

# EPS FOAM CORE ROOF PANELS

## ALUMINUM / ALUMINUM SKIN

### MAXIMUM ALLOWABLE CLEAR SPAN TABLES (OPEN OR SCREEN-WALLED ROOMS SEE DEFLECTION NOTES)

Live Load &/or Uplift	Deflection Limit	3" Panels		4" Panels		6" Panels	
		0.024" Alum Skin	0.032" Alum Skin	0.024" Alum Skin	0.032" Alum Skin	0.024" Alum Skin	0.032" Alum Skin
		1-lb EPS					
10 psf	L / 120	14'-0"	16'-3"	19'-0"	19'-0"	23'-2"	23'-9"
12 psf	L / 120	13'-2"	15'-3"	17'-12"	17'-11"	21'-9"	22'-5"
14 psf	L / 120	12'-7"	14'-6"	17'-1"	17'-0"	20'-8"	21'-3"
16 psf	L / 120	11'-11"	13'-10"	16'-4"	16'-3"	19'-10"	20'-4"
18 psf	L / 120	11'-6"	13'-4"	15'-8"	15'-8"	19'-0"	19'-7"
20 psf	L / 120	11'-2"	12'-10"	15'-2"	15'-1"	18'-4"	18'-11"
24 psf	L / 120	10'-6"	12'-1"	14'-3"	14'-3"	17'-3"	17'-5"
28 psf	L / 120	9'-11"	11'-6"	13'-5"	13'-6"	16'-5"	16'-2"
32 psf	L / 120	9'-3"	11'-0"	12'-6"	12'-7"	15'-5"	15'-1"

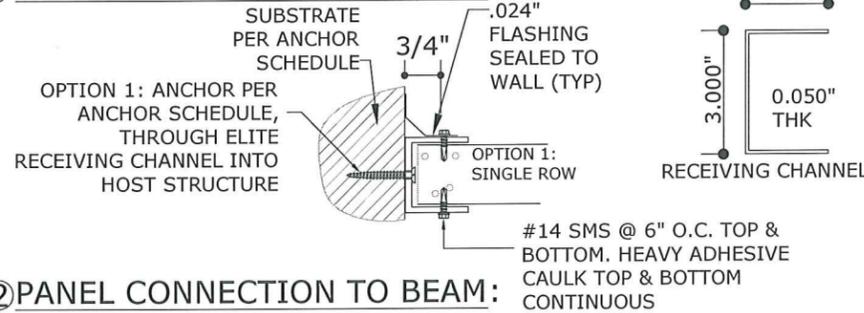
### MAXIMUM ALLOWABLE CLEAR SPAN TABLES (ENCLOSED ROOMS WITH PLASTER/NONPLASTER CEILING SEE DEFLECTION NOTES)

