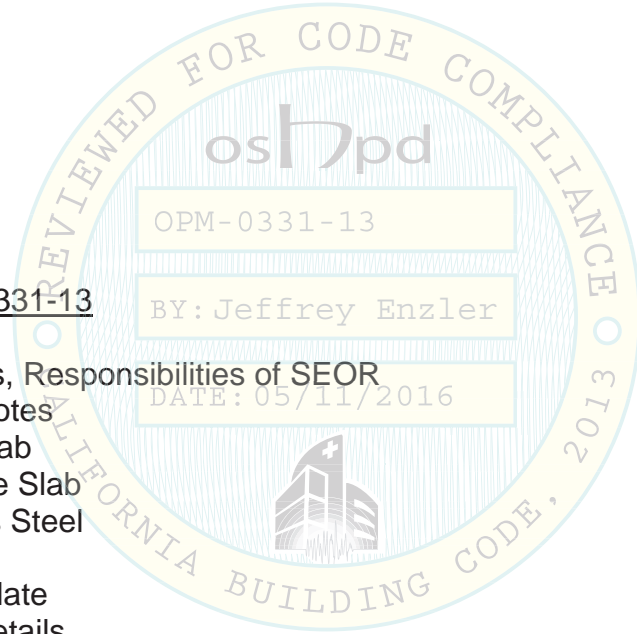
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OSHPD OPM-0331-13

DRAWING INDEX

DRAWING INDEX

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OSHPD OPM-0331-13

MANUFACTURE: STERIS

EQUIPMENT TYPE: CEILING AND WALL MOUNTED EXAMINATION LIGHTS

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: $S_{DS} = 2.5$ $I_p = 1.5$ $a_p = 1.0$ $R_p = 1.5$ (OTHER EQUIPMENT). FOR $z/h = 0$ $F_pH = 1.13$ AND FOR $z/h \leq 1.0$ $F_pH = 3.00$ 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 $Q_0 = 1.5$ 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: PLATE ASTM A36, STRUT ASTM A 653 OR A1011 SS GRADE 33, STRUT CONNECTORS ASTM A36 OR ASTM A1011 SS GRADE 33 $F_y = 33$ KSI, ALL THREAD ROD ASTM A36, NUTS ASTM A563, WASHERS ASTM F436, BOLTS ASTM A 307.
6. CONCRETE SLABS:
 - a. FOR ELEVATED SOLID CONCRETE SLABS: 6" THICKNESS OF NORMAL WEIGHT CONCRETE WITH 3000 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 COVER AT 3000 PSI MINIMUM STRENGTH.
7. POST-INSTALLED CONCRETE ANCHORS: HILTI KWIK BOLT TZ (ESR-1917) STAINLESS STEEL 1/2" DIAMETER x 3.25" MIN. HOLE DEPTH (2" EFFECTIVE EMBEDMENT) AND 40 FT-LBS INSTALLATION TORQUE (SUPPLIED BY INSTALLATION CONTRACTOR).
8. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT AND WASHER.

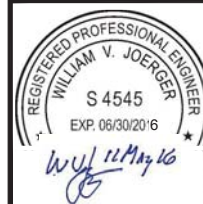
RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD

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-0331-13 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. FOR WALL MOUNTED LIGHTS VERIFY THE MATERIAL PROPERTIES AND WALL THICKNESS OF THE WALL STUDS.

