



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

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

OFFICE USE ONLY

APPLICATION #: OPM-0189-13

OSHPD Preapproval of Manufacturer's Certification (OPM)

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

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: bvreeland@skytron.us

Product Information

Product Name: Skytron Spectra AUT1 LED Examination Light Ceiling and Wall Mounted

Product Type: Hospital Examination Lights

OPM-0189-13

Product Model Number: AUT1C and AUT1W

General Description: Skytron's Spectra AUT1 series LED examination light provides excellent color correct light to various departments that require examination lighting. Applications include emergency departments, labor and delivery, imaging, and general examination.

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: January 30, 2015

Title: Principal Structural Engineer

Company Name: ISAT Seismic Bracing

"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)



osHPD

Page 1 of 2



**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 not preapproved

Certification Method(s)

- Testing in accordance with: ICC-ES AC156 FM 1950-10
- Other* (Please Specify): Equipment has cantilevered and articulating arm; use ap = 2.5 and Rp = 2.5. OPM is for anchorage to concrete slabs and gypsum board on metal stud walls.

*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: *William Staehlin* Date: 05/07/2015

Print Name: William Staehlin

Title: SSE

Condition of Approval (if applicable): _____

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





**INTERNATIONAL SEISMIC
APPLICATION TECHNOLOGY**

Submittal Documents

OPM-0189-13

OSHPD OPM-0189-13

DATE: 05/07/2015

**CONSTRUCTION DRAWINGS
FOR SKYTRON AUT1C AND AUT1W
EXAMINATION LIGHTS**

SKYTRON

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



FILE NO.: CLT-0114-013 and 014

“Empowered by Experience”

REV 4

DWG-0189-13 DWG - i

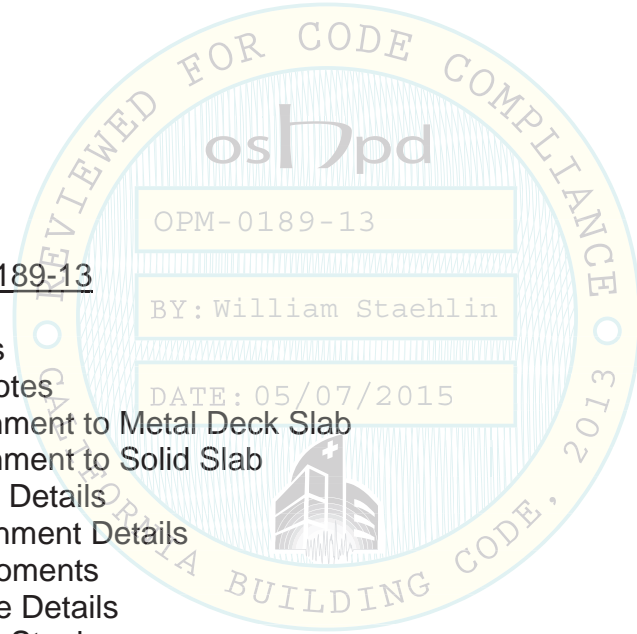


OSHPD OPM-0189-13

CONSTRUCTION DRAWING INDEX

DRAWING INDEX

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OSHPD OPM-0189-13

MANUFACTURE: SKYTRON

EQUIPMENT TYPE: CEILING AND WALL MOUNTED LED 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: $S_{DS} = 2.5$ $I_p = 1.5$ $a_p = 1.0$ $R_p = 1.5$ $z/h \leq 1.0$ $F_{pHorz} = 3.00 W_p$ $F_{pVertical} = 0.50 W_p$.
3. SUPPORT AND ATTACHMENT FORCES ARE DETERMINED USING ASCE 7-10 CHAPTER 13 "SEISMIC DESIGN REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS". AN OVERSTRENGTH FACTOR $\Omega_0 = 1.5$ 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.

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. CONFIRM THAT THE MATERIAL PROPERTIES AND STRUCTURAL PROPERTIES OF THE METAL WALL STUDS TO WHICH THE EQUIPMENT IS ATTACHED HAVE ADEQUATE STRENGTH FOR THE LOADS IMPOSED BY THE WALL MOUNTED BRACKET.
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-0189-13 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.