Live Load &/or Uplift	Deflection Limit	3" Panels		4" Panels		6" Panels	
		0.024" Alum Skin	0.032" Alum Skin	0.024" Alum Skin	0.032" Alum Skin	0.024" Alum Skin	0.032" Alum Skin
		1-lb EPS					
15 psf	L / 180	10'-9"	12'-5"	14'-7"	14'-6"	17'-8"	18'-2"
	L / 240	9'-9"	11'-3"	13'-3"	13'-2"	16'-1"	16'-6"
17 psf	L / 180	10'-3"	11'-10"	13'-12"	13'-11"	16'-11"	17'-5"
	L / 240	9'-4"	10'-9"	12'-8"	12'-8"	15'-5"	15'-10"
20 psf	L / 180	9'-9"	11'-3"	13'-3"	13'-2"	16'-1"	16'-6"
	L / 240	8'-10"	10'-3"	12'-0"	11'-12"	14'-7"	14'-12"
24 psf	L / 180	9'-2"	10'-7"	12'-5"	12'-5"	15'-1"	15'-6"
	L / 240	8'-4"	9'-7"	11'-4"	11'-3"	13'-9"	14'-1"
28 psf	L / 180	8'-8"	10'-1"	11'-10"	11'-10"	14'-4"	14'-9"
	L / 240	7'-11"	9'-2"	10'-9"	10'-9"	13'-0"	13'-5"
30 psf	L / 180	8'-6"	9'-10"	11'-7"	11'-6"	14'-0"	14'-5"
	L / 240	7'-9"	8'-11"	10'-6"	10'-6"	12'-9"	13'-1"
32 psf	L / 180	8'-4"	9'-7"	11'-4"	11'-3"	13'-9"	14'-1"
	L / 240	7'-7"	8'-9"	10'-3"	10'-3"	12'-6"	12'-10"
34 psf	L / 180	8'-2"	9'-5"	11'-1"	11'-1"	13'-5"	13'-10"
	L / 240	7'-5"	8'-7"	10'-1"	10'-1"	12'-3"	12'-7"
37 psf	L / 180	7'-11"	9'-2"	10'-9"	10'-9"	13'-1"	13'-5"
	L / 240	7'-2"	8'-4"	9'-10"	9'-9"	11'-11"	12'-2"
40 psf	L / 180	7'-9"	8'-11"	10'-6"	10'-6"	12'-9"	13'-1"
	L / 240	7'-0"	8'-1"	9'-7"	9'-6"	11'-7"	11'-11"
44 psf	L / 180	7'-6"	8'-8"	10'-2"	10'-2"	12'-4"	12'-8"
	L / 240	6'-10"	7'-10"	9'-3"	9'-3"	11'-3"	11'-6"
48 psf	L / 180	7'-3"	8'-5"	9'-11"	9'-10"	11'-12"	12'-4"
	L / 240	6'-7"	7'-8"	8'-12"	8'-11"	10'-11"	11'-2"
52 psf	L / 180	7'-1"	8'-2"	9'-7"	9'-7"	11'-8"	11'-10"
	L / 240	6'-5"	7'-5"	8'-9"	8'-9"	10'-7"	10'-11"
56 psf	L / 180	6'-11"	7'-12"	9'-5"	9'-4"	11'-5"	11'-5"
	L / 240	6'-3"	7'-3"	8'-6"	8'-6"	10'-4"	10'-8"
60 psf	L / 180	6'-9"	7'-10"	9'-2"	9'-2"	11'-2"	11'-0"
	L / 240	6'-2"	7'-1"	8'-4"	8'-4"	10'-1"	10'-5"