OPM-0331-13 STERIS HEXALUX EXAMINATION LIGHTS GENERAL NOTES



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OSHPD OPM-0331-13 DWG - 1

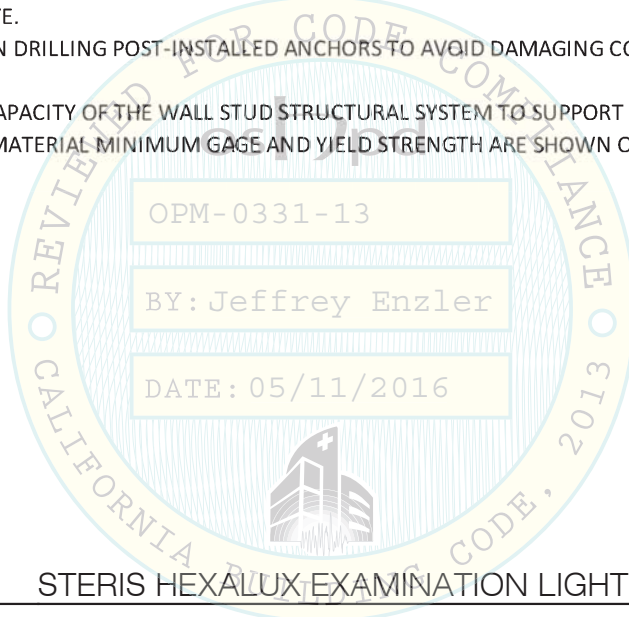
OSHPD OPM-0331-13

MANUFACTURE: STERIS

EQUIPMENT TYPE: CEILING AND WALL MOUNTED EXAMINATION LIGHTS

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. BRACE ARM INCLINATION MAY VARY FROM 30° TO 60° FROM HORIZONTAL.
3. PERIODIC SPECIAL INSPECTION PER CBC 2013 TABLE 1705.A.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 AND ESR-1917. IN ADDITION, FOLLOW THE PROVISIONS OF THE 2013 CALIFORNIA BUILDING CODE SECTION 1913.A.7 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 REPORTS ARE TO BE SUBMITTED TO OSHPD.
4. STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS INCLUDING Ω_c PER ACI 318-11 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.
5. EXERCISE DUE CARE WHEN DRILLING POST-INSTALLED ANCHORS TO AVOID DAMAGING CONCRETE REINFORCEMENT OR TENDONS.
6. DETERMINATION OF THE CAPACITY OF THE WALL STUD STRUCTURAL SYSTEM TO SUPPORT THE IMPOSED LOADS IS BEYOND THE SCOPE OF THIS OPM. THE MATERIAL MINIMUM GAGE AND YIELD STRENGTH ARE SHOWN ON THE CONSTRUCTION DETAILS THAT FOLLOW.



OPM-0331-13 STERIS HEXALUX EXAMINATION LIGHTS ATTACHMENT NOTES

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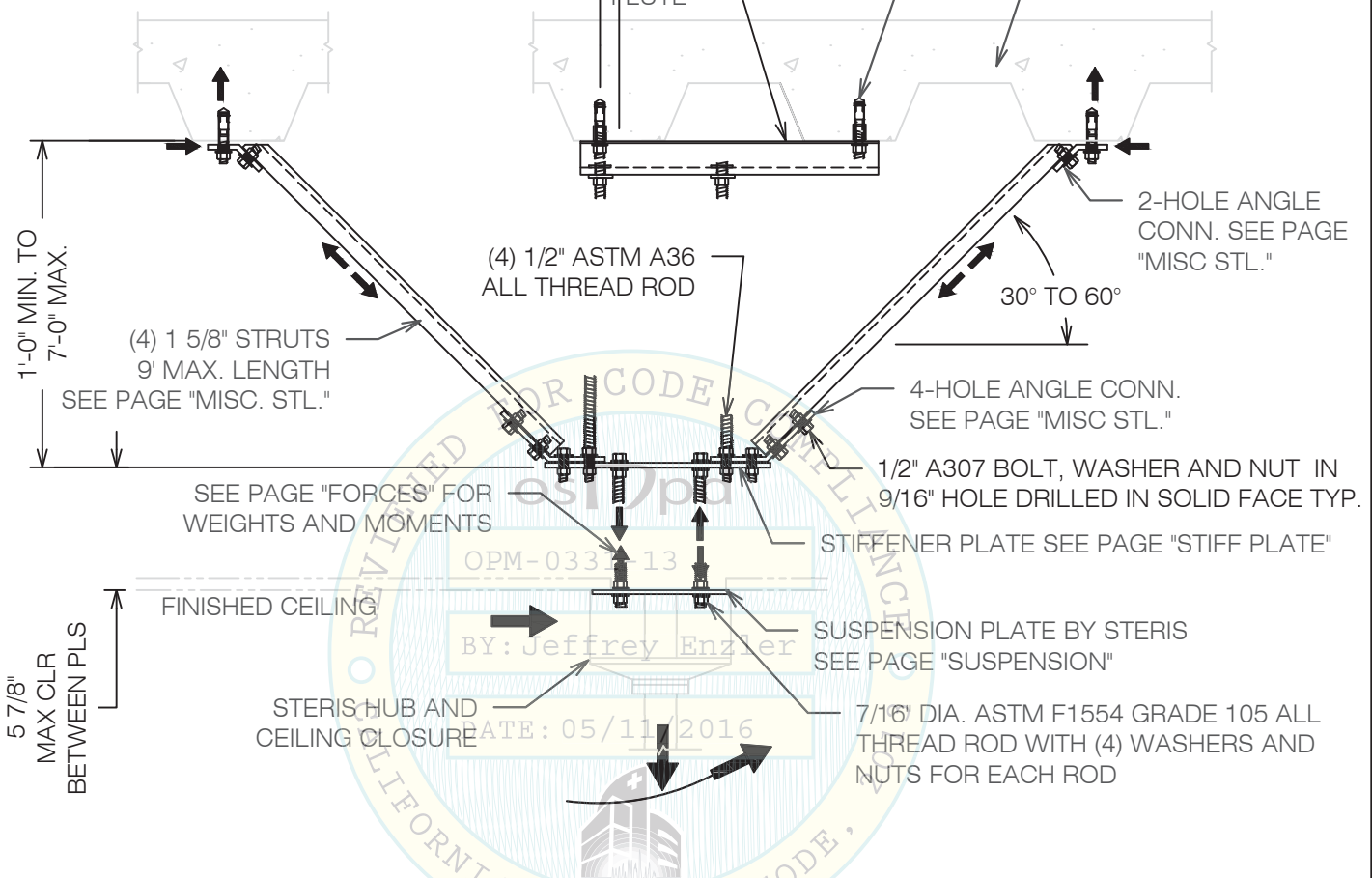
OSHPD OPM-0331-13 DWG - 2

STRUT SEE PAGE "MISC STL" x 14" LONG WITH
 1" MINIMUM EDGE DISTANCE TO ANCHOR.
 USE 1/2" STRUT NUTS AND SQ.
 WASHER AT VERTICAL ALL THREAD RODS.

HILTI KWIK BOLT TZ 1/2"
 ANCHORS TYP. SEE NOTE 7
 ON PAGE "GEN NOTES"

1" MAX.
 OFFSET
 CL
 FLUTE

3000 PSI LT WT CONC.
 SEE NOTE 6 ON PAGE
 "GEN NOTES"



1'-0" MIN. TO
 7'-0" MAX.
 (4) 1 5/8" STRUTS
 9' MAX. LENGTH
 SEE PAGE "MISC. STL."
 5 7/8"
 MAX CLR
 BETWEEN PLS

SEE PAGE "FORCES" FOR
 WEIGHTS AND MOMENTS

OPM-0331-13

BY: Jeffrey Enzler

DATE: 05/11/2016

OPM-0331-13 STERIS HEXALUX CEILING MOUNT AT METAL DECK SLAB



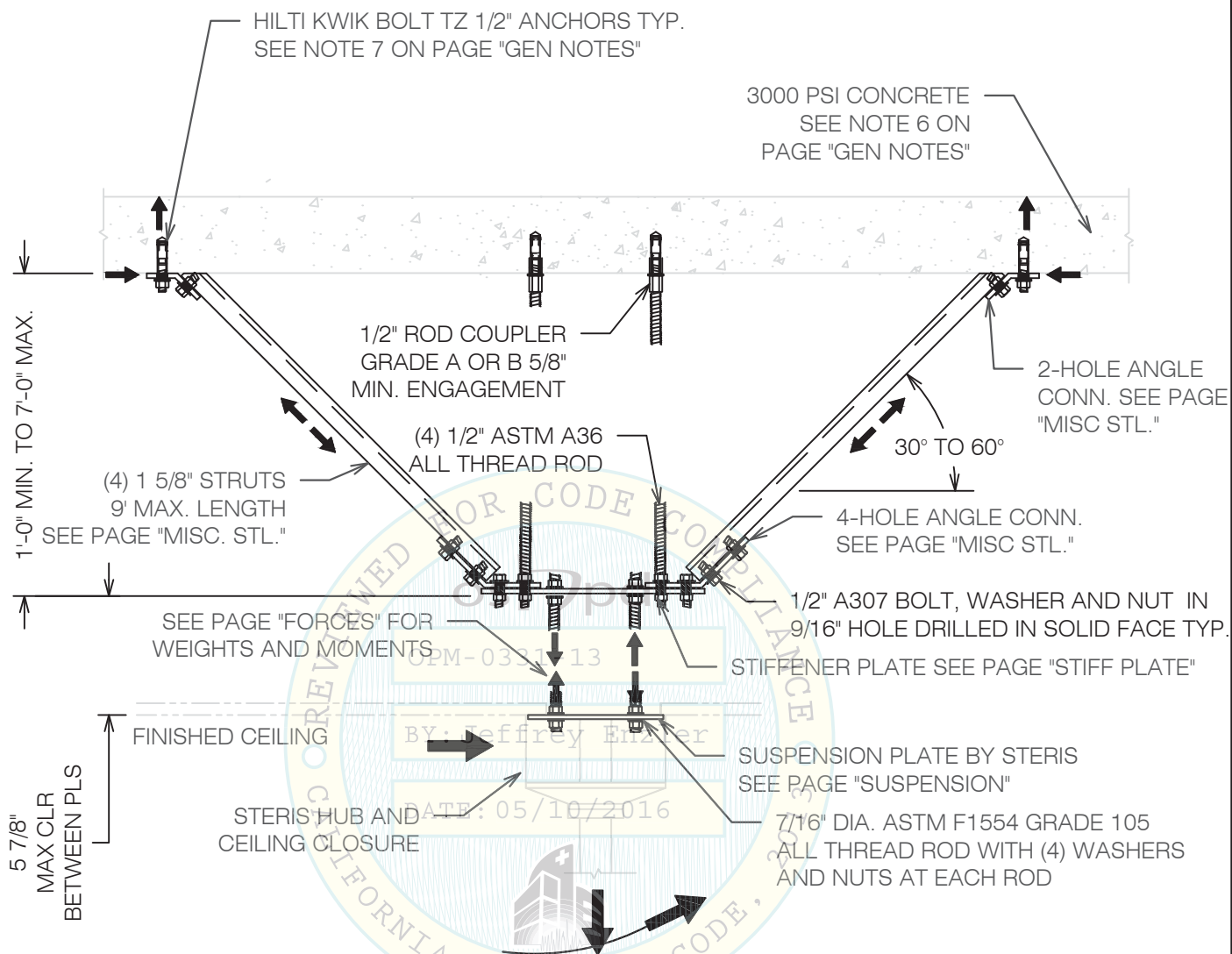
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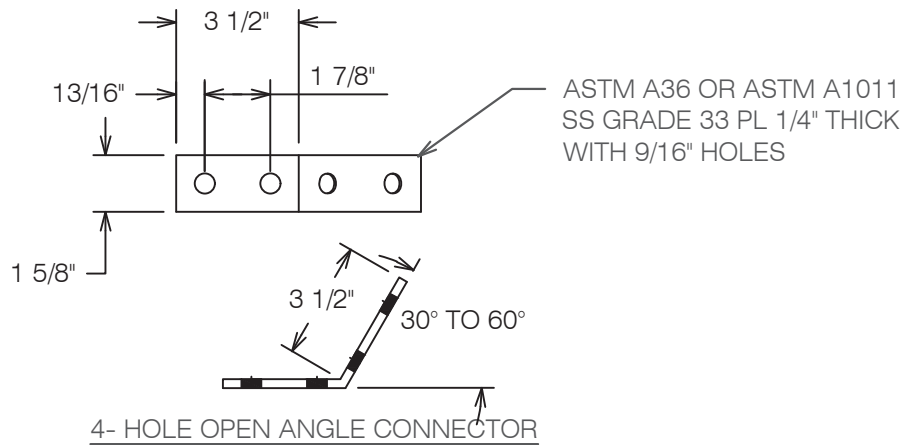


OPM-0331-13 STERIS HEXALUX CEILING MOUNT AT SOLID CONCRETE SLAB

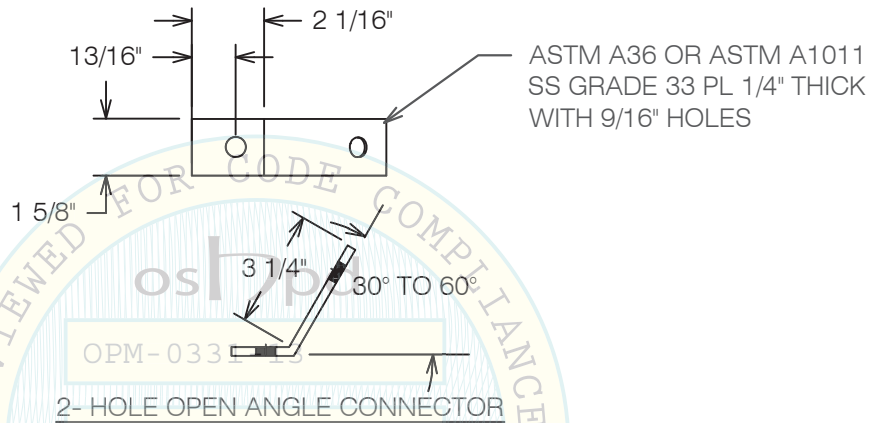


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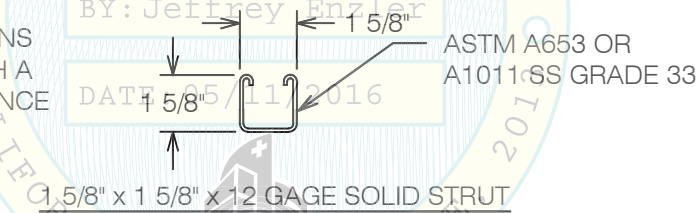


4- HOLE OPEN ANGLE CONNECTOR



2- HOLE OPEN ANGLE CONNECTOR

FOR FIELD CONNECTIONS
DRILL 9/16\"/>

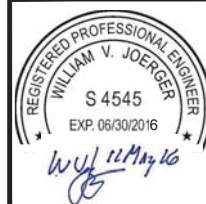


1 5/8" x 1 5/8" x 12 GAGE SOLID STRUT
MINIMUM PROPERTIES AREA = 0.55 IN² S_x = 0.202 IN³ S_y = 0.259 IN³

OPM-0331-13 STERIS HEXALUX MISCELLANEOUS STEEL DETAILS

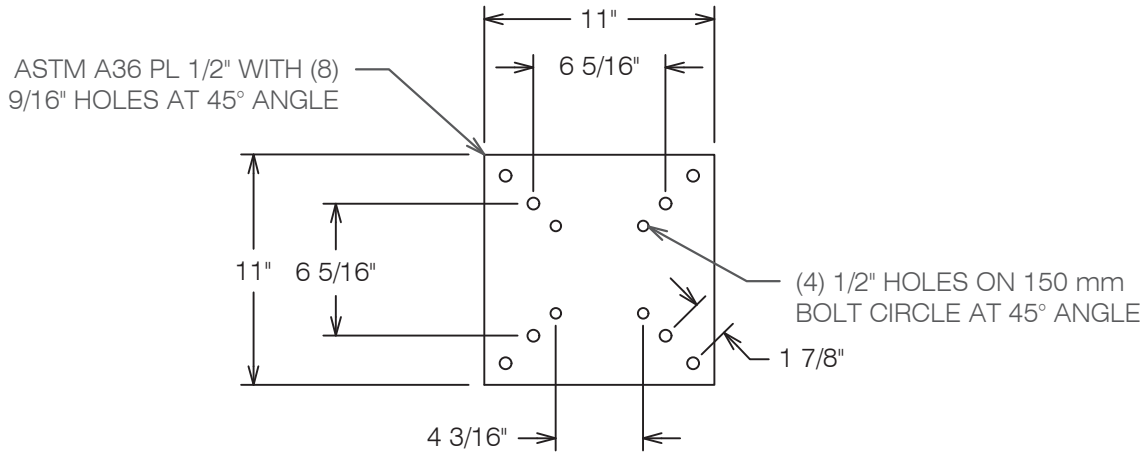


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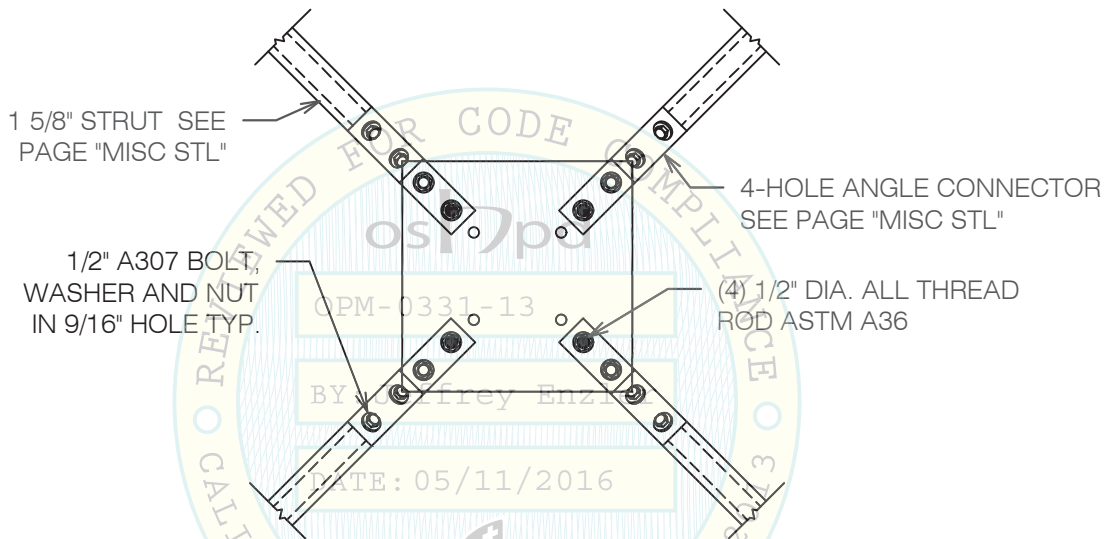


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STIFFENER PLATE DETAILS



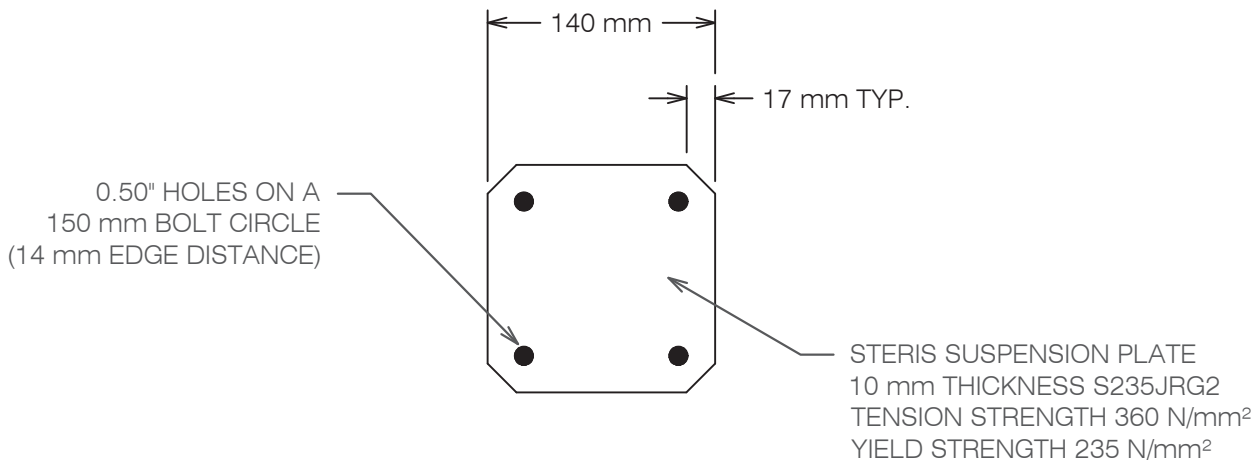
STIFFENER PLATE WITH BRACES SHOWN

OPM-0331-13 STERIS HEXALUX STIFFENER PLATE DETAILS
FOR CEILING ATTACHMENT

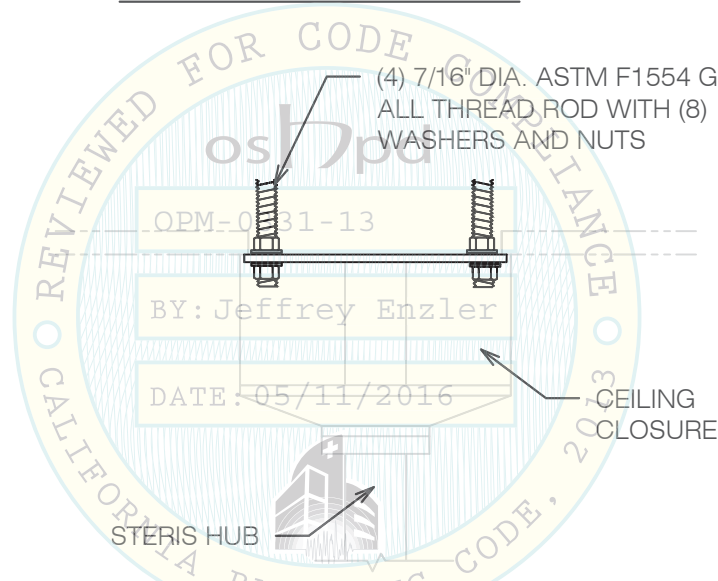


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SUSPENSION PLATE PLAN VIEW



OPM-0331-13 STERIS HEXALUX CEILING SUSPENSION PLATE DETAILS

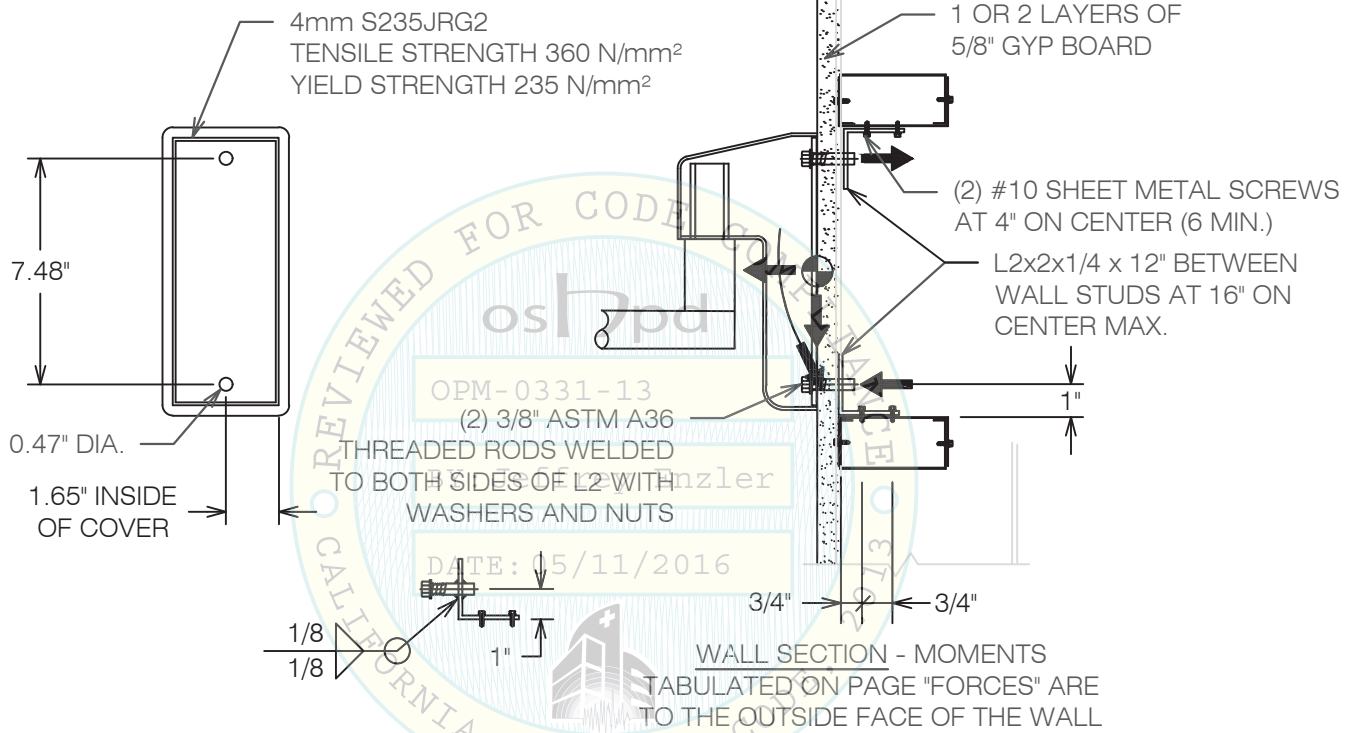
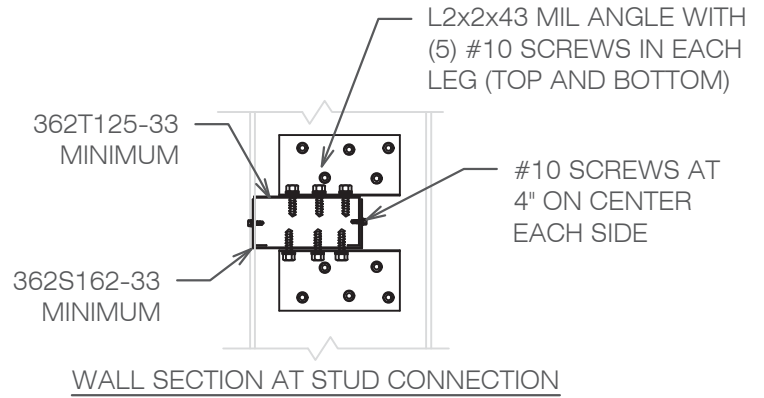


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NOTES:

1. WALL STUD DESIGN IS BY OTHERS.
2. 33 MIL MINIMUM THICKNESS FOR THE WALL STUDS AND TRACK.
3. 33 KSI MINIMUM STRENGTH FOR THE WALL STUD AND TRACK.
4. MINIMUM SCREW SPACING IS 5/8" AND MINIMUM EDGE DISTANCE IS 3/8" WITH NO LESS THAN 3 EXPOSED THREADS.



OPM-0331-13 STERIS HEXALUX WALL MOUNTING DETAILS

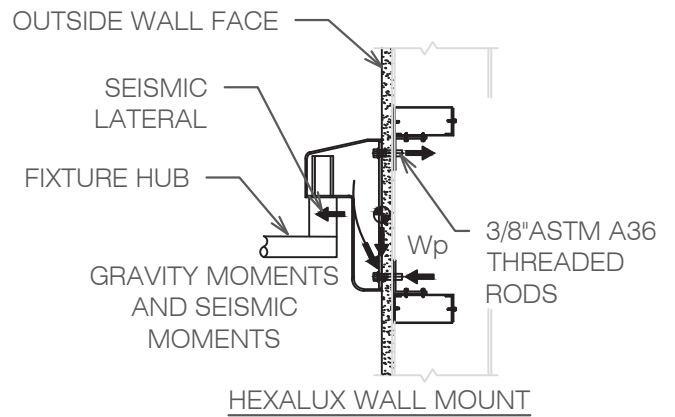
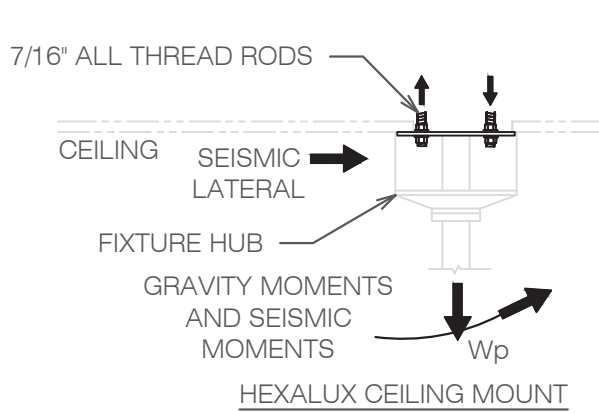


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SCALE N.T.S. **PAGE** WALL MOUNT



STERIS HexaLux Ceiling and Wall Mounted Examination Lights						
Mx Max	Weight	Vertical	Lateral	Mx Max	My Min	Torsion
Case	lbs	lbs	lbs	ft-lbs	ft-lbs	ft-lbs
Model		(DL + FpV) Wt	FpH x Wt	(DL + FpV) Wt x Horz Arm Max	(DL + FpV) Wt x Vert Arm Min	FpH x Wt x Horz Arm Max
HEXALUX C	28.7	49	86	101	161	178
HEXALUX W	20	34	60	104	22	183
Mx Min		Vertical	Lateral	Mx Min	My Max	Torsion
Case		lbs	lbs	ft-lbs	ft-lbs	ft-lbs
Model		(DL + FpV) Wt	FpH x Wt	(DL + FpV) Wt x Horz Arm Min	(DL + FpV) Wt x Vert Arm Max	FpH x Wt x Horz Arm Min
HEXALUX C	28.7	49	86	96	205	169
HEXALUX W	20	34	60	102	70	179

- WEIGHTS AND MOMENTS ARE FACTORED (LRFD) VALUES.
- Mx ARE MOMENTS IN THE HORIZONTAL AXIS DUE TO THE COMPONENT WEIGHT TIMES A MAXIMUM HORIZONTAL ECCENTRICITY.
- My ARE MOMENTS IN THE HORIZONTAL AXIS DUE TO THE COMPONENT WEIGHT TIMES THE MAXIMUM VERTICAL ECCENTRICITY.
- TORSIONAL MOMENTS ARE DUE THE THE LATERAL FORCE ON THE COMPONENT A MAXIMUM HORIZONTAL ECCENTRICITY.
- TWO LOAD CASES ARE USED TO DEFINE THE DESIGN MOMENTS. FIRST THE BOOM AND LUMINARY ARE SET AT THE MAXIMUM X-AXIS DISTANCE WITH A CORRESPONDING MINIMUM Y-AXIS DISTANCE (DESIGN FORCES INCLUDE VERTICAL + LATERAL + Mx MAX + My MIN + TORSION). THE SECOND CASE IS FOR THE BOOM AND LUMINARY ROTATED 45 DEGREES DOWN FROM THE POINT OF ROTATION FOR A MAXIMUM Y-AXIS MOMENT AND MINIMUM X-AXIS MOMENT (DESIGN FORCES INCLUDE VERTICAL + LATERAL + Mx MIN + My MAX + TORSION).
- MAXIMUM CONCRETE ANCHORAGE FORCES INCLUDING CONCRETE OVERSTRENGTH FACTOR: $V_u = 335$ LBS AND $T_u = 480$ LBS.
- MAXIMUM BOLT FORCES AT THE WALL MOUNTING BRACKET ARE LRFD SHEAR $V_u = 34$ LBS AND ASD TENSION $T_u = 1130$ LBS BASED ON MOMENTS TAKEN AT THE OUTSIDE FACE OF THE WALL STUD.

OPM-0331-13 STERIS HEXALUX FORCES AND MOMENTS



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