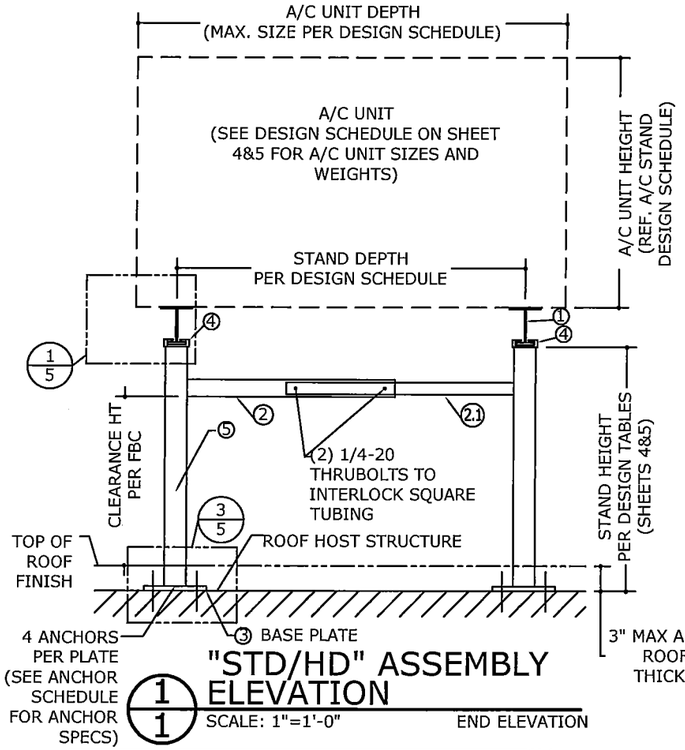
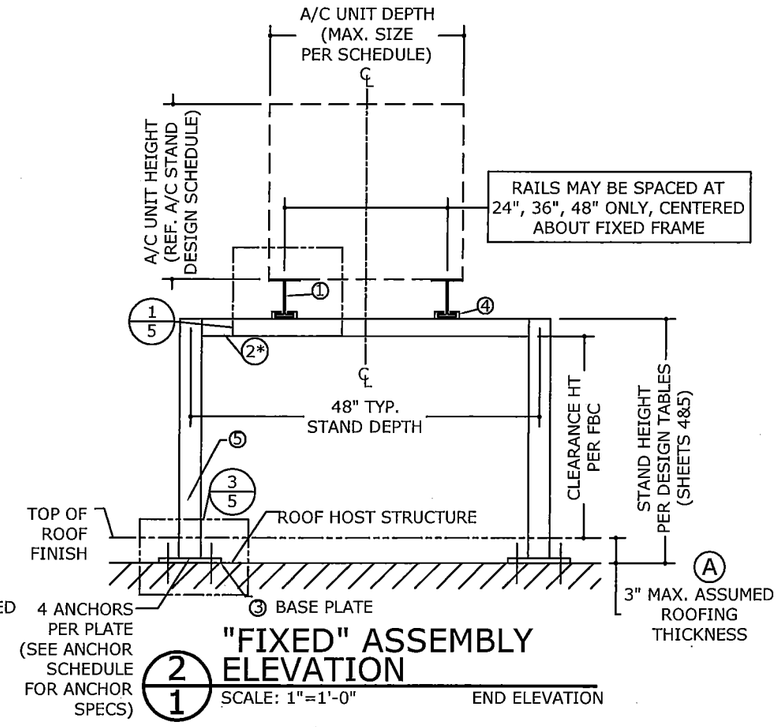
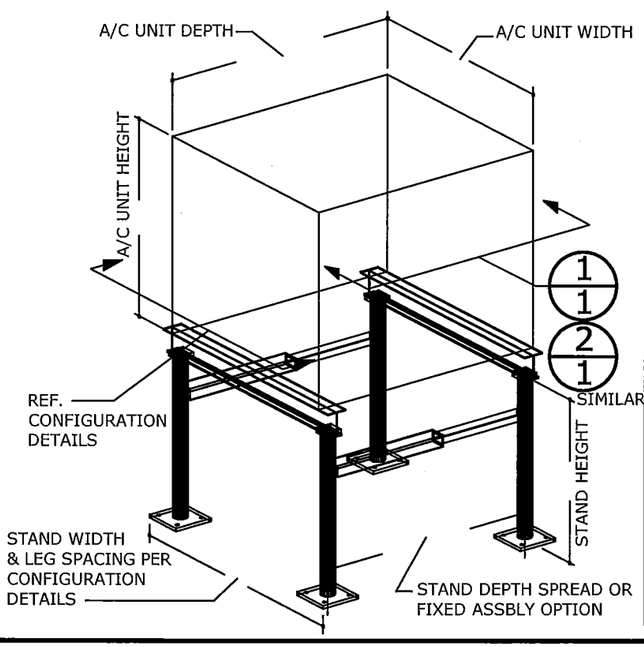
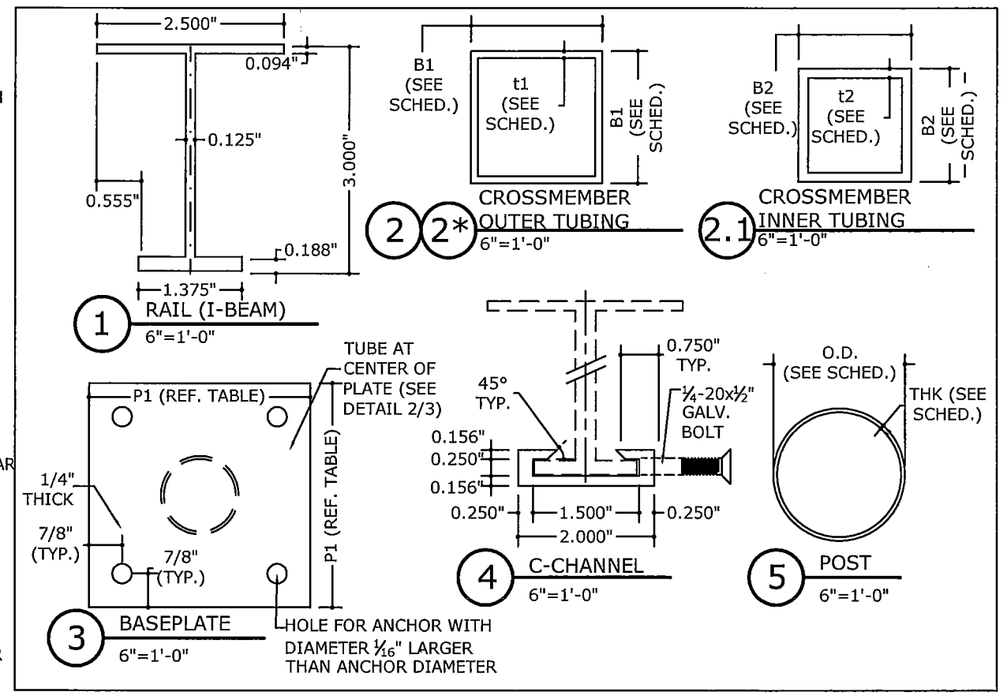
ALUMINUM STANDS FOR MECHANICAL UNITS





(A) UTILIZE NEXT-HIGHEST STAND HEIGHT FOR LARGER ROOF THICKNESS. FOR ROOFING WITHOUT INSULATION OMIT 3" THICKNESS AND UTILIZE CLEAR HEIGHT FROM FINISHED FLOOR. SPECIAL CONDITIONS REQUIRE SITE-SPECIFIC ENGINEERING.





USER NOTE:

THIS DOCUMENT SHALL BE USED AS A CERTIFICATION FOR THE FOLLOWING:

GROUND MOUNTED A/C STAND INSTALLATIONS: FOR GROUND MOUNTED INSTALLATIONS (AT GRADE), THIS DOCUMENT CERTIFIES ALLOWABLE UNIT/STAND CONFIGURATIONS AND PROVIDES (3) DESIGN TABLES FOR THE ALLOWABLE EXPOSURE CATEGORY (C OR D) FOR USE WITH INSTALLATIONS WITHIN A WIND ZONE EQUAL TO Vult=175 MPH INSIDE OR OUTSIDE THE HVHZ (HIGH VELOCITY HURRICANE ZONE)

ROOF-TOP MOUNTED A/C STAND INSTALLATIONS: FOR ROOF-TOP INSTALLATIONS (UP TO 100 FT MAXIMUM MEAN ROOF HEIGHT), THIS DOCUMENT CERTIFIES ALLOWABLE UNIT/STAND CONFIGURATIONS AND PROVIDES (3) DESIGN TABLES FOR THE ALLOWABLE PRESSURE OF EACH CONFIGURATION.

THE ALLOWABLE WIND PRESSURE FOR EACH CONFIGURATION CAN BE CROSS REFERENCED WITH THE *"WIND LOAD DESIGN PRESSURE FOR ROOF-TOP MOUNTED UNITS"* TABLE IN ORDER TO DETERMINE THE ALLOWABLE MRH OF THE SUPPORTING STRUCTURE AND THE ALLOWABLE EXPOSURE CATEGORY (C OR D) FOR USE WITH INSTALLATIONS WITHIN AND OUSIDE THE HVHZ WIND ZONE EQUAL TO Vult=175 MPH.

GENERAL NOTES

1. THIS SYSTEM HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE FIFTH EDITION (2014) FOR USE WITHIN AND OUTSIDE OF THE HIGH VELOCITY HURRICANE ZONE.
2. MAXIMUM DIMENSIONS AND WEIGHT OF MECHANICAL UNITS SHALL CONFORM TO SPECIFICATIONS STATED HEREIN, MINIMUM 100LB OR MAXIMUM AS LISTED HEREIN.
3. CONTRACTOR SHALL ENSURE THAT EACH INSTALLATION ASSEMBLY MEET THE MINIMUM CLEARANCE HEIGHT PER FBC SECTION 1509.6.5 FOR NON-HVHZ APPLICATIONS AND SECTION 1522.3 FOR HVHZ APPLICATIONS.
4. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.
5. REACTION FORCES LISTED FOR USE WITH HOST STRUCTURE VERIFICATION ARE CALCULATED USING ASD METHODOLOGY. DESIGN PROFESSIONAL OF RECORD SHALL VERIFY APPLICABILITY AND/OR ADDITIONAL FACTORS FOR USE WITH HOST STRUCTURE VERIFICATION.
6. ALL FASTENERS TO BE #12 SAE GRADE 5 CADMIUM PLATED OR OTHERWISE CORROSION RESISTANT MATERIAL (UNLESS NOTED OTHERWISE) AND SHALL COMPLY WITH J.3.1, SPECIFICATIONS FOR ALUMINUM STRUCTURES, THE ALUMINUM ASSOCIATION,INC., FBC R4406.1.8, IN ADDITION TO APPLICABLE FEDERAL,STATE, AND LOCAL CODES. STAINLESS STEEL FASTENERS SHALL BE ASTM F593 316 SS COLD WORKED CONDITION. PROVIDE (5) PITCHES MINIMUM PAST THE THREAD PLANE FOR ALL SCREW CONNECTIONS.
7. ALL EXTRUDED MEMBERS SHALL BE ALUMINUM ALLOY TYPE 6061-T6.
8. ALL EXISTING CONCRETE SUBSTRATE SHALL HAVE MINIMUM f'c COMPRESSIVE STRENGTH OF 3000 PSI (4" MIN DEPTH), AS VERIFIED BY OTHERS.
9. ALUMINUM WELDING SHALL BE PERFORMED IN ACCORDANCE WITH FBC SECTION 2003.8.1.3 & 2003.8.1.4 WITH WELD FILLER CONFORMING TO THE ULTIMATE DESIGN STRENGTH IN ACCORDANCE WITH THE ALUMINUM DESIGN MANUAL PART I-A, TABLE J.2.1. SUGGESTED WELD FILLER: 5356 ELECTRODES. ALL ALUMINUM CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOLERANCES, QUALITY AND METHODS OF CONSTRUCTION AS SET FORTH IN FBC SECTION 2003.2 AND THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE-ALUMINUM (D1.2). MINIMUM WELD IS 1/8" THROAT FULL PERIMETER FILLET WELD UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
11. ELECTRICAL GROUND, WHEN REQUIRED, TO BE DESIGNED & INSTALLED BY OTHERS. ALL MECHANICAL SPECIFICATIONS (CLEAR SPACE, TONNAGE, ETC.) SHALL BE AS PER MANUFACTURER RECOMMENDATIONS AND ARE THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR.
12. ENGINEER SEAL AFFIXED HERETO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
13. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
14. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
15. AC STANDS SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER FRAME ASSEMBLY CONTAINING THE FOLLOWING:
PRECISION ALUMINUM, MIAMI FLORIDA
FLORIDA BUILDING CODE APPROVED

FRANK L. BENNARDO, P.E.
PE# 0046549

FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER

08/28/2015

IF CHECKED, CERTIFYING P.E. #46549

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFIELD BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	05/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
-	-	-	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS©

15-2480a

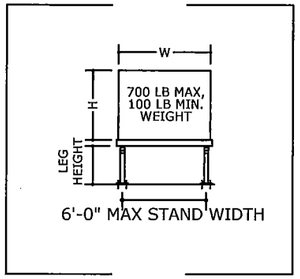
SCALE:

1

OF 6

08/28/2015 - 12:37pm zachr V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP\15-2480_b AC Stand FSA (HVHZ)_FLB.dwg

STAND CONFIGURATION TYPES & COMPONENT SCHEDULE



NOTE: USE ANY COMBINATION OF UNITS TO FIT STAND PER MANUFACTURER'S REQUIREMENTS. THE NUMBER OF UNITS MAY BE LESS THAN SHOWN, BUT MAY NOT EXCEED CONFIGURATION LIMITS AS SHOWN. WHEN USING MULTIPLE SIZES ON ONE STAND, UTILIZE MAXIMUM UNIT SIZE TO DETERMINE ALLOWABLE DESIGN FROM DESIGN TABLES.

NOTE: A/C UNITS WITHIN STAND TYPES MAY BE COMBINED BY USING MAX ADDITIVE WEIGHTS AND WIDTHS;ALL HEIGHT VALUES SHALL REMAIN AS SHOWN HEREIN

STAND TYPE/COMPONENT SCHEDULE			
PART	DESCR.	STAND TYPE	
		HD/FIXED	STD
(2)	OUTER TUBE SIZE (B1 x B1 x t1)	1.5" x 1.5" x 0.093"	1.25" x 1.25" x 0.093"
(2*)	OUTER TUBE SIZE (B1 x B1 x t1)	2.00" x 2.00" x 0.095"	N/A
(2.1)	INNER TUBE SIZE (B2 x B2 x t2)	1.25" x 1.25" x 0.125"	1.00" x 1.00" x 0.125"
(4)	POST SIZE (OD X THK)	1.9" x 0.145"	1.5" x 0.090"
(5)	BASEPLATE SIZE (P1 X P1)	5" X 5"	•4" X 4" UP TO 24" STAND HT •5" X 5" FOR 30" STAND HT

LEGEND:
- "HD"= HEAVY DUTY
- "STD" = STANDARD

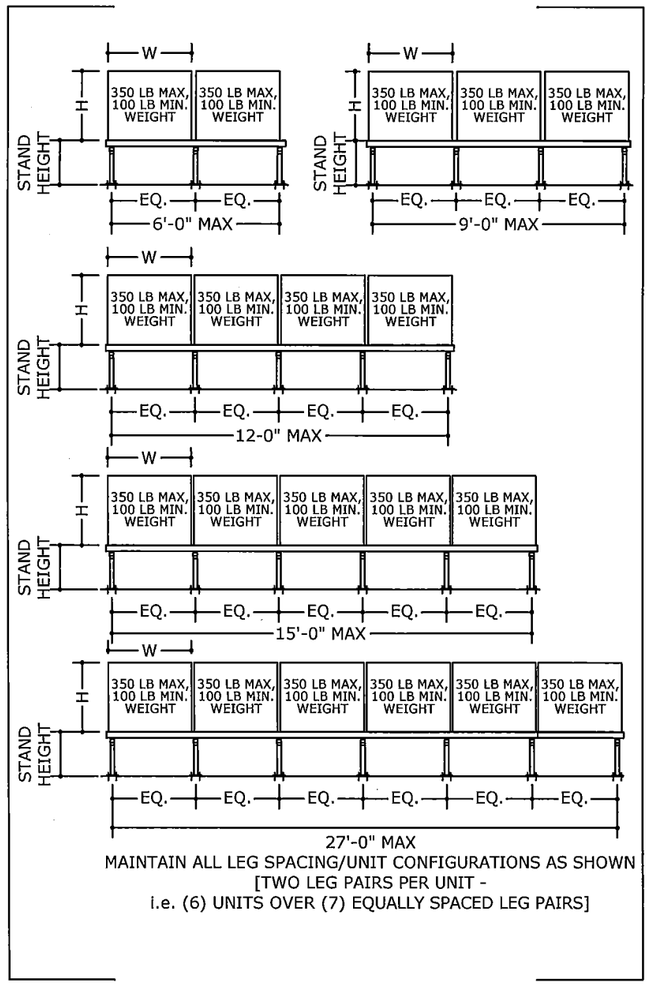
(2*) SHALL BE UTILIZED FOR FIXED ASSEMBLY ONLY

FRANK L. BENNARDO, P.E.
PE# 0046549
08/28/2015
IF CHECKED, CERTIFYING PE: ANSAS

FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER

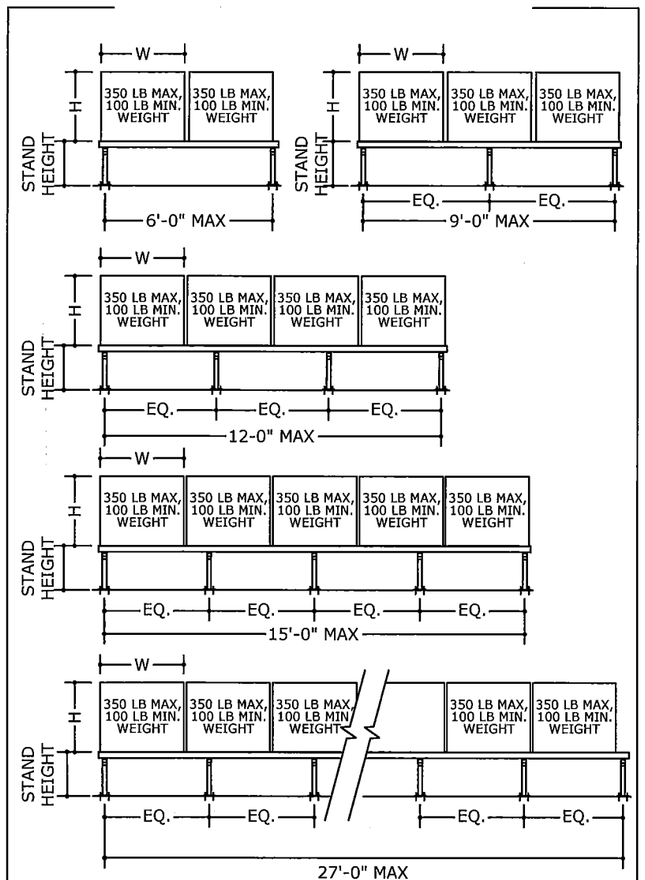
ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

A STAND CONFIGURATION A



MAINTAIN ALL LEG SPACING/UNIT CONFIGURATIONS AS SHOWN
[TWO LEG PAIRS PER UNIT -
i.e. (6) UNITS OVER (7) EQUALLY SPACED LEG PAIRS]

B STAND CONFIGURATION B

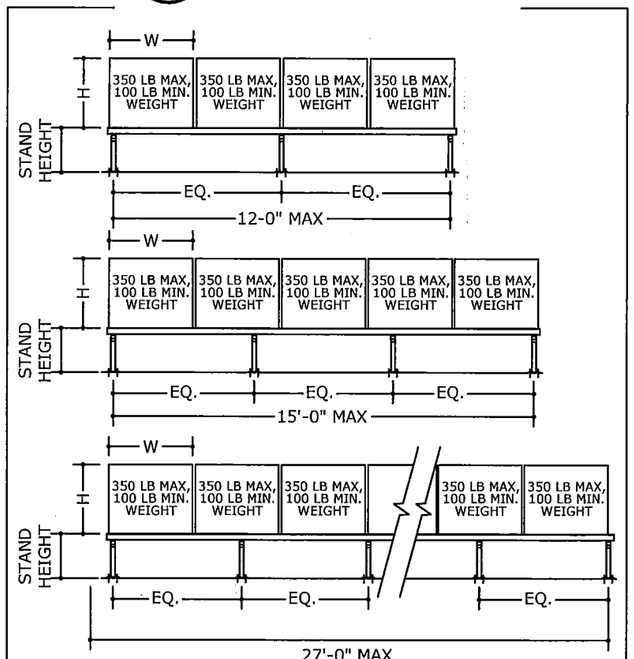


MAINTAIN ALL LEG SPACING/UNIT CONFIGURATIONS AS SHOWN
[ONE LEG PAIR PER UNIT -
i.e. (6) UNITS OVER (6) EQUALLY SPACED LEG PAIRS]

C STAND CONFIGURATION C (GROUND MOUNT ONLY IN HVHZ)

STAND TYPE/COMPONENT SCHEDULE

2/1 SCHEDULE



MAINTAIN ALL LEG SPACING/UNIT CONFIGURATIONS AS SHOWN
[ONE LEG PAIR LESS THAN TOTAL NUMBER OF UNITS -
i.e. (6) UNITS OVER (5) EQUALLY SPACED LEG PAIRS]

D STAND CONFIGURATION D (GROUND MOUNT ONLY IN HVHZ)

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFILED BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	06/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
-	-	-	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS®

15-2480a

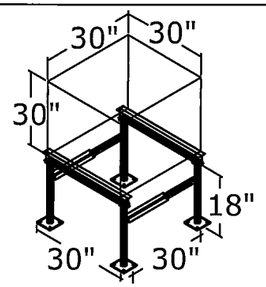
SCALE:

2 OF 6

08/28/2015 - 12:37pm zachr V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP\15-2480_b AC Stand FSA (HVHZ)_FLB.dwg

MECHANICAL STAND EXAMPLE: GROUND & ROOF-TOP MOUNTED UNITS

ROOF TOP MECHANICAL UNIT STAND EXAMPLE:



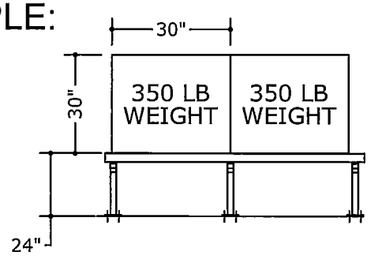
DESIGN CONDITION:

CONSIDER THE INSTALLATION OF (1) MECHANICAL UNIT 30" TALL x 30" DEEP x 30" WIDE, 350 LB MAX WEIGHT BEING INSTALLED WITH THE FOLLOWING CRITERIA:

- NUMBER OF LEG FRAMES= (2) FRAMES (4 LEGS TOTAL)
- STAND HEIGHT= 18" HEIGHT
- STAND DEPTH= 36" STAND DEPTH SPREAD DOWN TO 30" TO FIT UNIT
- HOST STRUCTURE TYPE= 3,000 PSI CONCRETE (4" MIN. DEPTH)

	PROCEDURE	*RESULT*
1	DETERMINE STAND CONFIGURATION TYPE ON SHEET 2	(1) UNIT PER (2) LEG FRAMES OPTION FALLS WITHIN CONFIGURATION **TYPE A, SHEET 2**
2	LOCATE DESIGN SCHEDULE FOR 24" MIN ROOF TOP STAND DEPTH	SCHEDULE CAN BE FOUND ON **SHEET 4**
3	DETERMINE WHICH TYPE OF STAND COMPONENTS APPLY	THE 24" MIN STAND DEPTH SCHEDULE PROVIDES VALUES FOR "HD" STANDS ONLY
4	DETERMINE THE MAXIMUM ALLOWABLE LATERAL & UPLIFT WIND LOADS	FOR A 30"W x 30"D x 30"H UNIT ON A 18" STAND HEIGHT WITH CONFIGURATION TYPE A, THE ALLOWABLE WIND LOADS ARE AS FOLLOWS FROM SHEET 4: • ALLOWABLE LATERAL WIND LOAD: **140.3 PSF** • ALLOWABLE UPLIFT WIND LOAD: **70.1 PSF**
5	DETERMINE PERMISSIBLE ANCHOR TYPES AND VERIFY HOST STRUCTURE TYPE	UTILIZE ANCHOR TYPES FROM DESIGN SCHEDULE ASSOCIATED WITH THE ALLOWABLE WIND VALUES DETERMINED IN STEP 4. FOR THIS EXAMPLE, **ANCHOR TYPES 1 OR 2 MAY BE APPLIED** PER DESIGN SCHEDULE SHEET 4. FOR THIS EXAMPLE UTILIZE ANCHOR TYPE 1 FOR CONCRETE HOST STRUCTURE TYPE. INSTALL STANDS PER ANCHOR SCHEDULE AND DETAILS AS ILLUSTRATED ON SHEET 6
6	DETERMINE THE ALLOWABLE MOUNTING HEIGHT & WIND EXPOSURE CATEGORY FOR USE WITHIN THE HVHZ.	USING SHEET 4 & THE STAND CONFIGURATION ALLOWANCE FOR A REQUIREMENT OF 140.3 PSF LATERAL & 70.1 PSF UPLIFT FROM ABOVE: • THIS CORRESPONDS TO SQUARE UNIT INSTALLATION ON A MEAN ROOF HEIGHT UP TO 30 FT MAX & WIND SPEED OF 175 MPH WITH AN EXPOSURE 'C' CATEGORY WHICH WILL PRODUCE A FORCE OF 133.2 PSF LATERAL & 64.4 UPLIFT ON THE UNIT (OK). • THE INSTALLATION IN EXPOSURE 'D' WOULD NOT BE PERMITTED BECAUSE THE FORCE PRODUCED = 142.2PSF LATERAL WHICH IS GREATER THAN OUR CAPACITY OF 140.3 PSF.

GROUND MOUNTED MECHANICAL UNIT STAND EXAMPLE:

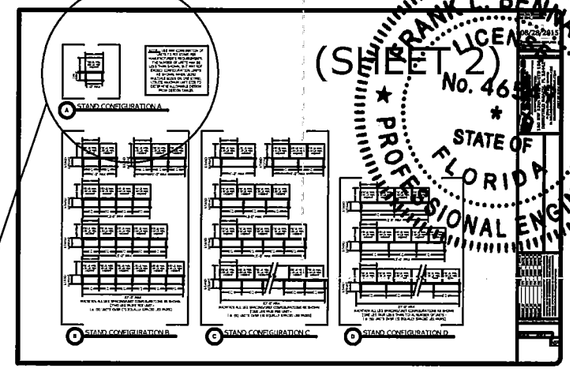


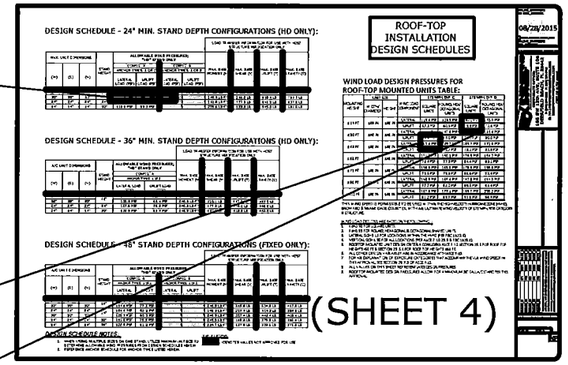
DESIGN CONDITION:

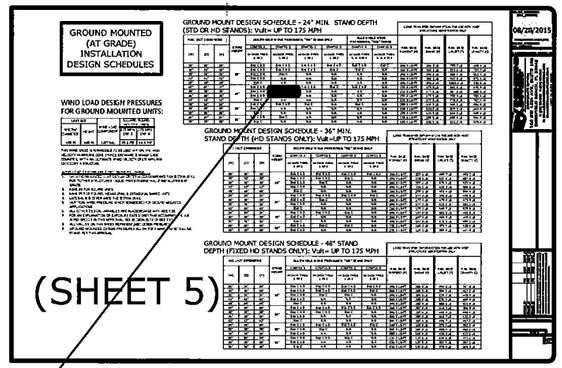
CONSIDER THE INSTALLATION OF (2) MECHANICAL UNITS 30" TALL x 30" DEEP x 30" WIDE, 350 LB MAX WEIGHT, BEING INSTALLED WITH THE FOLLOWING CRITERIA:

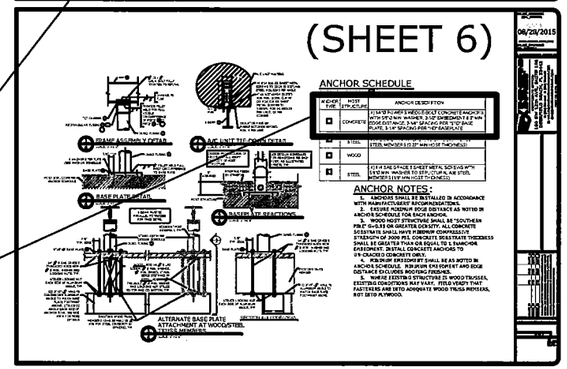
- NUMBER OF LEG FRAMES= (3) FRAMES (6 LEGS TOTAL)
- STAND HEIGHT= 24" HEIGHT
- STAND DEPTH= 36" STAND DEPTH SPREAD DOWN TO 30"
- HOST STRUCTURE TYPE= 3,000 PSI CONCRETE (4" MINIMUM DEPTH)

	PROCEDURE:	*RESULT*:
1	DETERMINE STAND CONFIGURATION TYPE ON SHEET 2	(2) UNITS PER (3) LEG FRAMES OPTION FALLS WITHIN CONFIG. **TYPE B, SHEET 2**
2	LOCATE DESIGN SCHEDULE FOR 24" MIN ROOF TOP STAND DEPTH	SCHEDULE CAN BE FOUND ON **SHEET 4**
3	DETERMINE WHICH TYPE OF STAND COMPONENTS APPLY	THE 24" STAND DEPTH DESIGN SCHEDULE PROVIDES VALUES FOR "HD" STANDS ONLY
4	DETERMINE THE ALLOWABLE WIND EXPOSURE CATEGORY FOR INSTALLATIONS WITHIN THE HVHZ, Vult=175 MPH.	FOR A 30"W x 30"D x 30"H UNIT ON AN 24" STAND HEIGHT WITH CONFIGURATION TYPE B, THE ALLOWABLE WIND EXPOSURE CATEGORY (SHEET 5) IS: EXPOSURE 'C' ONLY UP TO Vult=175MPH. THIS CORRESPONDS TO AN ALLOWABLE LATERAL WIND LOAD = 49.5PSF PER SHEET 5 TABLE
5	DETERMINE PERMISSIBLE ANCHOR TYPES AND VERIFY HOST STRUCTURE TYPE	UTILIZE ANCHOR TYPES FROM DESIGN SCHEDULE ASSOCIATED WITH THE ALLOWABLE WIND VALUES DETERMINED IN STEP 4. FOR THIS EXAMPLE, **ANCHOR TYPES 1 OR 2 MAY BE APPLIED**. FOR THIS EXAMPLE UTILIZE ANCHOR TYPE 1 FOR CONCRETE HOST STRUCTURE TYPE. INSTALL STANDS PER ANCHOR SCHEDULE AND DETAILS AS ILLUSTRATED ON SHEET 6.









FRANK L. BENNARDO, P.E.
PE# 0046549
08/28/2015
IF CHECKED, CERTIFYING P.E. MYSARS

FRANK L. BENNARDO LICENSE No. 46[illegible] STATE OF FLORIDA PROFESSIONAL ENGINEER

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFIELD BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	05/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
	,	,	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS©

15-2480a

SCALE:

3 OF 6

08/28/2015 - 12:37pm zachr V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP\15-2480_b AC Stand FSA (HVHZ)_FLB.dwg

ROOF-TOP MOUNT INSTALLATION DESIGN SCHEDULES

ROOF MOUNT DESIGN SCHEDULE - 24" MIN. STAND DEPTH CONFIGURATIONS (HD STANDS ONLY):

MAX. UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY				LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A ANCHOR TYPES: 1 OR 2		CONFIG: B ANCHOR TYPES: 1 OR 2					
(W)	(D)	(H)		LATERAL LOAD (PSF)	UPLIFT LOAD (PSF)	LATERAL LOAD (PSF)	UPLIFT LOAD (PSF)	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
24"	24"	24"	18"	214.4 PSF	107.2 PSF	125.1 PSF	62.5 PSF	246.9 LB-FT	241.2 LB	755.7 LB	695.9 LB
30"	30"	30"		140.3 PSF	70.1 PSF	////////////	////////////	246.9 LB-FT	241.2 LB	818.4 LB	753.7 LB
24"	24"	24"	24"	157.8 PSF	78.9 PSF	////////////	////////////	231.0 LB-FT	177.5 LB	641.0 LB	637.8 LB
24"	24"	24"	30"	118.6 PSF	59.3 PSF	////////////	////////////	209.6 LB-FT	133.5 LB	545.0 LB	581.0 LB

ROOF MOUNT DESIGN SCHEDULE - 36" MIN. STAND DEPTH CONFIGURATIONS (HD STANDS ONLY):

A/C UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY		LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A ANCHOR TYPES: 1 OR 2					
(W)	(D)	(H)		LATERAL LOAD (PSF)	UPLIFT LOAD (PSF)	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
24"	24"	24"	18"	200.0 PSF	100.0 PSF	246.9 LB-FT	225.1 LB	497.7 LB	452.2 LB
30"	30"	30"		130.9 PSF	65.4 PSF	246.9 LB-FT	225.1 LB	537.5 LB	487.5 LB
24"	24"	24"	24"	157.6 PSF	78.8 PSF	246.9 LB-FT	177.3 LB	448.0 LB	445.0 LB
24"	24"	24"	30"	130.9 PSF	65.4 PSF	246.9 LB-FT	147.3 LB	418.8 LB	442.5 LB

ROOF MOUNT DESIGN SCHEDULE - 48" FIXED STAND DEPTH CONFIGURATIONS (FIXED HD STANDS ONLY):

A/C UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY				LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A ANCHOR TYPES: 1 OR 2		CONFIG: B ANCHOR TYPES: 1 OR 2					
(W)	(D)	(H)		LATERAL LOAD (PSF)	UPLIFT LOAD (PSF)	LATERAL LOAD (PSF)	UPLIFT LOAD (PSF)	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
24"	24"	24"	18"	229.5 PSF	114.7 PSF	135.4 PSF	67.7 PSF	246.9 LB-FT	265.8 LB	454.8 LB	387.0 LB
30"	30"	30"		154.6 PSF	77.3 PSF	////////////	////////////	246.9 LB-FT	265.8 LB	504.6 LB	417.5 LB
24"	24"	24"	24"	184.4 PSF	92.2 PSF	////////////	////////////	246.9 LB-FT	207.4 LB	414.3 LB	384.5 LB
30"	30"	30"		120.7 PSF	60.3 PSF	////////////	////////////	246.9 LB-FT	207.4 LB	442.4 LB	408.4 LB
24"	24"	24"	30"	151.0 PSF	75.5 PSF	////////////	////////////	245.9 LB-FT	169.8 LB	379.0 LB	382.6 LB
24"	24"	24"	36"	122.5 PSF	61.2 PSF	////////////	////////////	234.7 LB-FT	137.8 LB	339.1 LB	371.2 LB

DESIGN SCHEDULE NOTES:

1. WHEN USING MULTIPLE SIZES ON ONE STAND, UTILIZE MAXIMUM UNIT SIZE TO DETERMINE ALLOWABLE WIND PRESSURES FROM DESIGN SCHEDULES HEREIN.
2. REFERENCE ANCHOR SCHEDULE FOR ANCHOR TYPES LISTED HEREIN.

TABLE LEGEND:

-DENOTES VALUES NOT APPROVED FOR USE

WIND LOAD DESIGN PRESSURES FOR ROOF-TOP MOUNTED UNITS GUIDE:

MOUNTING HEIGHT	UNIT SIZE		WIND LOAD COMPONENT	175 MPH, EXP. C		175 MPH, EXP. D	
	WIDTH/ DIAMETER	HEIGHT		SQUARE UNITS	ROUND, HEX/ OCTAGONAL UNITS	SQUARE UNITS	ROUND, HEX/ OCTAGONAL UNITS
≤ 15 FT	≤48 IN	≤48 IN	LATERAL	118.4 PSF	124.9 PSF	142.2 PSF	150.0 PSF
			UPLIFT	57.3 PSF	60.5 PSF	68.8 PSF	72.6 PSF
≤ 30 FT	≤48 IN	≤48 IN	LATERAL	133.2 PSF	140.6 PSF	156.7 PSF	165.4 PSF
			UPLIFT	64.4 PSF	68.0 PSF	75.8 PSF	80.0 PSF
≤ 40 FT	≤48 IN	≤48 IN	LATERAL	140.4 PSF	148.2 PSF	163.7 PSF	172.8 PSF
			UPLIFT	67.9 PSF	71.7 PSF	79.2 PSF	83.6 PSF
≤ 60 FT	≤48 IN	≤48 IN	LATERAL	151.7 PSF	160.1 PSF	174.5 PSF	184.2 PSF
			UPLIFT	73.4 PSF	77.5 PSF	84.4 PSF	89.1 PSF
≤ 70 FT	≤48 IN	≤48 IN	LATERAL	156.3 PSF	165.0 PSF	178.9 PSF	188.8 PSF
			UPLIFT	75.6 PSF	79.9 PSF	86.6 PSF	91.4 PSF
≤ 80 FT	≤48 IN	≤48 IN	LATERAL	160.5 PSF	169.4 PSF	182.8 PSF	193.0 PSF
			UPLIFT	77.7 PSF	82.0 PSF	88.5 PSF	93.4 PSF
≤ 100 FT	≤48 IN	≤48 IN	LATERAL	167.8 PSF	177.1 PSF	189.7 PSF	200.2 PSF
			UPLIFT	81.2 PSF	85.7 PSF	91.8 PSF	96.9 PSF

THIS WIND SPEED IS PERMISSIBLE TO BE USED WITHIN THE HIGH VELOCITY HURRICANE ZONE (HVHZ), BROWARD & MIAMI-DADE COUNTIES, WITH AN ULTIMATE WIND VELOCITY OF 175 MPH, RISK CATEGORY II STRUCTURE. SITE SPECIFIC DESIGN SHALL BE PERFORMED FOR ANY PARAMETERS OUTSIDE THIS GUIDE.

WIND LOAD DESIGNS ARE BASED ON THE FOLLOWING:

1. Kd=0.90 FOR SQUARE UNITS.
2. Kd=0.95 FOR ROUND, HEXAGONAL & OCTAGONAL SHAPED UNITS.
3. LATERAL GCf=3.10 FOR LOCATIONS WITHIN THE HVHZ (PER FBC 1620.6).
4. VERTICAL GCf=1.50 FOR ALL LOCATIONS (PER ASCE 7-10 29.5 & FBC 1620.6).
5. ROOFTOP MOUNTED UNIT DESIGN CRITERIA CONSIDERS ASCE 7-10 SECTION 29.5 FOR ROOF TOP HEIGHTS>60 FT & SECTION 29.5.1 FOR ROOF TOP HEIGHTS ≤60 FT.
6. ALL OTHER DESIGN VARIABLES ARE IN ACCORDANCE WITH ASCE 7-10.
7. FOR AN EXPLANATION OF EXPOSURE CATEGORIES THAT ACCOMPANY THE Vult WIND SPEEDS IN THIS APPROVAL, SEE SECTION 26.7.3 OF ASCE 7-10.
8. ALL VALUES ON THIS SHEET REPRESENT (ASD) DESIGN PRESSURES.
9. ROOFTOP-MOUNTED DESIGN PRESSURES ALLOW FOR A MAXIMUM 36" TALL A/C STAND PER THIS APPROVAL.

DESIGN SCHEDULE NOTES:

1. WHEN USING MULTIPLE SIZES ON ONE STAND, UTILIZE MAXIMUM UNIT SIZE TO DETERMINE ALLOWABLE WIND PRESSURES FROM DESIGN SCHEDULES HEREIN.
2. REFERENCE ANCHOR SCHEDULE FOR ANCHOR TYPES LISTED HEREIN.

TABLE LEGEND:

-DENOTES VALUES NOT APPROVED FOR USE

FRANK L. BENNARDO, P.E.
PE# 0046549
08/28/2015
IF CHECKED, CERTIFYING P.E. APPEARS

FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9865

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFIELD BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	05/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
-	-	-	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT ENGINEERING EXPRESS©

15-2480a

SCALE:

V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP\15-2480_b AC Stand FSA (HVHZ)_FLB.dwg
08/28/2015 - 12:37pm zachr

GROUND MOUNTED (AT GRADE) INSTALLATION DESIGN SCHEDULES

WIND LOAD DESIGN PRESSURES FOR GROUND MOUNTED UNITS:

UNIT SIZE		WIND LOAD COMPONENT	SQUARE, ROUND, HEX/OCT. UNITS	
WIDTH/ DIAMETER	HEIGHT		175 MPH, EXP. C	175 MPH, EXP. D
≤48 IN	≤48 IN	LATERAL	49.5 PSF	60.0 PSF

THIS WIND SPEED IS PERMISSIBLE TO BE USED WITHIN THE HIGH VELOCITY HURRICANE ZONE (HVHZ), BROWARD & MIAMI-DADE COUNTIES, WITH AN ULTIMATE WIND VELOCITY OF 175 MPH, RISK CATEGORY II STRUCTURE.

WIND LOAD DESIGNS ARE BASED ON THE FOLLOWING:

1. GROUND MOUNTED UNIT DESIGN CRITERIA CONSIDERS ASCE 7-10 SECTION 29.4.1 FOR "OTHER STRUCTURES - SOLID FREESTANDING WALLS" INSTALLATIONS AT GRADE.
2. Kd=0.90 FOR SQUARE UNITS.
3. Kd=0.95 FOR ROUND, HEXAGONAL & OCTAGONAL SHAPED UNITS.
4. LATERAL G & Cf PER ASCE 7-10 SECTION 29.4.1.
5. VERTICAL WIND PRESSURE IS NOT CONSIDERED FOR GROUND MOUNTED APPLICATIONS.
6. ALL OTHER DESIGN VARIABLES ARE IN ACCORDANCE WITH ASCE 7-10.
7. FOR AN EXPLANATION OF EXPOSURE CATEGORIES THAT ACCOMPANY THE Vult WIND SPEEDS IN THIS APPROVAL, SEE SECTION 26.7.3 OF ASCE 7-10.
8. ALL VALUES ON THIS SHEET REPRESENT (ASD) DESIGN PRESSURES.
9. GROUND MOUNTED DESIGN PRESSURES ALLOW FOR A MAXIMUM 36" TALL A/C STAND PER THIS APPROVAL.

GROUND MOUNT DESIGN SCHEDULE - 24" MIN. STAND DEPTH (STD OR HD STANDS): Vult= UP TO 175 MPH

MAX. UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY				ALLOWABLE WIND PRESSURES; "STD" STAND		LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A	CONFIG: B	CONFIG: C	CONFIG: D	CONFIG: A	CONFIG: B	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
(W)	(D)	(H)		ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1, 2, 3 OR 4	ANCHOR TYPES: 1, 2, 3 OR 4				
24"	24"	24"	18"	Exp C & D	Exp C & D	Exp C & D	Exp C & D	Exp C & D	Exp C	246.9 LB-FT	241.2 LB	755.7 LB	699.9 LB
30"	30"	30"		Exp C & D	Exp C & D	Exp C & D	Exp C	Exp C	N/A	246.9 LB-FT	241.2 LB	818.4 LB	753.1 LB
36"	36"	36"		Exp C & D	Exp C	N/A	N/A	N/A	N/A	246.9 LB-FT	241.2 LB	880.4 LB	812.4 LB
42"	42"	42"		Exp C & D	N/A	N/A	N/A	N/A	N/A	246.9 LB-FT	241.2 LB	942.0 LB	871.4 LB
48"	48"	48"		Exp C	N/A	N/A	N/A	N/A	N/A	246.9 LB-FT	241.2 LB	1003.2 LB	930.8 LB
24"	24"	24"	24"	Exp C & D	Exp C & D	Exp C & D	Exp C	Exp C & D	N/A	231.0 LB-FT	177.5 LB	641.0 LB	637.8 LB
30"	30"	30"		Exp C & D	Exp C	N/A	N/A	N/A	N/A	231.0 LB-FT	177.5 LB	687.2 LB	680.4 LB
36"	36"	36"		Exp C & D	N/A	N/A	N/A	N/A	N/A	231.0 LB-FT	177.5 LB	732.9 LB	723.6 LB
42"	42"	42"		Exp C	N/A	N/A	N/A	N/A	N/A	231.0 LB-FT	177.5 LB	778.2 LB	767.1 LB
24"	24"	24"	30"	Exp C & D	Exp C & D	Exp C	N/A	Exp C	N/A	209.6 LB-FT	133.5 LB	545.0 LB	581.0 LB
30"	30"	30"		Exp C & D	N/A	N/A	N/A	N/A	N/A	209.6 LB-FT	133.5 LB	579.7 LB	613.0 LB
36"	36"	36"		Exp C	N/A	N/A	N/A	N/A	N/A	209.6 LB-FT	133.5 LB	614.0 LB	645.4 LB
24"	24"	24"	36"	Exp C & D	Exp C	N/A	N/A	N/A	N/A	195.4 LB-FT	106.5 LB	485.0 LB	544.9 LB
30"	30"	30"		Exp C	N/A	N/A	N/A	N/A	N/A	195.4 LB-FT	106.5 LB	512.7 LB	570.5 LB

GROUND MOUNT DESIGN SCHEDULE - 36" MIN. STAND DEPTH (HD STANDS ONLY): Vult=UP TO 175 MPH

A/C UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY				LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A	CONFIG: B	CONFIG: C	CONFIG: D	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
(W)	(D)	(H)		ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2				
24"	24"	24"	18"	Exp C & D	Exp C & D	Exp C & D	Exp C & D	246.9 LB-FT	225.1 LB	497.7 LB	452.2 LB
30"	30"	30"		Exp C & D	Exp C & D	Exp C	N/A	246.9 LB-FT	225.1 LB	537.5 LB	487.5 LB
36"	36"	36"		Exp C & D	Exp C	N/A	N/A	246.9 LB-FT	225.1 LB	576.6 LB	523.4 LB
42"	42"	42"		Exp C & D	N/A	N/A	N/A	246.9 LB-FT	225.1 LB	615.2 LB	559.8 LB
48"	48"	48"		Exp C	N/A	N/A	N/A	246.9 LB-FT	225.1 LB	653.6 LB	596.4 LB
24"	24"	24"	24"	Exp C & D	Exp C & D	Exp C & D	Exp C	246.9 LB-FT	177.3 LB	448.0 LB	445.0 LB
30"	30"	30"		Exp C & D	Exp C	N/A	N/A	246.9 LB-FT	177.3 LB	479.4 LB	472.8 LB
36"	36"	36"		Exp C & D	N/A	N/A	N/A	246.9 LB-FT	177.3 LB	510.2 LB	501.1 LB
42"	42"	42"		Exp C	N/A	N/A	N/A	246.9 LB-FT	177.3 LB	540.7 LB	529.8 LB
24"	24"	24"	30"	Exp C & D	Exp C & D	Exp C	N/A	246.9 LB-FT	147.3 LB	418.8 LB	442.5 LB
30"	30"	30"		Exp C & D	N/A	N/A	N/A	246.9 LB-FT	147.3 LB	444.9 LB	465.6 LB
36"	36"	36"		Exp C	N/A	N/A	N/A	246.9 LB-FT	147.3 LB	470.5 LB	489.1 LB
24"	24"	24"	36"	Exp C & D	Exp C	Exp C	N/A	231.0 LB-FT	118.3 LB	373.0 LB	422.4 LB
30"	30"	30"		Exp C & D	N/A	N/A	N/A	231.0 LB-FT	118.3 LB	393.9 LB	441.0 LB

GROUND MOUNT DESIGN SCHEDULE - 48" STAND DEPTH (FIXED HD STANDS ONLY): Vult= UP TO 175 MPH

A/C UNIT DIMENSIONS			STAND HEIGHT	ALLOWABLE WIND PRESSURES; "HD" STAND ONLY				LOAD TRANSFER INFORMATION FOR USE WITH HOST STRUCTURE VERIFICATION ONLY			
				CONFIG: A	CONFIG: B	CONFIG: C	CONFIG: D	MAX. BASE MOMENT (M)	MAX. BASE SHEAR (V)	MAX. BASE UPLIFT (T)	MAX. BASE GRAVITY (C)
(W)	(D)	(H)		ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2	ANCHOR TYPES: 1 OR 2				
24"	24"	24"	18"	Exp C & D	Exp C & D	Exp C & D	Exp C & D	246.9 LB-FT	265.8 LB	454.8 LB	387.0 LB
30"	30"	30"		Exp C & D	Exp C & D	Exp C & D	Exp C	246.9 LB-FT	265.8 LB	504.6 LB	417.5 LB
36"	36"	36"		Exp C & D	Exp C	Exp C	N/A	246.9 LB-FT	265.8 LB	539.7 LB	448.9 LB
42"	42"	42"		Exp C & D	N/A	N/A	N/A	246.9 LB-FT	265.8 LB	574.3 LB	480.8 LB
48"	48"	48"		Exp C	N/A	N/A	N/A	246.9 LB-FT	265.8 LB	608.6 LB	513.0 LB
24"	24"	24"	24"	Exp C & D	Exp C & D	Exp C & D	Exp C & D	246.9 LB-FT	207.4 LB	414.3 LB	384.5 LB
30"	30"	30"		Exp C & D	Exp C & D	Exp C	N/A	246.9 LB-FT	207.4 LB	442.4 LB	408.4 LB
36"	36"	36"		Exp C & D	N/A	N/A	N/A	246.9 LB-FT	207.4 LB	469.7 LB	432.9 LB
42"	42"	42"		Exp C	N/A	N/A	N/A	246.9 LB-FT	207.4 LB	496.7 LB	457.7 LB
24"	24"	24"	30"	Exp C & D	Exp C & D	Exp C & D	Exp C	245.9 LB-FT	169.8 LB	379.0 LB	382.6 LB
30"	30"	30"		Exp C & D	Exp C	N/A	N/A	245.9 LB-FT	169.8 LB	401.9 LB	402.1 LB
36"	36"	36"		Exp C & D	N/A	N/A	N/A	245.9 LB-FT	169.8 LB	424.3 LB	422.2 LB
24"	24"	24"	36"	Exp C & D	Exp C & D	Exp C	N/A	234.7 LB-FT	137.8 LB	339.1 LB	371.2 LB
30"	30"	30"		Exp C & D	N/A	N/A	N/A	234.7 LB-FT	137.8 LB	357.7 LB	387.1 LB
36"	36"	36"		Exp C	N/A	N/A	N/A	234.7 LB-FT	137.8 LB	375.9 LB	403.3 LB

DESIGN SCHEDULE NOTES:

1. WHEN USING MULTIPLE SIZES ON ONE STAND, UTILIZE MAXIMUM UNIT SIZE TO DETERMINE ALLOWABLE WIND PRESSURES FROM DESIGN SCHEDULES HEREIN.
2. REFERENCE ANCHOR SCHEDULE FOR ANCHOR TYPES LISTED HEREIN.

TABLE LEGEND:

-DENOTES VALUES NOT APPROVED FOR USE

FRANK L. BENNARDO, P.E.
PE# 0046549
08/28/2015
IF CHECKED, CERTIFYING P.E. AWEARS

FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFILED BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

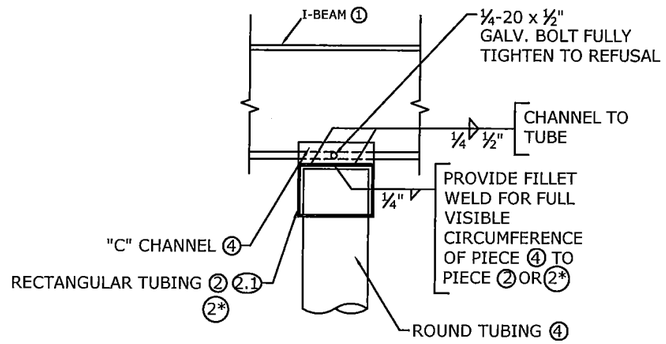
REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	05/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
-	-	-	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.
COPYRIGHT ENGINEERING EXPRESS®

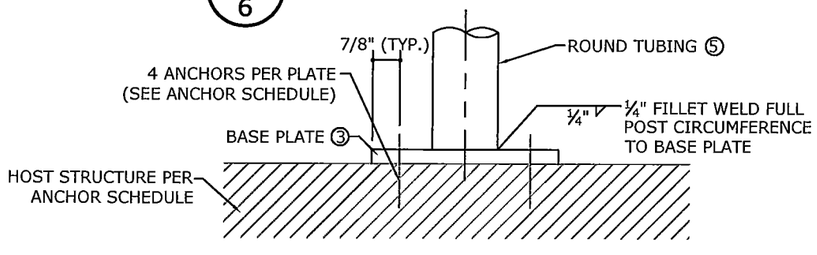
15-2480a

SCALE:

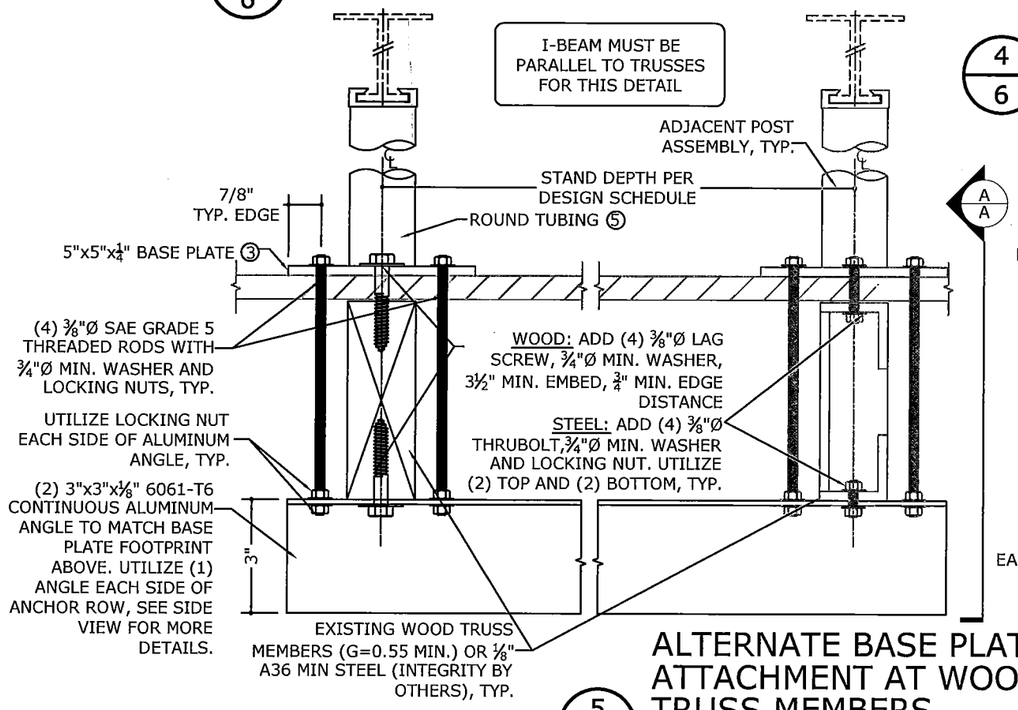
V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP\15-2480_b AC Stand FSA (HVHZ)_FLB.dwg
08/28/2015 - 12:37pm zachr

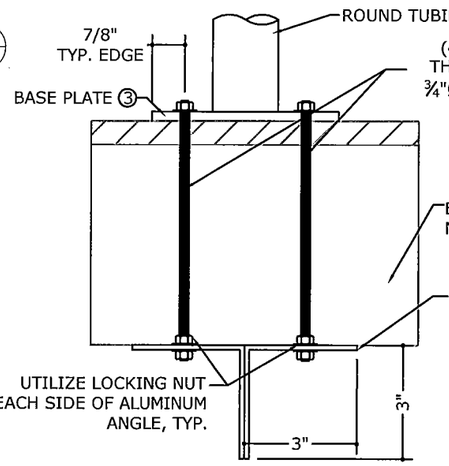


1/6 FRAME ASSEMBLY DETAIL



3/6 BASE PLATE DETAIL

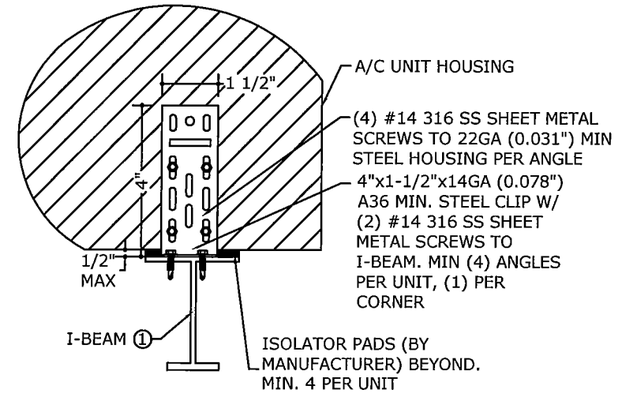




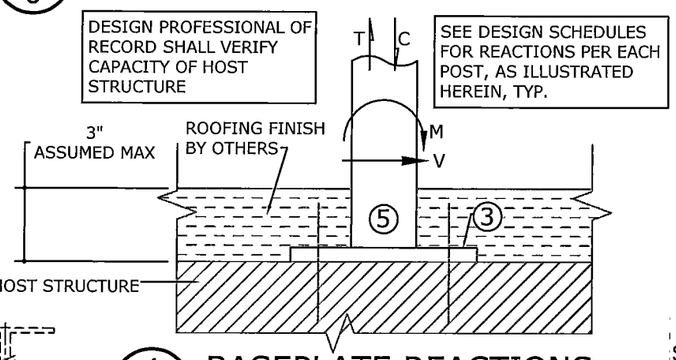
SECTION A-A (SIDE-VIEW)

5/6 ALTERNATE BASE PLATE ATTACHMENT AT WOOD/STEEL TRUSS MEMBERS

FOR USE AS AN ALTERNATE ATTACHMENT METHOD FOR ALL ANCHOR TYPES ON DESIGN SCHEDULE TABLES. SITE SPECIFIC DESIGN RECOMMENDED.



2/6 A/C UNIT TIE-DOWN DETAIL



4/6 BASEPLATE REACTIONS

FOR ILLUSTRATIVE PURPOSES ONLY

ANCHOR SCHEDULE

FOR USE WITH DETAIL 3 ON THIS SHEET ONLY

ANCHOR TYPE	HOST STRUCTURE	ANCHOR DESCRIPTION
1	CONCRETE	(4) 1/4"Ø POWERS WEDGE-BOLT CONCRETE ANCHORS WITH 5/8"Ø MIN. WASHER, 2-1/2" EMBEDMENT & 3" MIN EDGE DISTANCE, 2-1/4" SPACING PER "STD" BASE PLATE, 3-1/4" SPACING PER "HD" BASEPLATE
2	STEEL	(4) 3/8"Ø SAE GRADE 2 GALVANIZED BOLTS W/ NUT & 3/4"Ø MIN. WASHER, TO STRUCTURAL A36 STEEL MEMBERS (0.27" MIN HOST THICKNESS)
3	WOOD	USE DETAIL 5/6. USE DETAIL 3/6 FOR GROUND MOUNT ONLY WHEN APPROVED BY EOR/BUILDING OFFICIAL (SEE NOTES BELOW)
4	STEEL	(4) #14 SAE GRADE 5 SHEET METAL SCREWS WITH 5/8"Ø MIN. WASHER TO STRUCTURAL A36 STEEL MEMBERS (1/8" MIN HOST THICKNESS)

ANCHOR NOTES:

IT IS UP TO THE INSTALLER TO ENSURE THAT THE HOST STRUCTURE IS SOLID AND CREATES A FIXED CONNECTION WITH THE AC STAND IN THAT ROTATION IS STRICTLY PREVENTED. IF THIS IS AT ALL IN QUESTION, THE BUILDING OFFICIAL SHALL REQUIRE A SITE SPECIFIC EVALUATION TO ENSURE STAND STABILITY

1. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
2. ENSURE MINIMUM EDGE DISTANCE AS NOTED IN ANCHOR SCHEDULE FOR EACH ANCHOR.
3. ALL CONCRETE SUBSTRATE SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. CONCRETE SUBSTRATE THICKNESS SHALL BE GREATER THAN OR EQUAL TO 1.5xANCHOR EMBEDMENT. INSTALL CONCRETE ANCHORS TO UN-CRACKED CONCRETE ONLY.
4. MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR SCHEDULE. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES ROOFING FINISHES.

FRANK L. BENNARDO, P.E.
PE# 0046549
08/28/2015
IF CHECKED, CERTIFYING P.E. HAS NOT SEALED

FRANK L. BENNARDO LICENSE No. 46549 STATE OF FLORIDA PROFESSIONAL ENGINEER

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

PRECISION ALUMINUM PRODUCTS
1339 SW 1ST WAY
DEERFILED BEACH, FL 33441
PH: (954) 480-6919

ALUMINUM A/C STANDS
HVHZ & NON-HVHZ APPLICATIONS
FBC 5TH EDITION (2014) PRODUCT APPROVAL #FL16921

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	TSB	FLB	07/08/09
REV 2010 FBC	CSL	TSB	05/11/12
REV FBC 5TH (2014)	CSL	CSL	06/15/15
EASE OF USE REVIEW	FLB	FLB	8/25/15
-	-	-	-

THIS DOCUMENT IS THE PROPERTY OF ENGINEERING EXPRESS, AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF ENGINEERING EXPRESS. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.
COPYRIGHT ENGINEERING EXPRESS©

15-2480a

SCALE:

6 OF 6

08/28/2015 - 12:37pm zachr V:\Projects\15-2480 Aluminum AC Stand - FSA - Update FL16921 for 2014 Florida Bldg Code-Project\WP15-2480_b AC Stand FSA (HVHZ)_FLB.dwg