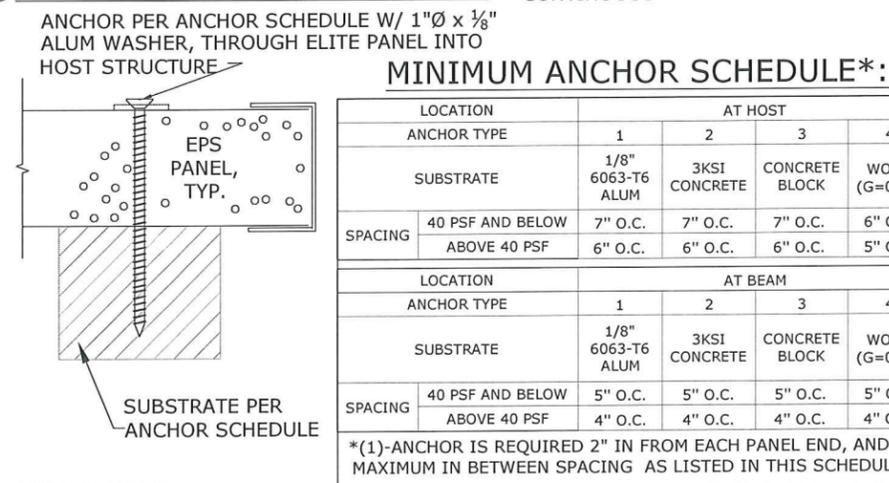
### GENERAL NOTES

1. THIS SYSTEM HAS BEEN TESTED AND EVALUATED IN ACCORDANCE WITH THE 2006 & 2009 INTERNATIONAL BUILDING CODE AND INTERNATIONAL RESIDENTIAL CODE WITH LATEST APPLICABLE TEXAS REVISIONS.
2. SITE-SPECIFIC REQUIRED DESIGN PRESSURES SHALL BE CALCULATED BY A LICENSED PROFESSIONAL ENGINEER FOR USE WITH THIS DOCUMENT. INSTALLATIONS IN SEAWARD ZONES SHALL BE DESIGNED FOR 130MPH (3-SECOND GUST) EXPOSURE C, INLAND I ZONES SHALL BE DESIGNED FOR 120 MPH (3-SECOND GUST) EXPOSURE C, AND INLAND II ZONES SHALL BE DESIGNED FOR 110MPH (3-SECOND GUST) EXPOSURE C WITH APPLICABLE ADJUSTMENT FACTORS INCLUDING, BUT NOT LIMITED TO, IMPORTANCE FACTOR, TOPOGRAPHIC FACTOR, ETC PER CURRENT ADOPTED EDITION OF ASCE7.
3. ROOF PANELS ARE VALID FOR USE IN OUTDOOR PATIO CONSTRUCTION ONLY.
4. LARGE & SMALL MISSILE IMPACT RESISTANCE HAS NOT BEEN DEMONSTRATED OR EVALUATED.
5. COMPOSITE ROOF PANELS COMPLY WITH CHAPTER 7 SECTION 719, CHAPTER 8 SECTION 803, CLASS A INTERIOR FINISH, AND CHAPTER 26 SECTION 2603 OF THE INTERNATIONAL BUILDING/RESIDENTIAL CODE.
6. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY. DESIGN CRITERIA BEYOND AS STATED HEREIN MAY REQUIRE ADDITIONAL SITE-SPECIFIC SEALED ENGINEERING.
7. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. WIND LOAD DURATION FACTOR  $C_d = 1.6$  WAS USED FOR WOOD SCREW DESIGN.
8. THESE PRODUCT EVALUATION DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SYSTEM. THESE PRODUCT EVALUATION DOCUMENTS ARE INTENDED FOR USE ONLY BY A LICENSED CONTRACTOR, PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT AND ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE SPECIFICATIONS DETAILED HEREIN. ONSITE DESIGN PROFESSIONAL SHALL VERIFY EXISTING STRUCTURE CAN WITHSTAND SUPERIMPOSED LOADS.
9. WHEN THE SITE CONDITIONS DEVIATE FROM THESE PRODUCT EVALUATION DOCUMENTS THE BUILDING OFFICIAL MAY REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION. SAID DOCUMENTS SHALL BE SUBMITTED TO THE PRODUCT ENGINEER FOR REVIEW AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
10. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N.
11. ALL BOLTS AND WASHERS (EXCLUDING INSTALLATION) SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I., U.O.N.
12. THE CONTRACTOR SHALL CAREFULLY CONSIDER POSSIBLE IMPOSING LOADS ON ROOF, INCLUDING BUT NOT LIMITED TO ANY CONCENTRATED LOADS WHICH MAY JUSTIFY GREATER DESIGN CRITERIA. THIS ADDITIONAL ROOF LOAD CRITERIA SHALL BE PROPERLY ANALYZED BY A PROFESSIONAL ENGINEER.
13. EPS CORE COMPOSITE PANELS SHALL BE CONSTRUCTED USING TYPE 3105-H154 ALUMINUM FACINGS. EXPANDED POLYSTYRENE FOAM SHALL HAVE TYPICAL DENSITY OF 1.0 PCF AND SHALL BE MANUFACTURED BY DYPLAST PRODUCTS, LLC. THE EPS FOAM SHALL BE ADHERED TO THE ALUMINUM FACINGS WITH ISOGRIP SP 2020 ADHESIVE (BY ASHLAND SPECIALTY). FABRICATION SHALL BE IN ACCORDANCE WITH APPROVED FABRICATION METHODS BY MANUFACTURER FOR ALL PANELS.
14. ENGINEER'S SEAL AFFIXED HERETO VALIDATES DESIGN OF SPAN CHART VALUES AS SHOWN ONLY. USE OF THIS SPECIFICATION BY ELITE, et al. INDEMNIFIES AND SAVES HARMLESS THIS ENGINEER FOR ALL COSTS AND DAMAGES INCLUDING LEGAL FEES AND APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, AND CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, AND FEDERAL CODES AND FROM DEVIATIONS OF THIS DETAIL.
15. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.