DATE: 05/07/2015

OPM-0189-13 SKYTRON AUT1C AND AUT1W GENERAL NOTES



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OSHPD OPM-0189-13

MANUFACTURE: SKYTRON

EQUIPMENT TYPE: CEILING AND WALL MOUNTED LED EXAMINATION LIGHTS

ATTACHMENT NOTES:

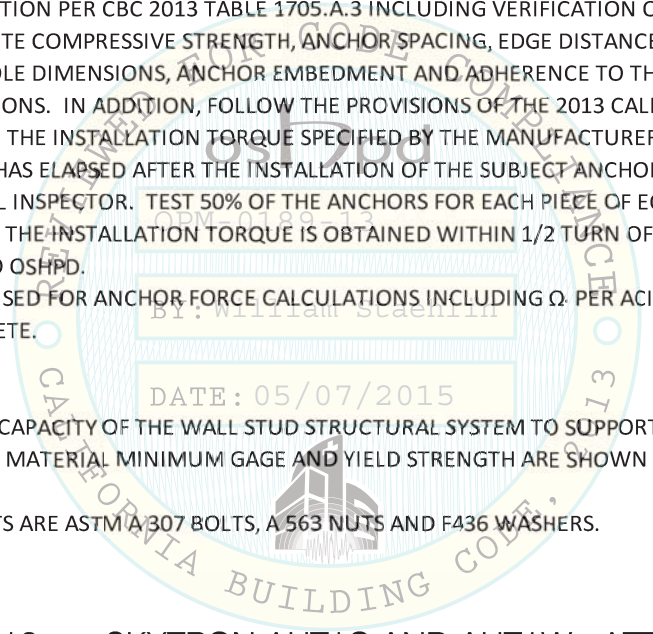
1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE CBC 2013. THE DEMAND (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE CBC 2013.
2. BRACE ARM INCLINATION MAY VARY FROM 30° TO 60° FROM HORIZONTAL.
3. MATERIALS: PLATE ASTM A36, STRUT ASTM A 653 OR A1011 SS GRADE 33, STRUT CONNECTORS ASTM A36 OR ASTM A1011 SS GRADE 33 FY = 33 KSI, ALL THREAD ROD ASTM A36 OR ASTM F1554 GRADE 105 AS NOTED, NUTS ASTM A563, WASHERS ASTM F436, BOLTS ASTM A 307.
4. TORQUE 1/2" STRUT NUTS TO 50 FT-LBS. TORQUE 3/8" NUTS TO 19 FT-LBS.

ELEVATED SLAB NOTES:

5. USE HILTI KWIK BOLT TZ (ICC-ES ESR-1917 FOR AUGUST 2014) CARBON STEEL ANCHORS IN A SOLID NORMAL WEIGHT CONCRETE SLAB WITH A MINIMUM THICKNESS OF 6 INCH OR A SAND LIGHT WEIGHT CONCRETE SLAB OVER METAL DECK WITH A MINIMUM COVER OF 3 1/4 INCH. ANCHOR DIAMETER, EMBEDMENT AND INSTALLATION TORQUE ARE NOTED ON THESE OPM DRAWINGS.
6. CONCRETE STRENGTH USED FOR DESIGN IS A MINIMUM $f'c = 3000$ PSI AT 28 DAYS.
7. 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. 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.
8. STRENGTH DESIGN WAS USED FOR ANCHOR FORCE CALCULATIONS INCLUDING Ω PER ACI 318-11 WHERE REQUIRED FOR ATTACHMENT TO CONCRETE.

WALL NOTES:

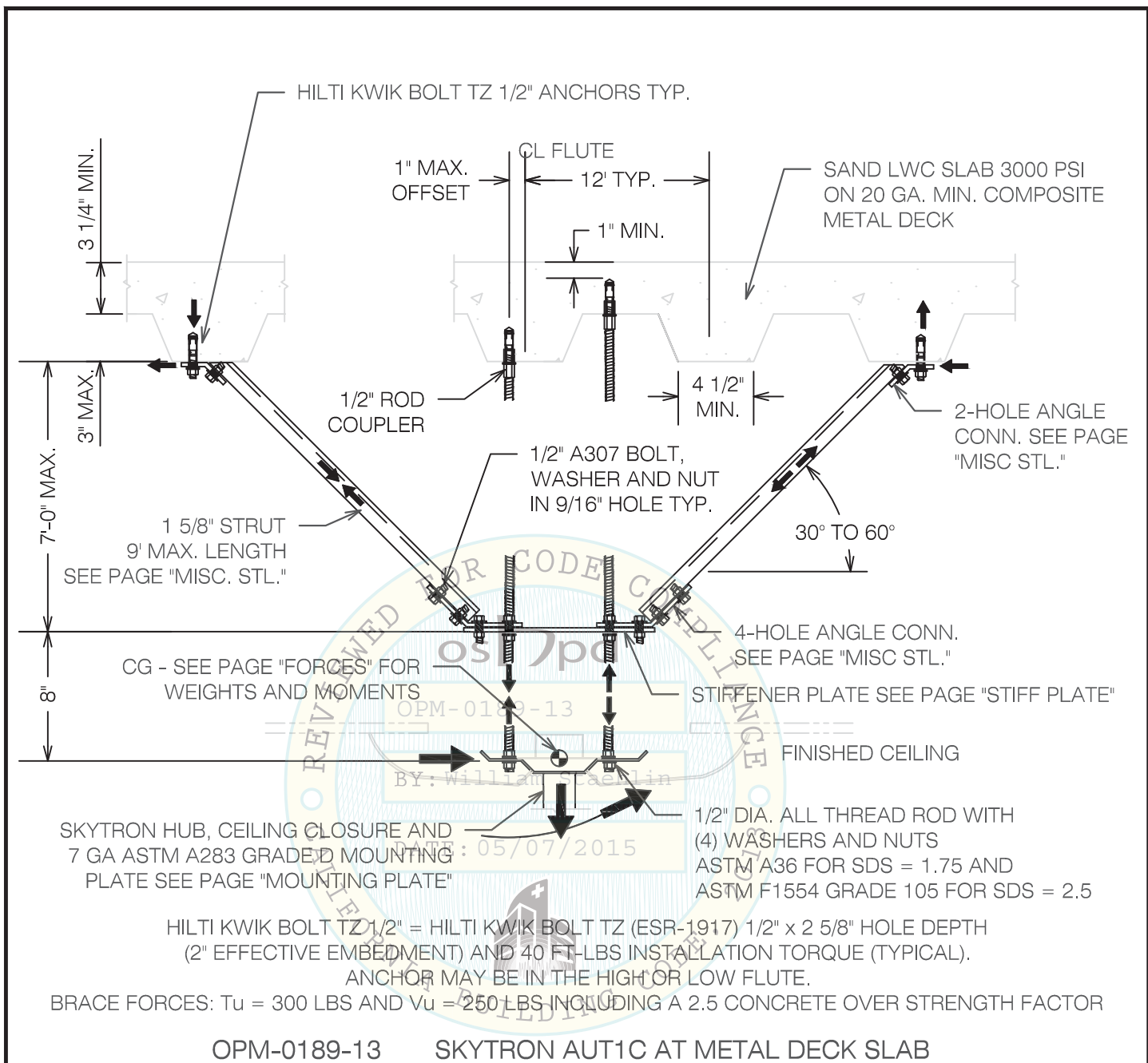
9. DETERMINATION OF THE CAPACITY OF THE WALL STUD STRUCTURAL SYSTEM TO SUPPORT THE IMPOSED LOADS IS BEYOND THE SCOPE OF THIS OPM. THE MATERIAL MINIMUM GAGE AND YIELD STRENGTH ARE SHOWN ON THE CONSTRUCTION DETAILS THAT FOLLOW.
10. WALL ATTACHMENT BOLTS ARE ASTM A 307 BOLTS, A 563 NUTS AND F436 WASHERS.





OPM-0189-13 SKYTRON AUT1C AND AUT1W ATTACHMENT NOTES

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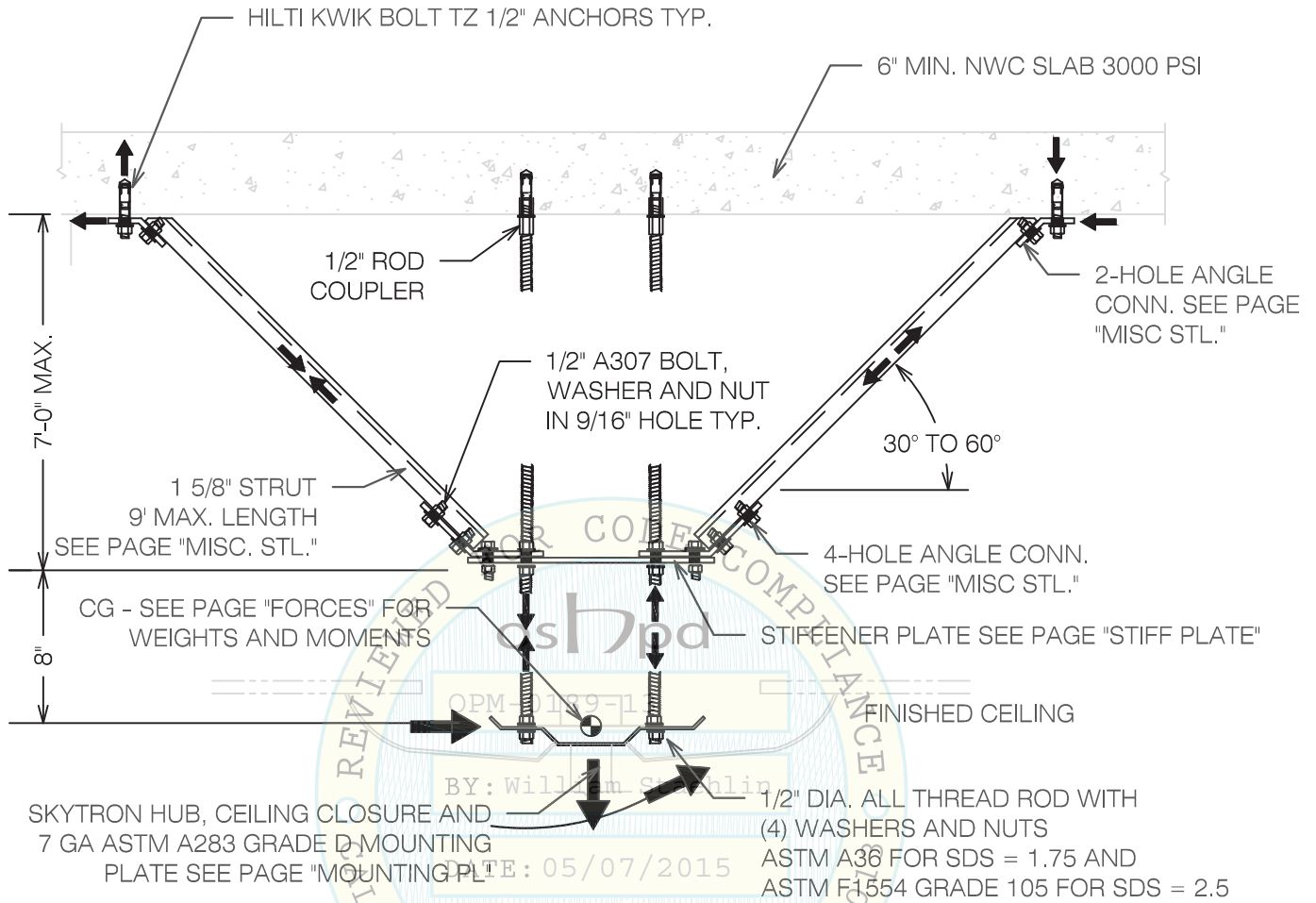
DWG-0189-13 DWG - 2



OPM-0189-13 SKYTRON AUT1C AT METAL DECK SLAB



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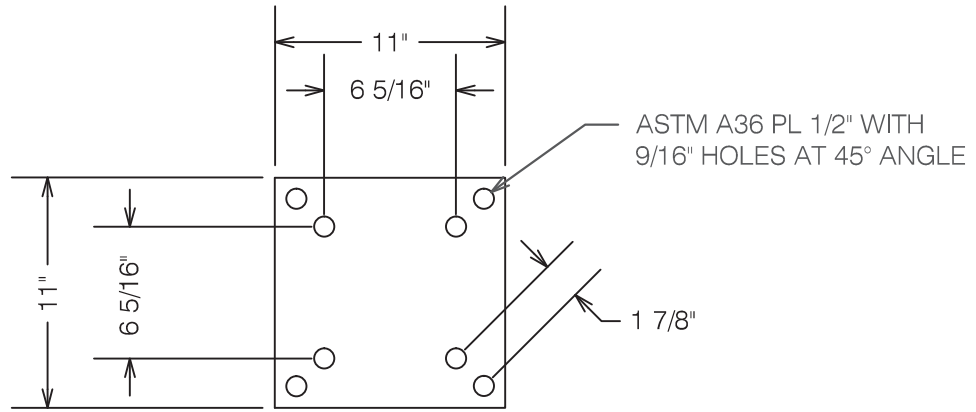


HILTI KWIK BOLT TZ 1/2" = HILTI KWIK BOLT TZ (ESR-1917) 1/2" x 2 5/8" HOLE DEPTH (2" EFFECTIVE EMBEDMENT) 6" EDGE DISTANCE AND 40 FT-LBS INSTALLATION TORQUE (TYPICAL).
 BRACE FORCES: $T_u = 300$ LBS AND $V_u = 250$ LBS INCLUDING A 2.5 CONCRETE OVER STRENGTH FACTOR

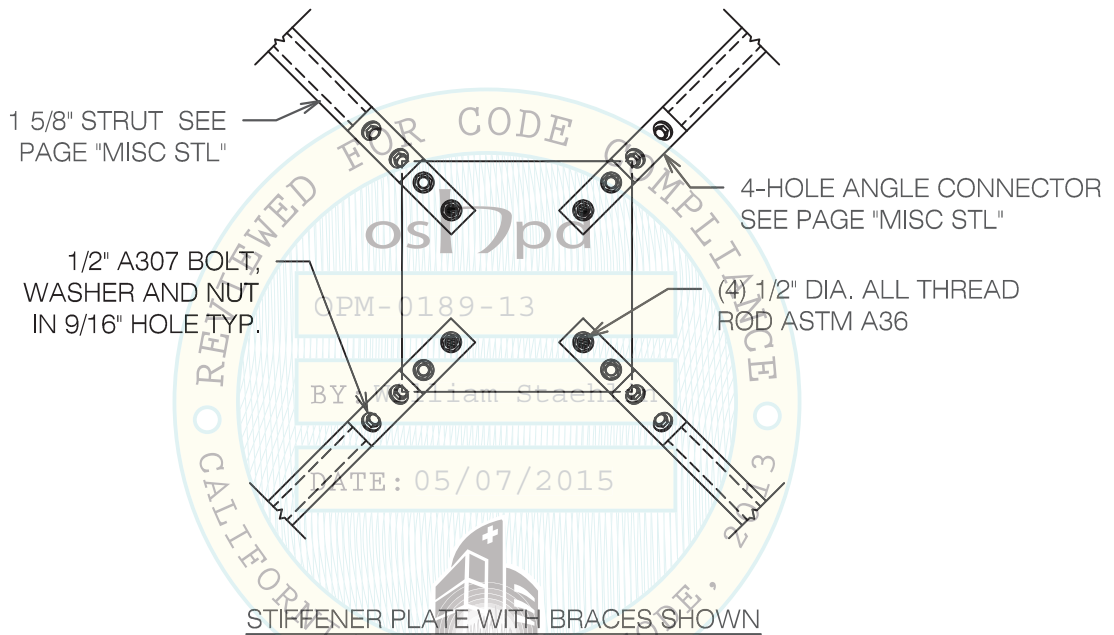
OPM-0189-13 SKYTRON AUT1C AT SOLID CONCRETE SLAB

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STIFFENER PLATE DETAILS



STIFFENER PLATE WITH BRACES SHOWN

OPM-0189-13 SKYTRON AUT1C STIFFENER PLATE DETAILS

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NOTES:

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

L2x2x43 MIL ANGLE WITH (5) #10 SCREWS (TOP AND BOTTOM)

362T125-30 MINIMUM

#10 SCREWS AT 4" ON CENTER

362S162-43 MINIMUM

WALL SECTION AT STUD CONNECTION

L2x2x1/4 x 20" BETWEEN WALL STUDS AT 24"

3/8"

(2) #10 SHEET METAL SCREWS AT 4" ON CENTER

(4) 3/8" ASTM A 307 BOLTS, WASHERS AND NUTS ZINC COATED OR HOT DIPPED GALVANIZED

2 3/16"

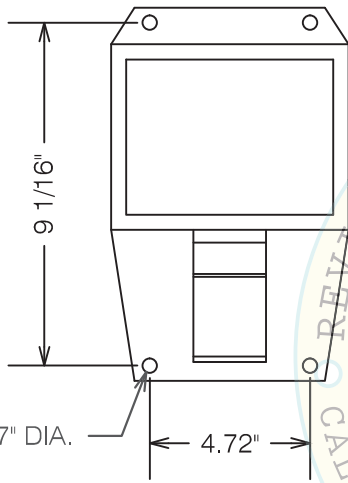
OPM-0189-13

BY: William Staehlin

DATE: 5/8" GYP BOARD

3/4"

3/4"



SKYTRON ALUMINUM WALL MOUNT
 HOUSING JIS AC4C1
 TENSILE STRENGTH = 29 KSI
 YIELD STRENGTH = 15 KSI

WALL SECTION - MOMENTS
 TABULATED ON PAGE "FORCES" ARE TO THE OUTSIDE FACE OF THE WALL

OPM-0189-13

SKYTRON AUT1W MOUNTING DETAILS



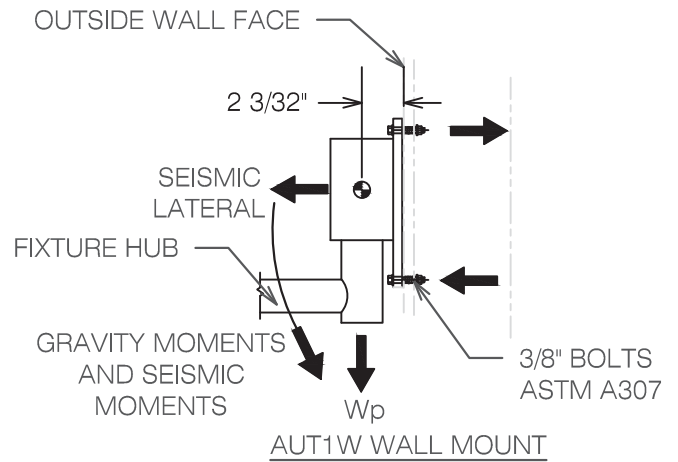
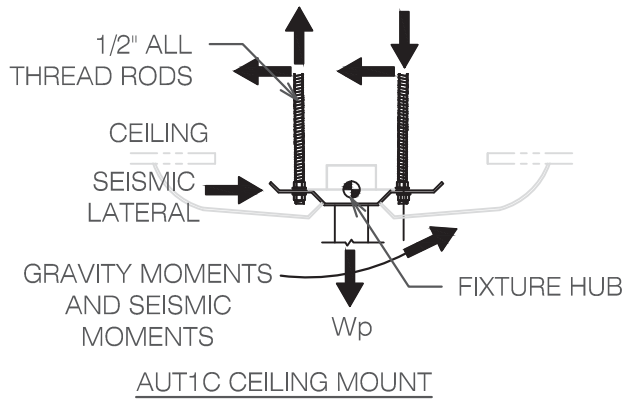
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Mx Max	Vertical	Lateral	Mx Max	My Min	Torsion
Case	lbs	lbs	ft-lbs	ft-lbs	ft-lbs
Model	(DL + FpV) Wt	FpH x Wt	(DL + FpV) Wt x Horz Arm Max	(DL + FpV) Wt x Vert Arm Min	FpH x Wt x Horz Arm Max
AUT1C	75	133	121	281	213
AUT1W	49	87	128	45	226
Mx Min	Vertical	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
AUT1C	75	133	74	338	131
AUT1W	49	87	81	128	143

1. WEIGHTS AND MOMENTS ARE FACTORED (LRFD) VALUES.
2. Mx ARE MOMENTS IN THE HORIZONTAL AXIS DUE TO THE COMPONENT WEIGHT TIMES A MAXIMUM HORIZONTAL ECCENTRICITY.
3. My ARE MOMENTS IN THE HORIZONTAL AXIS DUE TO THE COMPONENT WEIGHT TIMES THE MAXIMUM VERTICAL ECCENTRICITY.
4. TORSIONAL MOMENTS ARE DUE THE THE LATERAL FORCE ON THE COMPONENT A MAXIMUM HORIZONTAL ECCENTRICITY.
5. 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 90 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).
6. MAXIMUM CONCRETE ANCHORAGE FORCES INCLUDING CONCRETE OVERSTRENGTH FACTOR: Vu = 210 LBS AND Tu = 180 LBS.
7. MAXIMUM BOLT FORCES AT THE WALL MOUNTING BRACKET ARE LRFD SHEAR Vu = 25 LBS AND ASD TENSION Tu = 440 LBS BASED ON MOMENTS TAKEN AT THE OUTSIDE FACE OF THE WALL.

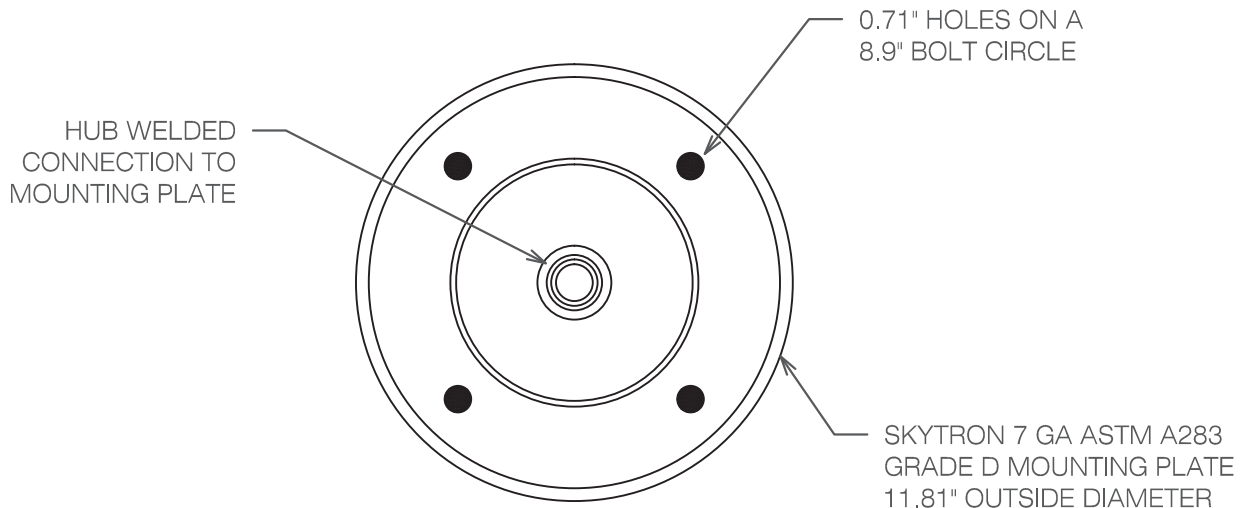
OPM-0189-13 SKYTRON AUT1C AND AUT1W FORCES AND MOMENTS



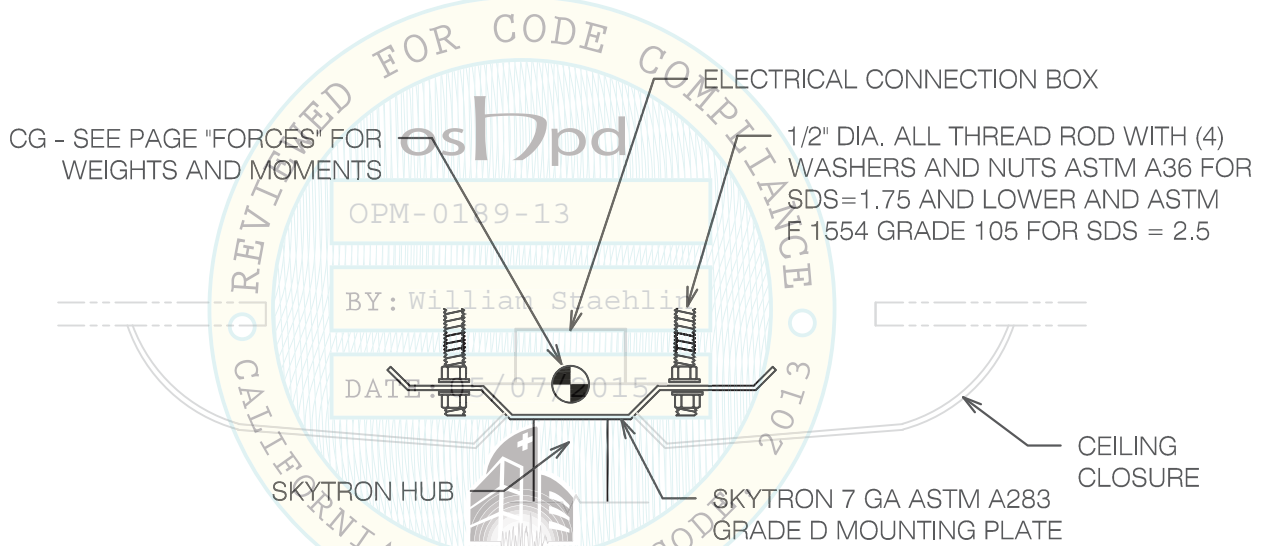
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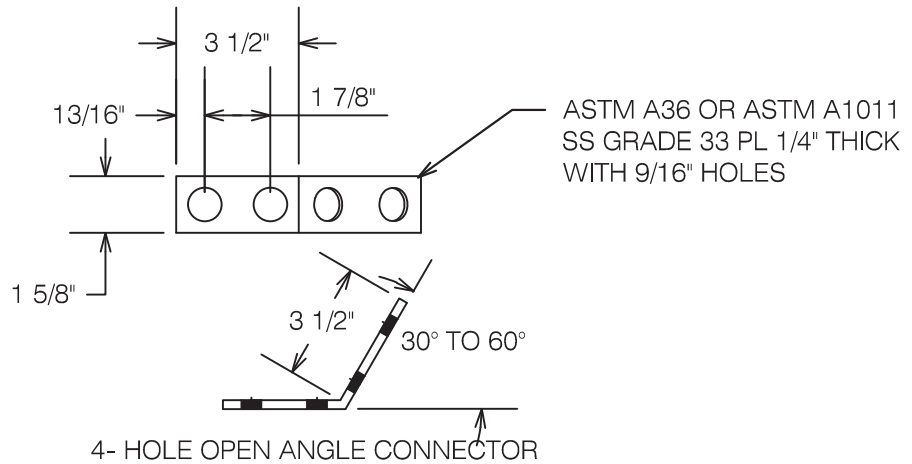
MOUNTING PLATE PLAN VIEW



OPM-0189-13 SKYTRON AUT1C MOUNTING PLATE DETAILS

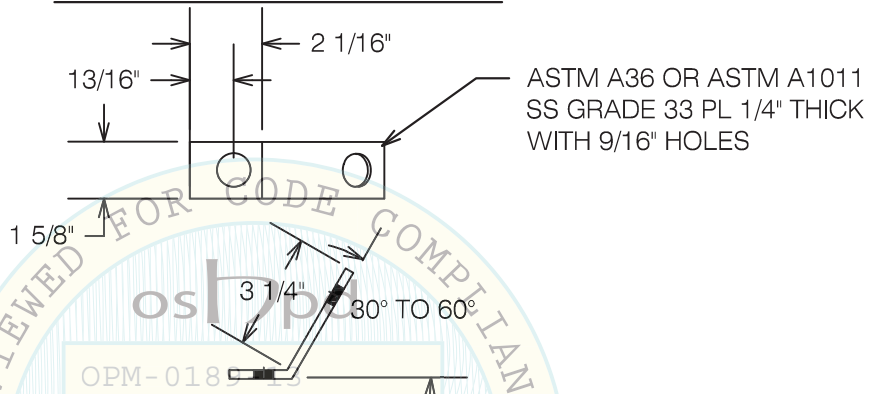
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ASTM A36 OR ASTM A1011
SS GRADE 33 PL 1/4" THICK
WITH 9/16" HOLES

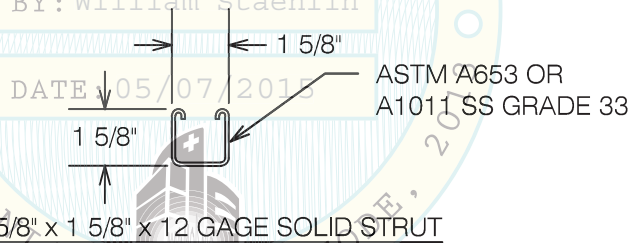
4- HOLE OPEN ANGLE CONNECTOR



ASTM A36 OR ASTM A1011
SS GRADE 33 PL 1/4" THICK
WITH 9/16" HOLES

2- HOLE OPEN ANGLE CONNECTOR

FOR FIELD CONNECTIONS
DRILL 9/16" HOLES WITH A
MINIMUM 1" EDGE DISTANCE

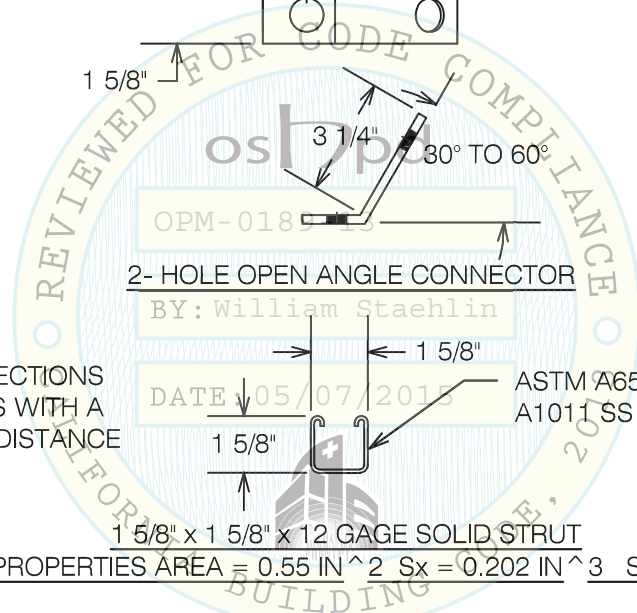


ASTM A653 OR
A1011 SS GRADE 33

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-0189-13 SKYTRON AUT1C MISCELLANEOUS STEEL DETAILS



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