### 1 PANEL CONNECTION TO HOST:



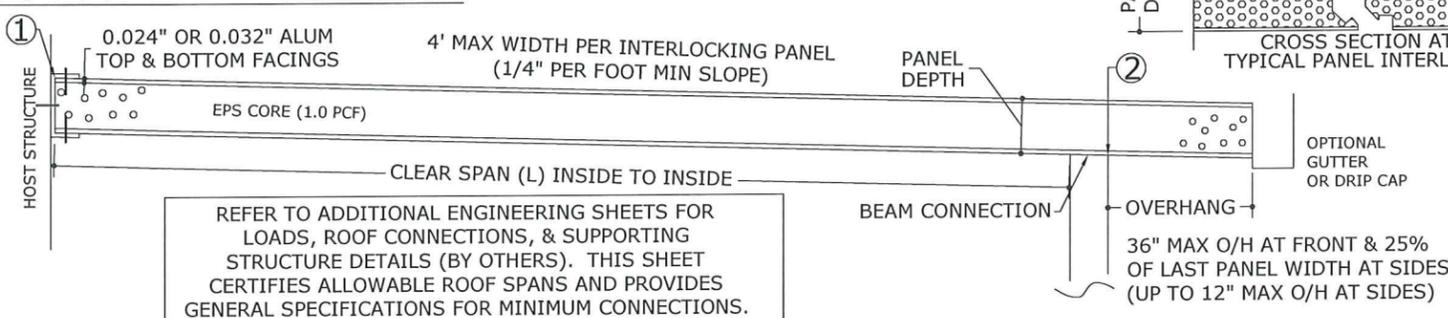
### 2 PANEL CONNECTION TO BEAM:



### ANCHOR TYPES:

1. #14 SMS INTO 1/8" 6063-T6 ALUM W/ 1/2" EDGE DISTANCE.
2. 1/4" Ø ITW TAPCON W/ 2-1/2" EDGE DISTANCE, 1-3/4" EMBED INTO 3KSI CONCRETE
3. 1/4" Ø ITW TAPCON W/ 2-1/2" EDGE DISTANCE, 1-1/4" EMBED INTO HOLLOW BLOCK.
4. 1/4" Ø SAE GRADE 5 LAG SCREW W/ 1-1/2" EMBED INTO G=0.55 SYP#2 WOOD, 3/4" EDGE DISTANCE.

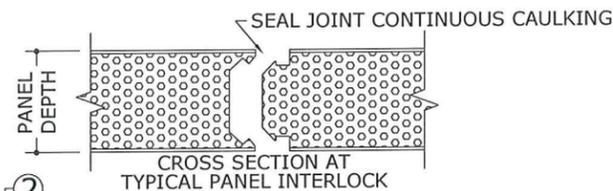
### EPS ROOF PANEL SPAN DETAIL:



### TABLE USE INSTRUCTIONS

- 1) CHOOSE TYPE OF ENCLOSURE TO BE COVERED (OPEN OR SCREENED WALLS, FULLY ENCLOSED).
- 2) VERIFY APPROPRIATE DESIGN LOAD WITH GOVERNING MUNICIPALITY AND BUILDING CODES IN EFFECT FOR THE PROJECT LOCATION USING 2006 OR 2009 INTERNATIONAL BUILDING CODE. SEPARATE ENGINEERING MAY BE REQUIRED FOR DESIGN LOADS.
- 3) FIND ALLOWABLE COMPOSITE PANEL CLEAR SPAN IN TABLES FOR APPROPRIATE PANEL DEPTH, FACING THICKNESS, AND EPS CORE DENSITY SELECTED.
- 4) DETERMINE SUBSTRATE, ANCHOR TYPE, AND SELECT SPACING FOR HOST AND BEAM CONNECTIONS.

### EPS ROOF PANEL CONNECTION:



### OTHER CONSIDERATIONS:

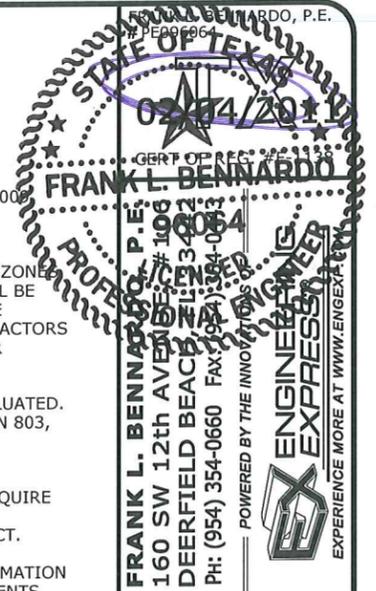
- 1) FRONT OVERHANG MAY BE UP TO 3'-0" WITH VALUES ABOVE. MAXIMUM UNSUPPORTED SIDE OVERHANG IS 25% OF LAST PANEL WIDTH (i.e. 12" MAX FOR 48" PANEL WIDTH).
- 2) ROOF PITCH SHALL BE 1/4" PER FOOT MIN, 3" PER FOOT MAX.
- 3) SEPARATE 'SITE-SPECIFIC' SEALED ENGINEERING SHALL BE REQUIRED IN ORDER TO DEVIATE FROM LOADS, DEFLECTIONS, OR SPANS CONTAINED HEREIN. LINEAR INTERPOLATION OF THE TABLE IS NOT PERMITTED. CONTACT THIS ENGINEER FOR ALTERNATE SPAN CALCULATIONS AS MAY BE REQUIRED.

### DEFLECTION NOTES

- 1) USE L/120 FOR ALL MEMBERS SUPPORTING ROOFS OVER AN OPEN OR SCREEN-WALLED ROOM.
- 2) USE L/180 FOR ALL MEMBERS SUPPORTING ROOFS WITH A NON-PLASTERED CEILING OVER AN ENCLOSED ROOM.
- 3) USE L/240 FOR ALL MEMBERS SUPPORTING ROOFS WITH A PLASTERED CEILING OVER AN ENCLOSED ROOM, PER IBC/IRC TABLE 1604.3.

### TABLE VALUE DERIVATIONS:

- PANEL PROPERTIES:
- 1) PANEL STRUCTURAL PROPERTIES DERIVED FROM CERTIFIED TEST REPORTS Nos. HETI-05-1985, -05-1987, -05-1988, -05-1989, -05-1990, -05-1991, -05-1992, -05-1993, -05-1994, -05-1995, -05-1996, -05-1997, -06-2066, -06-2067, -06-2068, -06-2069, -06-2070, -06-2071, -06-2072, -06-2073, & -06-2074 BY HURRICANE ENGINEERING & TESTING, Inc.
  - 2) PANEL DEAD LOADS HAVE BEEN FACTORED INTO CALCULATIONS FOR GRAVITY LOADS AS WELL AS CALCULATIONS FOR PANEL PROPERTIES.



ELITE ALUMINUM CORPORATION  
4650 LYONS TECHNOLOGY PARKWAY  
COCONUT CREEK, FL 33073

ELITE CORPORATION  
Building Innovation Panel Products

EPS FOAM CORE COMPOSITE ROOF PANELS  
ALUMINUM / ALUMINUM SKIN  
TEXAS DEPT OF INSURANCE APPROVAL

DRWN	CHKD	DATE
TSB <td>KEL</td> <td>01-25-11</td>	KEL	01-25-11

REMARKS: INIT ISSUE

THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF FRANK L. BENNARDO, P.E. ALTERATIONS, ADDITIONS, HIGHLIGHTING OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED WITHOUT HIS WRITTEN CONSENT.

COPYRIGHT FRANK L. BENNARDO P.E.

11-EAC-0001

SCALE: N.T.S. 01

PAGE DESCRIPTION: