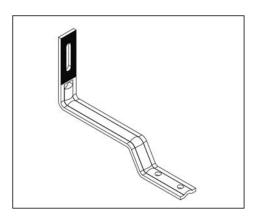
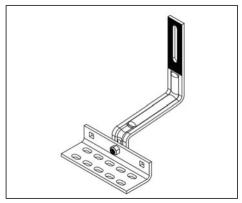
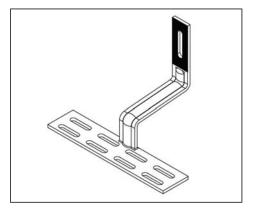
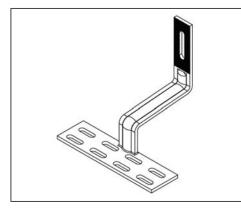


INSTALLATION GUIDE









SOLARHOOK FLAT TILE 004AT1H

SOLARHOOK UNIVERSAL W/ ADJUSTABLE BASE 004CT5H

SOLARHOOK SPANISH 7" FIXED BASE 004CT1H

SOLARHOOK SPANISH 9" FIXED BASE 004CT2H

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Universal Hook Installation	3
Flat Tile Hook Installation	4
Spanish Hook Installation	5
Sub Flashing	6
Design Rules	7
Pressure Tables	8-13



ROOF HOOK CAPACITIES AND ENGINEERING

Refer to engineering report tables for tested allowable loads. Refer to local AHJ to determine the correct code (ASCE 7-05, 7-10 or 7-16) and environmental loads. It is the responsibility of the installer to ensure these mounting attachments are appropriate for the application. Please contact your 3rd party engineer for more information.

ENGINEERING GUIDE LIMITATIONS

- · Flush roof installations only
- Roof slope must be 0-45 degrees (0/12 12/12 pitch)
- Surrounding ground area must not slope more than 10 degrees
- · Location must fall into Exposure Category B or C

Please refer to the Solarmount Installation Manual for proper installation of the Solarmount system. SOLARHOOKS are intended to replace L-feet in the system and the rail connection should be torqued to the appropriate Lfoot to rail torque specification from the Solarmount manual.

Please refer to www.unirac.com in the Technical Support section for the Solarmount D&E guide which should be used in installations that do not comply with the limitations above.

Follow all local and OSHA safety guidelines when installing.

RECOMMENDED TOOLS FOR HOOK INSTALL

- Drill, Impact Driver
- 3/16" drill bit
- Sealant
- Marking crayon/ chalk
- Rafter locator

RECOMMENDED TOOLS FOR OPTIONAL 3-COURSE FLASHING

- Roof cement
- Roof repair fabric
- Margin trowel
- Scrub brush
- Scissors

FIGURE 1: Lag pull-out (withdrawal)	capacities (lbs)	in typical roof lumber (ASD)
	Specific Gravity	Lag Screw Specifications 5/16" shaft," per inch thread depth
Douglas Fir, Larch	0.50	266
Douglas Fir, South	0.46	235
Engelmann Spruce, Lodgepole Pine (MSR 1650f & higher)	0.46	235
Hem. Fir, Redwood (Close Grain)	0.43	212
Southern Pine	0.55	307
Spruce, Pine, Fir	0.42	205
Spruce, Pine, Fir (E of 2million PSI & higher grades of MSR & MEL)	0.50	266
SOURCES: AMERICAN WOOD COUNC	II NDS 2005 T	TABLE 1

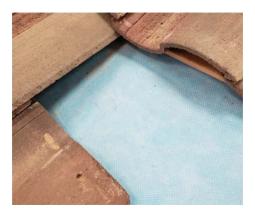
NOTES:

- (1) Thread must be embedded in the side grain of a rafter or other structural member integral with the building structure.
- (2) Lag bolts must be located in the middle third of the structural member.
- (3) This table does not include shear capacities. If necessary, contact a local engineer to specify lag bolt size with regard to shear forces.
- (4) Install lag bolts with head and washer flush to surface (no gap). Do not over torque.
- (5) Withdrawal design values for lag screw connections shall be multiplied by applicable adjustment factors if necessary. See table 10.3 in the American Wood Council NDS for Wood Construction

FIGURE 1 AND ASSOCIATED NOTES (for reference only)

Refer to latest AWC, NDS data to select a lag bolt embedment depth to satisfy your Uplift Point Load Force (lbs), requirements. It is the installer's responsibility to verify that the substructure and attachment method is strong enough to support the maximum point loads calculated.





1. Remove tiles around installation area.



2. Locate and mark rafters.



3. Position hook, adjusting arm-base bolt position as needed. Use 3/16" bit to drill 2 pilot holes.

Torque arm-base nut to 16 ft. lbs.



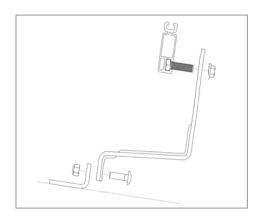
4. Remove hook, clean debris and fill pilot holes with roofing sealant



5. Reposition hook, secure with included lag screws.



6. Replace tiles, if necessary notch with grinder to ensure proper fit.



Install components as shown above.

NOTE: SOLARHOOK UNIVERSAL is compatible with all tile profiles.

Installation process is the same for all profiles.





1. Remove tiles around installation area.



2. Locate and mark rafters.



3. Position hook. Use 3/16" bit to drill 2 pilot holes.



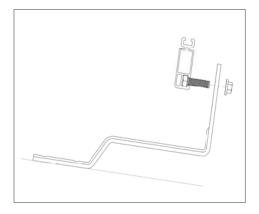
4. Remove hook, clean debris, then fill pilot holes and rib on back of hook with roofing sealant.



5. Reposition hook, secure with included lag screws.



6. Replace tiles, if necessary notch with grinder to ensure proper fit.



Install components as shown above.

RECOMMENDED TOOLS Drill, Impact Driver 3/16" drill bit Sealant Marking crayon/ chalk Rafter locator





1. Remove tiles around installation area.



2. Locate and mark rafters.



3. Position hook. Use 3/16" bit to drill 2 pilot holes.



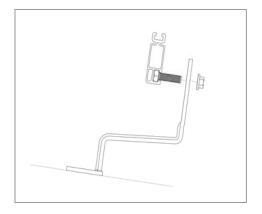
4. Remove hook, clean debris and fill pilot holes with roofing sealant



5. Reposition hook, secure with included lag screws.



6. Replace tiles, if necessary notch with grinder to ensure proper fit.



Install components as shown above.

NOTE: SOLARHOOK SPANISH CT1 and CT2 are compatible with W and S tile profiles.

Installation process is the same for both tile profiles and hook models.





1. Clean underlay.



2. Using Margin Trowel, apply base coat of roofing cement.



3. Cut roof repair fabric size, lay into roofing cement.



4. Apply top coat of roof cement

NOTE: 3-Course flashing is not required, but may be applied when required by AHJ or when additional protection is desired.

These images show the 3-Course method applied to a replacement tile mount. The process is the same for Solarhooks, with the roof cement being applied over the base.



ASSUMPTIONS AND USE DETAILS

- Pressure limits refer to Up, Down, Downslope, and Lateral PSF
- Pressure limits apply to all roof zones
- Solarhooks not recommended for use in hurricane zones
- See pressure table appendix for representative geographic pressures or refer to Unirac Pressure Tables for Flush Mounted Systems on unirac.com
- Allowable Loads:

HOOK TYPE	UP/DOWN	DOWNSLOPE	LATERAL
AT1	218	120	210
CT5	270	93	39
CT1	270	120	210
CT2	228	120	210

PRESSURE LIMIT MODIFICATION GUIDELINES

- Portrait Module HeightLandscape Module Width39.4 inches
- Pressure limits provided above were calculated utilizing a B module size of 39.4in wide x 65in long
- These pressure limits may be increased or decreased linearly.
- To modify pressure limits provided, follow these simple steps:
 - 1. For portrait modules, multiply the given pressure limit by (65" / New Module Length)
 - 2. For landscape modules, multiply the given pressure limit by (39.5" / New Module Width)

			AT1 Allowable	Pressure (psf)		
	Up/	Down	Down	Slope	Late	eral
Allowable Spans (in.)	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules
72	13.4	22.1	12.2	12.2	12.9	21.3
60	16.1	26.6	8.9	14.6	15.5	25.6
48	20.1	33.2	11.1	18.3	19.4	32.0
36	26.8	44.3	14.8	24.4	25.8	42.6
24	40.2	66.4	22.2	36.5	38.8	64.0
12	80.5	132.8	44.3	73.1	77.5	127.9

			CT1 Allowable	Pressure (psf)		
	Up / I	Down	Down	Slope	Late	eral
Allowable Spans (in.)	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules
72	16.6	27.4	7.4	12.2	12.9	21.3
60	19.9	32.9	8.9	14.6	15.5	25.6
48	24.9	41.1	11.1	18.3	19.4	32.0
36	33.2	54.8	14.8	24.4	25.8	42.6
24	49.8	82.2	22.2	36.5	38.8	64.0
12	99.7	164.5	44.3	73.1	77.5	127.9

			CT2 Allowable	Pressure (psf)		
	Up/	Down	Down	Slope	Late	eral
Allowable Spans (in.)	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules
72	14.0	23.1	7.4	12.2	12.9	21.3
60	16.8	27.8	8.9	14.6	15.5	25.6
48	21.0	34.7	11.1	18.3	19.4	32.0
36	28.1	46.3	14.8	24.4	25.8	42.6
24	42.1	69.4	22.2	36.5	38.8	64.0
12	84.2	138.9	44.3	73.1	77.5	127.9

			CT5 Allowable	Pressure (psf)		
	Up/	Down	Dowr	Slope	Late	eral
Allowable Spans (in.)	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules	Portrait Modules	Landscape Modules
72	16.6	27.4	5.7	9.4	2.4	4.0
60	19.9	32.9	6.9	11.3	2.9	4.8
48	24.9	41.1	8.6	14.2	3.6	5.9
36	33.2	54.8	11.4	18.9	4.8	7.9
24	49.8	82.2	17.2	28.3	7.2	11.9
12	99.7	164.5	34.3	56.6	14.4	23.8



PRESSURE TABLES: 8

INSTALLATION	GUIDE	PA

		Bldg. Height =	= 15	ft.	D S	Bidg. Height = 30 ft.	UC = 10	Down ford	5 5	In Deacement Inch	2	Downford
Roof Pitch	Zone1	Zone 2 Z	Zone 3	Down (psi)	Zone 1	Zone 2 Z	Zone 3	Down (psr)	Zone 1	Zone 2 Z	Zone3	rown (ps
1:12	-9.7	-18.5	-29.5	15.1	-9.7	-18.5	-29.5	15.1	-12.1	-22.8	-36.1	15.1
2:12		-17.4	-27.3		-8.7		-27.3	14.7	-10.8	-21.5	-33.5	14.7
3:12	ļ.	-17.5	-27.4	14.3	-8.8	-17.5	-27.4	14.3	-10.8	-21.5	-33.5	14.3
4:12	-8.8	-17.5	-27.4	13.6	8.8	-17.5	-27.4	13.6	-10.8	-21.5	-33.5	13.6
5:12	-8.8	-17.5	-27.4	13.6	8.8	-17.5	-27.4	13.6	-10.8	-21.5	-33.6	13.6
6:12		-17.6	-27.5	13.4	6.8-	-17.6	-27.5	13.4	-10.9	-21.6	-33.6	13.4
7:12	6-6-	-12.1	-12.1	13.3	6.6-	-12.1	-12.1	13.3	-12.3	-14.9	-14.9	15.4
8:12		-12.1	-12.1	13.2	6.6-	-12.1	-12.1	13.2	-12.3	-15.0	-15.0	15.2
9:12	Ľ	-12.2	-12.2	13.1	-10.0	-12.2	-12.2	13.1	-12.3	-15.0	-15.0	15.1
10:12	2 -10.0	-12.2	-12.2	13.0	-10.0	-12.2	-12.2	13.0	-12.4	-15.0	-15.0	15.0
11:12	2 -10.1	-12.3	-12.3	12.8	-10.1	-12.3	-12.3	12.8	-12.4	-15.1	-15.1	14.9
12:12		H	-12.3	12.7	-10.1	-12.3	-12.3	12.7	-12.5	-15.1	-15.1	14.7
;	Н	Н	26.4	7 11 7	, ,	300	5	, 1	100	700	40 5	į
71:17	+	+	T-00-	1.61	1.4.1	5.02	F.141	1.61	COT-	-30.7	0.04	1.61
2:12		+	-33.5	14.7	-12.6	-24.9	-38.8	14.7	-14.7	-28.9	44.9	14.7
3:12	+	+	-33.5	14.3	-12.6	-24.9	-38.8	14.3	-14.7	-29.0	44.9	14.3
4:12		-	-33.5	13.6	-12.6	-25.0	-38.8	13.6	-14.8	-29.0	-45.0	13.6
5:12	-10.8	-21.5	-33.6	13.6	-12.7	-25.0	-38.9	13.6	-14.8	-29.0	-45.0	13.6
6:12	-10.9	-21.6	-33.6	13.4	-12.7	-25.0	-38.9	13.4	-14.8	-29.1	-45.0	13.4
7:12	+	\dashv	-14.9	15.4	-14.3	-17.4	-17.4	17.2	-16.7	-20.2	-20.2	19.3
8:12	-12.3	-15.0	-15.0	15.2	-14.3	-17.4	-17.4	17.1	-16.7	-20.2	-20.2	19.2
9:12	-12.3	-15.0	-15.0	15.1	-14.4	-17.5	-17.5	16.9	-16.7	-20.3	-20.3	19.1
10:12	2 -12.4	-15.0	-15.0	15.0	-14.4	-17.5	-17.5	16.8	-16.8	-20.3	-20.3	18.9
11:12	2 -12.4	-15.1	-15.1	14.9	-14.5	-17.5	-17.5	16.7	-16.8	-20.4	-20.4	18.8
12:12	2 -12.5	-15.1	-15.1	14.7	-14.5	-17.6	-17.6	16.6	-16.9	-20.4	-20.4	18.7
1:12	-14.9	-27.9	-44.1	15.1	-17.0	-31.5	-49.8	15.1	-19.3	-35.8	-56.4	15.1
2:12	-13.3	-26.3	-40.8	14.7	-15.1	-29.7	-46.1	14.7	-17.3	-33.7	-52.3	14.9
3:12	-13.3	-26.3	-40.9	14.3	-15.2	-29.8	-46.2	14.3	-17.3	-33.8	-52.3	14.5
4:12	-13.4		-40.9	13.6	-15.2	-29.8	-46.2	13.6	-17.3	-33.8	-52.3	13.9
5:12	-13.4	-26.3	-40.9	13.6	-15.2	-29.8	-46.2	13.6	-17.4	-33.8	-52.4	13.8
6:12	-13.4	-26.4	-41.0	13.4	-15.3	-29.9	-46.3	13.4	-17.4	-33.9	-52.4	13.7
7:12	+	-18.3	-18.3	17.9	-17.1	-20.8	-20.8	19.7	-19.5	-23.6	-23.6	21.9
8:12	-15.1	-18.4	-18.4	17.8	-17.2	-20.8	-20.8	19.6	-19.5	-23.6	-23.6	21.7
9:12	-	-	-18.4	17.7	-17.2	-20.9	-20.9	19.5	-19.6	-23.7	-23.7	21.6
10:12			-18.4	17.5	-17.3	-20.9	-20.9	19.4	-19.6	-23.7	-23.7	21.5
11:12	-15	-	-18.5	17.4	-17.3	-20.9	-20.9	19.2	-19.6	-23.8	-23.8	21.4
12:12	2 -15.3	-18.5	-18.5	17.3	-17.3	-21.0	-21.0	19.1	-19.7	-23.8	-23.8	21.3
Roof Pitch	Ss =	SS	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25		Ss = 2.0	Ss = 2.5	Ss = 3.1
1:12		0.8	1.0	1.1	1.3	1.4	1.9					8. 6
2:12		1.4	1.6	1.7	1.9	2.0	2.4	5.6	5.9	3.6	4.3	5.2
3:12		1.9	2.0	2.2	2.4	2.5	2.9	3.1	3.4	3.9	4.6	2.5
4:12	2.0	2.0	2.2	2.4	2.5	2.6	3.1	3.2	3.5	4.2	6.9	× ×
6.17	, ,		2.2	2.0	2.1	2.2	2,6		0.0	4.4		0.0
7:12		2.9	3.0	3.1	3.3	3.4	3.8	4.0	4.2	4.8		6.3
8:12		3.0	3.1	3.3	3.4	3.5	4.0	4.1	4.4	4.9		6.5
9:12	w.		3.3		3.6	3.7	4.1	4.2	4.5	5.0	5.7	6.5
10:12	2 3.3	3.3	3.4	3.5	3.7	3.8	4.2	4.3	4.6	5.1	5.8	9.9
11:12		3.3	3.5	3.6	3.7	3.8	4.2	4.4	4.6	5.2	5.9	9.9
12:12	3.4	3.4	3.5	3.7	3.8	3.9	4.3	4.4	4.7	5.3	5.9	6.7
	Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	5s = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1
	0.0	0.2	0.5	0.7	6.0	1.0	1.6	1.8	2.2	2.9	3.6	4.5

California*

ASCE

85 mph

Basic Wind Speed

5 psf Ground Snow Load

* This table is not inclusive of all areas within the state or region. The local wind speeds and snow loads should be independantly verifed for the specific install location.



PRESSURE TABLES | 9 INSTALLATION GUIDE | PAGE

		ă :	ug. uci	Bidg. Heignt = 15 rt.						***			
	Roof Pitch	Zone 1	Up Pressures (psr)	Zone 3	Down (psr)	Zone 1	Up Pressures (psr)	Zone 3	Down (psr)	Zone 1	Up Pressures (psr)	Zone 3	Down (pst
	1:12	-11.1	-20.9	-33.3	15.1	-11.1	-20.9	-33.3	15.1	-13.7	-25.7	40.7	15.1
	2:12	8.6-	-19.7	-30.8	14.7	8.6-	-19.7	-30.8	14.7	-12.2	-24.2	-37.7	14.7
	3:12	6.6-	-19.7	-30.8	14.3	6.6-	-19.7	-30.8	14.3	-12.2	-24.2	-37.7	14.3
	4:12	6.6-	-19.8	-30.9	13.6	6.6-	-19.8	-30.9	13.6	-12.3	-24.3	-37.7	13.6
	5:12	6.6-	-19.8	-30.9	13.6	6.6-	-19.8	-30.9	13.6	-12.3	-24.3	-37.8	13.6
	6:12	-10.0	-19.8	-30.9	13.4	-10.0	-19.8	-30.9	13.4	-12.3	-24.3	-37.8	13.4
	7:12	-11.2	-13.7	-13.7	14.4	-11.2	-13.7	-13.7	14.4	-13.9	-16.9	-16.9	16.8
	8:12	-11.3	-13.7	-13.7	14.3	-11.3	-13.7	-13.7	14.3	-13.9	-16.9	-16.9	16.7
	9:12	-11.3	-13.8	-13.8	14.2	-11.3	-13.8	-13.8	14.2	-14.0	-17.0	-17.0	16.6
	10:12	-11.4	-13.8	-13.8	14.1	-11.4	-13.8	-13.8	14.1	-14.0	-17.0	-17.0	16.4
	11:12	-11.4	-13.9	-13.9	13.9	-11.4	-13.9	-13.9	13.9	-14.0	-17.0	-17.0	16.3
	12:12	-11.4	-13.9	-13.9	13.8		-13.9	-13.9	13.8	-14.1	-17.1	-17.1	16.2
Į.	4		1		;	0,0	0			00,	9	:	
	1:12	-13./	-72.7	40.7	15.1	-16.0	20.6	-4/.I	15.1	-18.6	-34.6	-54.5 1.01	15.1
	2:12	-12.2	-24.2	-37.7	14.7	-14.3	-28.1	-43.6	14.7	-16.7	-32.6	-50.5	14.7
	3:12	-12.2	-24.2	-37.7	14.3	-14.3	-28.1	-43.7	14.3	-16.7	-32.6	-50.5	14.3
	4:12	-12.3	-24.3	-37.7	13.6	-14.3	-28.1	-43.7	13.6	-16.7	-32.6	-50.6	13.6
	5:12	-12.3	-24.3	-37.8	13.6	-14.4	-28.2	-43.7	13.6	-16.7	-32.7	-50.6	13.6
	6:12	-12.3	-24.3	-37.8	13.4	-14.4	-28.2	-43.8	13.4	-16.8	-32.7	-50.6	13.4
	7:12	-13.9	-16.9	-16.9	16.8	-16.2	-19.6	-19.6	18.9	-18.8	-22.8	-22.8	21.2
	8:12	-13.9	-16.9	-16.9	16.7	-16.2	-19.7	-19.7	18.7	-18.8	-22.8	-22.8	21.1
	9:12	-14.0	-17.0	-17.0	16.6	-16.2	-19.7	-19.7	18.6	-18.9	-22.9	-22.9	21.0
	10:12	-14.0	-17.0	-17.0	16.4	-16.3	-19.7	-19.7	18.5	-18.9	-22.9	-22.9	20.9
	11:12	-14.0	-17.0	-17.0	16.3	-16.3	-19.8	-19.8	18.4	-19.0	-23.0	-23.0	20.8
	12:12	-14.1	-17.1	-17.1	16.2	-16.4	-19.8	-19.8	18.3	-19.0	-23.0	-23.0	20.6
	1:12	-16.9	-31.4	-49.6	15.1	-19.2	-35.5	-56.0	15.1	-21.8	-40.3	-63.4	15.1
	2:12	-15.1	-29.6	-45.9	14.7	-17.1	-33.5	-51.9	14.9	-19.5	-38.0	-58.8	15.9
	3:12	-15.1	-29.6	-46.0	14.3	-17.2	-33.5	-51.9	14.4	-19.5	-38.0	-58.8	15.4
	4:12	-15.1	-29.6	-46.0	13.6	-17.2	-33.5	-51.9	13.9	-19.6	-38.0	-58.8	15.2
	5:12	-15.2	-29.7	-46.0	13.6	-17.2	-33.6	-52.0	13.8	-19.6	-38.1	-58.8	15.1
	6:12	-15.2	-29.7	-46.1	13.4	-17.3	-33.6	-52.0	13.7	-19.6	-38.1	-58.9	15.0
	7:12	-17.0	-20.7	-20.7	19.7	-19.3	-23.4	-23.4	21.7	-22.0	-26.6	-26.6	24.1
	8:12	-17.1	-20.7	-20.7	19.5	-19.4	-23.5	-23.5	21.6	-22.0	-26.6	-26.6	24.0
	9:12	-17.1	-20.8	-20.8	19.4	-19.4	-23.5	-23.5	21.5	-22.1	-26.7	-26.7	23.9
	10:12	-17.2	-20.8	-20.8	19.3	-19.5	-23.5	-23.5	21.4	-22.1	-26.7	-26.7	23.7
	11:12	-17.2	-20.8	-20.8	19.2	-19.5	-23.6	-23.6	21.2	-22.1	-26.8	-26.8	23.6
	12:12	-17.2	-20.9	-20.9	19.1	-19.5	-23.6	-23.6	21.1	-22.2	-26.8	-26.8	23.5
2	Roof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1
	1:12	0.7	0.8	1.0	1.1	1.3	1.4	1.9	2.1	2.5	3.2	4.0	4.8
	2:12	1.4	1.4	1.6	1.7	1.9	2.0	2.4	5.6	5.9	3.6	4.3	5.2
	3:12	1.9	1.9	2.0	2.2	2.4	2.5	2.9			3.9	4.6	5.5
	4:12	2.0	2.0	2.2	2.4	2.5	5.6	3.1		3.5	4.2	4.9	5.8
	5:12	2.4	2.4	2.5	2.7	2.8	2.9	3.4	3.5	3.8	4.4	5.1	6.0
	6:12	2.7	2.7	2.8	2.9	3.1	3.2	3.6	3.8	4.0	4.6	5.3	6.2
	7:12	2.9	2.9	3.0	3.1	3.3	3.4	3 3 3	4.0	4.2	4.8		6.3
	8:12	3.0	3.0	3.1	3.3	3.4	3.5	4.0	4.1	4.4	4.9	5.6	6.5
	9:12		3.2	3.3		3.6	3.7	4.1	4.2	4.5	2.0	5.7	6.5
	10:12	3.3	3.3	3.4	3.5	3.7	3,8	4.2	4.3	4.6	5.1		9.9
	11:12	3.3			3.6	3.7	ω ∞	4.2	4.4	4.6			9.9
	12:12	3.4	3.4	3.5	3.7	3.8	3.9	4.3	4.4	4.7	5.3	5.9	6.7
		Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Sc= 1.0	Sc = 1 25	S - 4 E	0	0	
								1	C3.4 - C0	25 = L.5	25 = 2.0	Ss = 2.5	Ss = 3.1

Southwest*

ASCE

90 mph

Basic Wind Speed

5 psf Ground Snow Load

* This table is not inclusive of all areas within the state or region. The local wind speeds and snow loads should be independantly verifed for the specific install location.



PRESSURE TABLES: 10 INSTALLATION GUIDE: PAGE

		<u>B</u>	Bldg. Height = 15	= 15	ft.	@ <u>=</u>	Bldg. Height = 30 ft.	tht = 30	ft.		Bldg. Height =	tht = 60 ft.	ft.
Roc	Roof Pitch	Zone1	Zone 2 Z	Zone 3	(isd) iiiwoo	Zone 1	Zone 2 Z	Zone 3	(Isd) IIwo	Zone 1	Zone 2 Z	Zone 3	isd) iiwoo
"	1:12	-17.2	-31.9	-50.3	18.8	-17.2	-31.9	-50.3	18.8	-21.1	-39.0	-61.4	18.8
1	2:12	-15.3	-30.1	-46.7	18.1	-15.3	-30.1	-46.7	18.1	-18.9	-36.8	-56.9	19.0
E	3:12	-15.3	-30.1	-46.7	17.3	-15.3	-30.1	-46.7	17.3	-18.9	-36.8	-56.9	18.2
	4:12	-15.4	-30.1	-46.7	14.9	-15.4	-30.1	-46.7	14.9	-18.9	-36.8	-57.0	15.8
	5:12	-15.4	-30.1	-46.7	14.3	-15.4	-30.1	-46.7	14.3	-19.0	-36.9	-57.0	15.2
	6:12	-15.4	-30.2	-46.8	13.7	-15.4	-30.2	-46.8	13.7	-19.0	-36.9	-57.0	14.6
	7:12	-17.3	-21.0	-21.0	19.9	-17.3	-21.0	-21.0	19.9	-21.3	-25.7	-25.7	23.5
w	8:12	-17.4	-21.0	-21.0	19.8	-17.4	-21.0	-21.0	19.8	-21.3	-25.8	-25.8	23.3
01	9:12	-17.4	-21.1	-21.1	19.7	-17.4	-21.1	-21.1	19.7	-21.4	-25.8	-25.8	23.2
	10:12	-17.4	-21.1	-21.1	19.5	-17.4	-21.1	-21.1	19.5	-21.4	-25.9	-25.9	23.1
1	11:12	-17.5	-21.2	-21.2	19.4	-17.5	-21.2	-21.2	19.4	-21.4	-25.9	-25.9	23.0
1	12:12	-17.5	-21.2	-21.2	19.3				19.3	-21.5	-25.9	-25.9	22.9
ľ	1:12	-21.1	-39.0	-61.4	18.8	-24.5	45.2	-71.0	18.8	-28.5	-523	-82.0	18.8
(2.12	180	36.8	-569	19.0	-22.0	42.6	65.8	203	-25.5	49.3	-76.1	217
1	3.12	-189	-36.8	-56.9	18.2	-22.0	42.6	-65.8	19.5	-25.5	49.3	-76.1	21.0
	4.12	100	36.9	67.0	15.0	22.0	42.6	65.0	171	25.6	707	76.1	100
	5:12	-19.0	-36.9	-57.0	15.2	-22.0	42.7	-65.9	16.5	-25.6	49.4	-76.2	18.4
9	6:12	-19.0	-36.9	-57.0	14.6	-22.1	42.7	-65.9	16.3	-25.6	49.4	-76.2	18.3
	7:12	-21.3	-25.7	-25.7	23.5	-24.7	-29.9	-29.9	26.5	-28.6	-34.6	-34.6	30.1
ω	8:12	-21.3	-25.8	-25.8	23.3	-24.7	-29.9	-29.9	26.4	-28.7	-34.6	-34.6	30.0
01	9:12	-21.4	-25.8	-25.8	23.2	-24.8	-29.9	-29.9	26.3	-28.7	-34.7	-34.7	29.9
1	10:12	-21.4	-25.9	-25.9	23.1	-24.8	-30.0	-30.0	26.2	-28.8	-34.7	-34.7	29.7
1	11:12	-21.4	-25.9	-25.9	23.0	-24.9	-30.0	-30.0	26.1	-28.8	-34.8	-34.8	29.6
1	12:12	-21.5	-25.9	-25.9	22.9	-24.9	-30.1	-30.1	25.9	-28.8	-34.8	-34.8	29.5
ľ	1:12	-25.8	-47.5	-74.7	18.8	-29.3	-53.7	-84.2	18.8	-33.2	-60.8	-95.3	19.0
1	2:12	-23.1	-44.8	-69.2	20.8	-26.2	-50.7	-78.1	22.0	-29.8	-57.4	-88.4	23.5
(1)	3:12	-23.2	-44.9	-69.3	20.0	-26.2	-50.7	-78.2	21.3	-29.8	-57.4	-88.4	22.7
4	4:12	-23.2	-44.9	-69.3	17.2	-26.3	-50.7	-78.2	18.9	-29.8	-57.4	-88.5	20.9
۵,	5:12	-23.2	-44.9	-69.3	17.1	-26.3	-50.7	-78.2	18.8	-29.9	-57.5	-88.5	20.8
9	6:12	-23.3	-45.0	-69.4	17.0	-26.3	-50.8	-78.3	18.7	-29.9	-57.5	-88.5	20.7
	7:12	-26.0	-31.4	-31.4	27.7	-29.4	-35.5	-35.5	30.8	-33.4	-40.3	-40.3	34.4
~	8:12	-26.1	-31.5	-31.5	27.6	-29.5	-35.6	-35.6	30.7	-33.4	-40.3	40.3	34.2
01 2	9:12	-26.1	-31.5	-31.5	27.5	-29.5	-35.6	-35.6	30.6	-33.5	40.4	40.4	34.1
1 -	11:12	-26.2	-31.6	-31.6	27.2	-29.6	-35.7	-35.7	30.3	-33.5	40.4	40.4	33.9
1	12:12	-26.2	-31.6	-31.6	27.1	-29.6	-35.7	-35.7	30.2	-33.6	-40.5	-40.5	33.8
Roc	Roof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1
П	1:12	1.1	1.1	1.3	1.5	1.6	1.7	2.1	2.3	5.6	3.2	4.0	4.8
~	2:12	2.1	2.1	2.1	2.3	2.4	2.5	3.0	3.1	3.4	4.0	4.5	5.2
(1)	3:12	3.0	3.0	3.0	3.0	3.1	3.2	3.7	3.8	4.1	4.7	5.2	5.9
4	4:12	2.9	2.9	2.9	3.0	3.1	3.2	3.7	3.9		4.7	5.2	5.9
,	5.12	3.6	3.6	3.6	3.6	0 00	3.0	4.0	4.2	4.5	0.0	0.0	0.7
	7:12	3.8	3.8	80.00	3.8	4.0	4.1	4.5	4.7	4.9	5.5	6.0	9.9
ω	8:12	3.9	3.9	3.9	4.0	4.1	4.2	4.6	4.8	5.1	5.6	6.1	6.7
01	9:12	4.0	4.0	4.0	4.1	4.2	4.3	4.7	4.9	5.1	5.6	6.2	6.8
1	10:12	4.1	4.1	4.1	4.1	4.3	4.4	4.8	4.9	5.2	5.7	6.2	6.8
1	11:12	4.1	4.1	4.1	4.2	4.3	4.4	4.8	4.9	5.2	5.7	6.1	6.7
1	12:12	4.1	4.1	4.1	4.2	4.3	4.4	4.8	4.9	5.2	5.6	6.1	6.7
		Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1
		0.0	0.2	0.5	0.7	6.0	1.0	1.6	1.8	2.2	2.9	3.6	4.5

East Coast (Low Snow)*

ASCE

110 mph

Basic Wind Speed

10 psf Ground Snow Load

* This table is not inclusive of all areas within the state or region. The local wind speeds and snow loads should be independantly verifed for the specific install location.



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	0 5	to beginning for	000	Donney Lond	-	December 1	900	Done look		December 1st	900	200
Roof Pitch	Zone 1	L Zone 2 Z	Zone 3	cowii (psi)	Zone 1	L Zone 2 Z	Zone 3	Down (psi)	Zone 1	L Zone 2 Z	Zone 3	isd) iiwoo
1:12	-9.8	-18.6	-29.7	14.8	8.6-	-18.6	-29.7	14.8	-12.1	-22.9	-36.3	14.8
2:12		-17.5	-27.5	14.4	-8.7	-17.5	-27.5	14.4	-10.8	-21.6	-33.6	14.4
3:12	-8.7	-17.6	-27.5	14.0	-8.7	-17.6	-27.5	14.0	-10.8	-21.6	-33.7	14.0
4:12	-8.7	-17.6	-27.5	13.2	-8.7	-17.6	-27.5	13.2	-10.9	-21.6	-33.7	13.2
5:12	8. 9.	-17.6	-27.6	13.2	8.8	-17.6	-27.6	13.2	-10.9	-21.6	-33.7	13.2
6:12	œ œ	-17.7	-27.6	13.0	φ 9	-17.7	-27.6	13.0	-10.9	-21.7	-33.8	13.0
7:12	6.6-	-12.2	-12.2	13.3	6.6-	-12.2	-12.2	13.3	-12.3	-15.0	-15.0	15.4
8:12	-10.0	-12.2	-12.2	13.2	-10.0	-12.2	-12.2	13.2	-12.4	-15.0	-15.0	15.3
9:12	-10.0	-12.2	-12.2	13.0	-10.0	-12.2	-12.2	13.0	-12.4	-15.1	-15.1	15.2
10:12	-10.1	-12.3	-12.3	12.9	-10.1	-12.3	-12.3	12.9	-12.4	-15.1	-15.1	15.0
11:12	-10.1	-12.3	-12.3	12.8	-10.1	-12.3	-12.3	12.8	-12.5	-15.2	-15.2	14.9
12:12	-10.2	-12.4	-12.4	12.7	-10.2	-12.4	-12.4	12.7	-12.5	-15.2	-15.2	14.8
1:12	-12.1	-22.9	-36.3	14.8	-14.2	-26.6	-42.1	14.8	-16.6	-30.9	-48.7	14.8
2:12	-10.8	-21.6	-33.6	14.4	-12.7	-25.1	-39.0	14.4	-14.8	-29.1	-45.1	14.4
3:12	-10.8	-21.6	-33.7	14.0	-12.7	-25.1	-39.0	14.0	-14.8	-29.1	-45.2	14.0
4:12	-10.9	-21.6	-33.7	13.2	-12.7	-25.1	-39.0	13.2	-14.8	-29.1	-45.2	13.2
5:12	-10.9	-21.6	-33.7	13.2	-12.7	-25.1	-39.1	13.2	-14.9	-29.2	-45.2	13.2
6:12	-10.9	-21.7	-33.8	13.0	-12.8	-25.2	-39.1	13.0	-14.9	-29.2	-45.3	13.0
7:12	-12.3	-15.0	-15.0	15.4	-14.4	-17.5	-17.5	17.3	-16.7	-20.3	-20.3	19.4
8:12	-12.4	-15.0	-15.0	15.3	-14.4	-17.5	-17.5	17.1	-16.8	-20.4	-20.4	19.3
9:12	-12.4	-15.1	-15.1	15.2	-14.5	-17.6	-17.6	17.0	-16.8	-20.4	-20.4	19.1
10:12	-12.4	-15.1	-15.1	15.0	-14.5	-17.6	-17.6	16.9	-16.9	-20.4	-20.4	19.0
11:12	-12.5	-15.2	-15.2	14.9	-14.5	-17.6	-17.6	16.8	-16.9	-20.5	-20.5	18.9
12:12	-12.5	-15.2	-15.2	14.8	-14.6	-17.7	-17.7	16.7	-16.9	-20.5	-20.5	18.8
1:12	-15.0	-28.0	-44.3	14.8	-17.0	-31.7	-50.0	14.8	-19.4	-36.0	-56.7	14.8
2:12	-13.4	-26.4	41.0	14.4	-15.2	-29.9	-46.4	14.4	-17.4	-33.9	-52.5	15.0
3:12	-13.4	-26.4	-41.1	14.0	-15.2	-29.9	-46.4	14.0	-17.4	-33.9	-52.6	14.5
4:12	-13.4	-26.4	-41.1	13.2	-15.3	-29.9	-46.4	13.2	-17.4	-34.0	-52.6	14.0
5:12	-13.5	-26.5	-41.1	13.2	-15.3	-30.0	-46.5	13.2	-17.4	-34.0	-52.6	13.9
6:12	-13.5	-26.5	-41.2	13.0	-15.3	-30.0	-46.5	13.0	-17.5	-34.0	-52.7	13.8
7:12	-15.2	-18.4	-18.4	18.0	-17.2	-20.9	-20.9	19.8	-19.6	-23.7	-23.7	21.9
8:12	-15.2	-18.5	-18.5	17.8	-17.3	-20.9	-20.9	19.7	-19.6	-23.8	-23.8	21.8
9:12	-15.2	-18.5	-18.5	17.7	-17.3	-21.0	-21.0	19.6	-19.7	-23.8	-23.8	21.7
10:12	-15.3	-18.5	-18.5	17.6	-17.3	-21.0	-21.0	19.4	-19.7	-23.8	-23.8	21.6
11:12	-15.3	-18.6	-18.6	17.5	-17.4	-21.0	-21.0	19.3	-19.7	-23.9	-23.9	21.5
12:12	-15.4	-18.6	-18.6	17.4	-17.4	-21.1	-21.1	19.2	-19.8	-23.9	-23.9	21.3
Roof Pitch		Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0					Ss = 3.1
2:12	1.7	0.8	1.0	1.1	1.3	1.4 0.0	T.9	2.1	2.5	3.2	4.0	x
21.2	† c	1 .	0 0	, i	D. C.	0.7	4:0	0.7		0.0	0.4	2.0
3:12	F. C	1.9	2.0	2.7	2.4	5.5	Z.5	3.1	4.6	y. v.	4.6	υ, η υ ο
5:12	2.4	2.4	2.5	2.7	2.8	2.9	3.4	3.5	9 6	4.4	5.1	0.09
6:12				2.9	3.1		3.6		4.0			6.2
7:12	2.9	2.9	3.0	3.1	3.3	3.4	3.8	4.0	4.2	4.8		6.3
8:12	3.0	3.0	3.1	3.3	3.4	3.5	4.0	4.1	4.4	4.9	9.9	6.5
9:12	3.2	3.2	3.3	3.4	3.6	3.7	4.1	4.2	4.5	5.0	5.7	6.5
10:12		3.3		3.5	3.7	3,00	4.2	4.3	4.6			9.9
11:12	3.3		3.5 1	3.6	3.7	80.0	4.2		4.6	5.2	5.9	9.9
17:17	3.4	3.4	3.5	3.7	n n	J. C.	5.4	4.4	7.7	7		
		0 0	00-00	00-0	C 0.4	20-0	0 3	C 1 2E	C 1 E	2 - 3		5 0

California*

ASCE

110 mph

Basic Wind Speed

5 psf Ground Snow Load

* This table is not inclusive of all areas within the state or region. The local wind speeds and snow loads should be independantly verifed for the specific install location.



PRESSURE TABLES: 12 INSTALLATION GUIDE: PAGE

Down Operating Down Oper			B	Bldg. Height = 15	= 15	ft.	80	Bldg. Height =	= 30	ft.	8	Bldg. Height =	9	<u>:</u>
1112 108 205 326 148 108 205 326 448 108 205 326 438 408 <th>ĸ</th> <th>oof Pitch</th> <th>Up Zone 1</th> <th>Pressures (</th> <th>psf) Zone 3</th> <th>Down (psf)</th> <th>Up Zone 1</th> <th>Pressures (</th> <th>osf) Zone 3</th> <th>Down (psf)</th> <th>Up Zone 1</th> <th>Pressures (r Zone 2</th> <th>zone3</th> <th>Down(psf)</th>	ĸ	oof Pitch	Up Zone 1	Pressures (psf) Zone 3	Down (psf)	Up Zone 1	Pressures (osf) Zone 3	Down (psf)	Up Zone 1	Pressures (r Zone 2	zone3	Down(psf)
211 466 493 302 444 466 493 302 444 466 493 302 444 466 493 302 444 410 1102 237 369 3112 396 1333 302 1343 302 1342 302 1342 302 1342 1343 302 1342 302 1342 302 1342 302 1342 1342 302 1342 302 1342 302 1342 302 1342 1342 302 1342		1:12	-10.8	-20.5	-32.6	14.8	-10.8	-20.5	-32.6	14.8	-13.4	-25.1	-39.8	14.8
312 366 193 302 140 366 193 302 140 366 193 302 140 366 193 302 140 366 193 302 110 134 302 111 367 112 372 110 134 302 112 372 134 302 113 110 134 302 110 134 302 110 134 412 110 134 412 110 134 412 110 134 414 136 135 136 165 <td></td> <td>2:12</td> <td>9.6-</td> <td>-19.3</td> <td>-30.2</td> <td></td> <td>9.6-</td> <td>-19.3</td> <td></td> <td>14.4</td> <td>-11.9</td> <td>-23.7</td> <td>-36.9</td> <td>14.4</td>		2:12	9.6-	-19.3	-30.2		9.6-	-19.3		14.4	-11.9	-23.7	-36.9	14.4
412 9,7 19,3 30,2 13,2 9,7 19,3 30,2 13,2 9,7 19,3 30,2 13,2 9,7 19,4 30,2 13,2 30,2 13,2 10,2 10,4 10,3 13,4 11,1 13,4 13,4 13,4 13,6 13,6 13,4 13,4 13,6 13,6 13,6 13,7 13,4 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 13,6 14,6 13,6 13,6 14,6 11,1 13,5 13,6 13,6 13,6 14,6 11,1 13,5 13,6 13,6 14,6 11,1 13,6		3:12	9.6-	-19.3	-30.2	14.0	9.6-	-19.3	-30.2	14.0	-12.0	-23.7	-36.9	14.0
5112 3.97 194 302 132 9.97 194 302 132 9.97 194 302 132 9.97 1304 302 1402 1302 1302 1402		4:12	-9.7	-19.3	-30.2	13.2	-9.7	-19.3	-30.2	13.2	-12.0	-23.7	-36.9	13.2
6112 1.97 1.94 3.93 13.94 -3.94 13.95 13.95 13.94 13.97 13.97 13.97 13.97 13.97 13.97 13.97 13.97 13.97 13.97 13.94 13.95 13.94 13.94 13.94 13.97 13.94 13.97 13.94 13.97 13.97 13.94 13.97 13.97 13.94 13.97 13.94 13.97 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.94 13.		5:12	-9.7	-19.4	-30.2	13.2	-9.7	-19.4	-30.2	13.2	-12.0	-23.8	-37.0	13.2
712 1110 134 134 142 1110 134 134 142 1110 134 135 135 135 135 135 135 135 135 136 136 136 136 136 136 136 136 136 136 136 136 137 140 136<		6:12	-9.7	-19.4	-30.3	13.0	-9.7	-19.4	-30.3	13.0	-12.1	-23.8	-37.0	13.0
8.12 - 1.10		7:12	-11.0	-13.4	-13.4	14.2	-11.0	-13.4	-13.4	14.2	-13.6	-16.5	-16.5	16.5
911.2 111.1 135 135 14.0 111.1 13.5 13.5 13.8 14.0 13.6 14.6 14.6 14.6 11.1 13.1 13.1 13.1 13.1 13.1 13.1 13		8:12	-11.0	-13.4	-13.4	14.1	-11.0	-13.4	-13.4	14.1	-13.6	-16.5	-16.5	16.4
10.12 11.11 13.5 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.7 14.0 12.7 42.7 14.0 18.2 13.9 14.0 12.7 42.7 14.0 18.6 13.2 14.0 27.5 42.7 14.0 18.0 14.0 18.0 18.2 14.0 27.5 42.7 14.0 18.0 18.2 14.0 18.0 18.2 14.0 18.0 18.2 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 18.0 <		9:12	-11.1	-13.5	-13.5	14.0	-11.1	-13.5		14.0	-13.6	-16.6	-16.6	16.3
111.12 111.11 111.12 111.12 111.13 111.13 111.13 111.13 111.13 111.14 111.15<		10:12	-11.1	-13.5	-13.5	13.8	-11.1	-13.5	-13.5	13.8	-13.7	-16.6	-16.6	16.2
12.12 11.2 13.6 11.2 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.6 13.2 43.7 14.8 13.8 14.8 13.2 14.0 14.0 27.5 42.7 14.4 14.0 27.5 42.7 14.4 14.0 14.0 14.2 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 14.0 12.0 42.8 13.0 44.1 14.0 12.0 42.8 13.0 44.1 14.0 <t< td=""><td></td><td>11:12</td><td>-11.1</td><td>-13.6</td><td>-13.6</td><td>13.7</td><td>-11.1</td><td>-13.6</td><td>-13.6</td><td>13.7</td><td>-13.7</td><td>-16.7</td><td>-16.7</td><td>16.0</td></t<>		11:12	-11.1	-13.6	-13.6	13.7	-11.1	-13.6	-13.6	13.7	-13.7	-16.7	-16.7	16.0
1112 -134 -25.1 -398 144 -140 -27.5 -46.1 144 -16.0 -27.5 -42.7 144 -16.3 -31.9 -35.4 212.2 -120 -23.7 -36.9 144 -14.0 -27.5 -42.7 144 -16.3 -31.9 -49.5 412. -120 -23.7 -36.9 13.2 -14.0 -27.5 -42.8 13.2 -16.4 -30.6 -42.8 13.0 -16.4 -30.6 -42.8 13.0 -16.4 -30.6 -42.8 13.0 -16.4 -20.6 -42.8 13.0 -16.4 -20.6 -42.8 13.0 -49.5 -49.5 -40.8 -41.0 -20.2 -42.8 13.0 -49.5 -40.6 -60.6 -16.6 -16.5 -16.5 -16.5 -16.5 -16.5 -16.5 -16.9 -19.2 -19.2 -18.8 -18.9 -20.2 -20.2 -20.2 -19.2 -18.8 -18.9 -20.2 -20.2 -20.2 <td></td> <td>12:12</td> <td>-11.2</td> <td>-13.6</td> <td>-13.6</td> <td>13.6</td> <td>-11.2</td> <td>-13.6</td> <td>-13.6</td> <td>13.6</td> <td>-13.8</td> <td>-16.7</td> <td>-16.7</td> <td>15.9</td>		12:12	-11.2	-13.6	-13.6	13.6	-11.2	-13.6	-13.6	13.6	-13.8	-16.7	-16.7	15.9
212 -119 -237 -369 144 -140 -275 -427 140 -163 -319 -495 312 -120 -237 -369 140 -140 -275 -427 140 -163 -320 495 5112 -120 -233 -369 140 -140 -275 -428 132 -164 -320 495 5112 -120 -238 -370 13.2 -140 -275 -428 132 -164 -320 495 6112 -121 -238 -370 13.2 -140 -276 -428 130 -169 -495 -495 -428 130 -169 -495 -420 -428 130 -164 -275 -428 130 -164 -275 -428 130 -164 -275 -428 130 -164 -320 495 -275 -428 130 -164 -320 495 -275 -213	L	1:12	-13.4	-25.1	-39.8	14.8	-15.6	-29.2	-46.1	14.8	-18.2	-33.8	-53.4	14.8
312 -120 -237 -369 140 -140 -275 -427 140 -163 -319 495 412 -120 -233 -369 13.2 -140 -275 -428 132 -164 -320 495 612 -120 -238 -370 13.0 -141 -276 -428 132 -164 -320 495 712 -136 -165 165 165 165 162 -159 193 180 -184 -223 -220 495 -182		2:12	-11.9	-23.7	-36.9	14.4	-14.0	-27.5	-42.7	14.4	-16.3	-31.9	-49.5	14.5
412 120 23.7 369 13.2 140 27.5 42.8 13.2 163 32.0 49.5 6:12 -12.0 -23.8 -37.0 13.2 -14.0 27.6 -42.8 13.2 -164 -22.0 49.5 6:12 -12.1 -23.8 -37.0 13.2 -14.0 27.6 -42.8 13.2 -164 -22.0 49.5 7.12 -13.6 -16.5 -16.5 16.6 -16.9 19.2 -19.2 18.4 -22.3 -22.3 9.12 -13.6 -16.5 -16.6 16.0 -16.9 -19.2 19.2 -18.4 -22.3 -22.3 10.12 -13.6 -16.6 -16.9 -16.9 -19.2 -19.2 18.4 -22.3 -22.3 10.12 -13.7 -16.7 -16.7 -16.0 -16.9 -19.4 -19.4 18.1 -22.3 -22.3 11.12 -16.7 -16.7 -16.0 -16.0		3:12	-12.0	-23.7	-36.9	14.0	-14.0	-27.5	-42.7	14.0	-16.3	-31.9	-49.5	14.1
5112 -120 -238 -370 13.2 -14,0 -27.6 -42.8 13.2 -164 -320 -49.6 7112 -132 -328 -37.0 13.0 -14.1 -27.6 -42.8 13.0 -164 -32.0 -49.6 7112 -136 -165 -165 16.5 -16.5 -16.6 16.2 -15.9 -19.3 -19.2 -184 -22.3 -22.3 9112 -13.6 -16.6 -16.6 16.2 -15.9 -19.3 -19.2 -18.4 -22.3 -22.3 11012 -13.7 -16.6 -16.6 -16.9 -16.9 -19.3 -19.2 -18.4 -22.3 -22.3 11012 -13.7 -16.6 -16.0		4:12	-12.0	-23.7	-36.9	13.2	-14.0	-27.5	-42.8	13.2	-16.3	-32.0	-49.5	13.4
612 12.1 23.8 37.0 13.0 14.1 27.6 42.8 13.0 16.4 32.0 49.6 7.12 -136 -16.5 -16.5 16.5 -15.8 19.2 -19.2 18.6 -18.4 -22.3 -22.3 91.12 -13.6 -16.6 -16.6 16.6 16.2 -15.9 -19.3 19.3 18.3 -18.5 -22.4 -22.4 10:12 -13.7 -16.6 -16.6 16.0 -16.9 -19.3 18.3 -18.5 -22.4 -22.4 -22.4 11:12 -13.7 -16.7 -16.7 -16.9 -19.3 -19.3 -18.5 -22.4		5:12	-12.0	-23.8	-37.0	13.2	-14.0	-27.6	-42.8	13.2	-16.4	-32.0	-49.5	13.3
7.12 .136 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .165 .166 .165 .166 .165 .165 .166 .165 .165 .166 .165 .165 .166 .166 .166 .166 .166 .166 .166 .166 .166 .166 .166 .166 .167 .167 .167 .160 .160 .193 .193 .186 .223 .223 .224 .223 .224 <th< td=""><td></td><td>6:12</td><td>-12.1</td><td>-23.8</td><td>-37.0</td><td>13.0</td><td>-14.1</td><td>-27.6</td><td>-42.8</td><td>13.0</td><td>-16.4</td><td>-32.0</td><td>-49.6</td><td>13.2</td></th<>		6:12	-12.1	-23.8	-37.0	13.0	-14.1	-27.6	-42.8	13.0	-16.4	-32.0	-49.6	13.2
8:12 1:15 1:165 1:65 1:64 1:59 1:92 1:94 1:84 2:23 2:23 2:23 9:12 -1:36 -1:66 -1:66 1:66 1:66 -1:69 -1:93 -1:93 1:83 -1:85 -2:24 -2:24 -2:24 10:12 -1:37 -1:67 -1:67 -1:60 -1:60 -1:94 -1:94 -1:84 -2:25 <td< td=""><td></td><td>7:12</td><td>-13.6</td><td>-16.5</td><td>-16.5</td><td>16.5</td><td>-15.8</td><td>-19.2</td><td>-19.2</td><td>18.6</td><td>-18.4</td><td>-22.3</td><td>-22.3</td><td>20.9</td></td<>		7:12	-13.6	-16.5	-16.5	16.5	-15.8	-19.2	-19.2	18.6	-18.4	-22.3	-22.3	20.9
9:12 -13.6 -16.6 -16.6 -16.9 -19.3 -19.3 18.3 -18.5 -22.4 -22.4 10:11 -13.7 -16.6 -16.6 -16.2 -19.3 -19.3 18.5 -22.4 -22.4 11:12 -13.8 -16.7 -16.7 -16.0 -19.4 -19.4 18.1 -18.5 -22.5 -22.5 11:1.2 -16.5 -16.0 -19.4 -19.4 11.3 -39.4 -22.5		8:12	-13.6	-16.5	-16.5	16.4	-15.9	-19.2	-19.2	18.4	-18.4	-22.3	-22.3	20.8
10:12 -137 -166 -166 -160 -19.9 -19.3 -19.3 18.2 -18.5 -22.4 -22.5 11:12 -137 -16.7 -16.7 -16.0 -19.4 -19.4 18.1 -18.6 -22.5 -22.5 11:12 -13.8 -16.7 -16.7 -16.0 -19.4 -19.4 13.6 -22.5 -22.5 11.12 -16.5 -30.7 -48.5 14.8 -18.7 -34.8 -24.8 14.8 -21.3 -39.4 -22.5 <t< td=""><td></td><td>9:12</td><td>-13.6</td><td>-16.6</td><td>-16.6</td><td>16.3</td><td>-15.9</td><td>-19.3</td><td>-19.3</td><td>18.3</td><td>-18.5</td><td>-22.4</td><td>-22.4</td><td>20.6</td></t<>		9:12	-13.6	-16.6	-16.6	16.3	-15.9	-19.3	-19.3	18.3	-18.5	-22.4	-22.4	20.6
11:12 1:37 1:67 1:60 1:50 1:94 1:94 1:94 1:86 2.25 22.5 22.5 1:25 1:25 1:25 1:25 1:25 1:25 22.5 <t< td=""><td></td><td>10:12</td><td>-13.7</td><td>-16.6</td><td>-16.6</td><td>16.2</td><td>-15.9</td><td>-19.3</td><td>-19.3</td><td>18.2</td><td>-18.5</td><td>-22.4</td><td>-22.4</td><td>20.5</td></t<>		10:12	-13.7	-16.6	-16.6	16.2	-15.9	-19.3	-19.3	18.2	-18.5	-22.4	-22.4	20.5
11.12 -16.7 -16.9 <th< td=""><td>- 1</td><td>11:12</td><td>-13.7</td><td>-16.7</td><td>-16.7</td><td>16.0</td><td>-16.0</td><td>-19.4</td><td>-19.4</td><td>18.1</td><td>-18.6</td><td>-22.5</td><td>-22.5</td><td>20.4</td></th<>	- 1	11:12	-13.7	-16.7	-16.7	16.0	-16.0	-19.4	-19.4	18.1	-18.6	-22.5	-22.5	20.4
1.1.2 -16.5 -30.7 48.5 14.8 -18.7 -34.8 -54.8 -54.8 -18.7 -34.8 -18.7 -34.8 -18.7 -19.1 -37.2 -57.5 3.12 -14.7 -29.0 -45.0 14.4 -16.8 -32.8 -50.8 14.7 -19.1 -37.2 -57.5 4.12 -14.8 -29.0 -45.0 14.0 -16.8 -52.9 -50.9 13.7 -19.1 -37.2 -57.6 5.12 -14.8 -29.0 -45.1 13.0 -16.8 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 6-12 -14.8 -29.0 -45.1 13.0 -16.9 -22.9 -20.9 13.7 -57.6 -37.2 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.6 -57.7 -57.1 -57.7<		12:12	-13.8	-16.7	-16.7	15.9	-16.0	-19.4	-19.4	17.9	-18.6	-22.5	-22.5	20.3
2.12 -14.7 -29.0 -45.0 14.4 -16.8 -32.8 -50.8 14.7 -19.1 -37.2 -57.5 3.12 -14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.8 14.3 -19.1 -37.2 -57.6 4.12 -14.8 -29.0 -45.0 13.2 -16.8 -50.9 13.7 -19.1 -37.2 -57.6 6.12 -14.8 -29.0 -45.1 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 6.12 -14.9 -29.1 -45.1 13.0 -16.9 -22.9 -50.9 13.7 -19.2 -57.6 7.12 -16.8 -20.2 -19.2 -16.9 -22.9 -22.9 -21.2 -21.2 -20.2 -20.3 -19.0 -33.0 -22.9 -21.2 -21.2 -20.2 -20.3 -19.0 -23.0 -23.0 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2		1:12	-16.5	-30.7	-48.5	14.8	-18.7	-34.8	-54.8	14.8	-21.3	-39.4	-62.1	14.8
3:12 -14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.8 14.3 -19.1 -37.2 -57.6 4-12 -14.8 -29.0 -45.0 13.2 -16.8 -32.8 -50.9 13.7 -19.1 -37.2 -57.6 6-12 -14.8 -29.0 -45.1 13.2 -16.8 -32.9 -50.9 13.5 -19.1 -37.3 -57.6 6-12 -14.9 -29.1 -45.1 13.0 -16.9 -32.9 -19.2 -19.1 -37.3 -57.6 7.12 -16.7 -20.2 -20.2 19.3 -18.9 -22.9 -22.9 -21.3 -21.2 -26.0		2:12	-14.7	-29.0	-45.0	14.4	-16.8	-32.8	-50.8	14.7	-19.1	-37.2	-57.5	15.7
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5-12 -14.8 -29.0 45.1 13.2 -16.8 -32.9 -50.9 13.6 -19.2 -37.3 -57.6 6-12 -14.9 -29.1 45.1 13.0 -16.9 -32.9 -50.9 13.5 -19.2 -37.3 -57.7 7:12 -16.7 -20.2 20.2 19.3 -18.9 -22.9 13.5 -19.2 -37.3 -57.7 8:12 -16.7 -20.2 20.3 19.0 -23.0 21.2 -21.6 -26.0 -26.0 9:12 -16.8 -20.4 19.0 -23.0 21.1 -21.6 -26.1 -26.1 10:12 -16.8 -20.4 19.0 -23.0 21.7 -21.6 -26.2 -26.2 11:12 -16.9 -20.4 19.0 -23.0 -21.7 -21.7 -26.2 -26.2 11:12 -16.9 -20.4 19.0 -23.0 21.7 -21.7 -26.2 -26.2 -26.2 -26.2 -26.2		4:12	-14.8	-29.0	-45.0	13.2	-16.8	-32.8	-50.9	13.7	-19.1	-37.2	-57.6	15.0
6:12 -14.9 -29.1 -45.1 13.0 -16.9 -32.9 -50.9 13.5 -19.2 -37.3 -57.7 7:12 -16.7 -20.2 -20.2 19.3 -18.9 -22.9 -21.3 -21.5 -26.0 -26.0 8:12 -16.7 -20.2 -20.3 19.1 -19.0 -23.0 -21.3 -21.5 -26.1 -26.1 9:12 -16.8 -20.3 -20.3 19.1 -19.0 -23.0 -21.0 -21.6 -26.1 -26.1 10:12 -16.8 -20.4 -20.4 19.0 -19.0 -23.0 -21.0 -21.0 -26.2 -26.2 11:12 -16.9 -20.4 -20.4 19.0 -19.0 -23.0 21.1 -21.0 -26.2 <td></td> <td>5:12</td> <td>-14.8</td> <td>-29.0</td> <td>-45.1</td> <td>13.2</td> <td>-16.8</td> <td>-32.9</td> <td>-50.9</td> <td>13.6</td> <td>-19.2</td> <td>-37.3</td> <td>-57.6</td> <td>14.9</td>		5:12	-14.8	-29.0	-45.1	13.2	-16.8	-32.9	-50.9	13.6	-19.2	-37.3	-57.6	14.9
7:12 -16.7 -20.2 -20.2 -18.9 -22.9 -22.9 21.3 -21.5 -26.0 -26.0 8:12 -16.7 -20.3 20.3 19.2 -19.0 -23.0 -23.0 21.2 -21.6 -26.1 -26.1 9:12 -16.8 -20.3 20.3 19.1 -19.0 -23.0 -23.0 21.1 -21.6 -26.1 -26.1 10:12 -16.8 -20.4 19.0 -19.0 -23.0 23.0 21.1 -21.6 -26.2 -26.2 11:12 -16.8 -20.4 19.0 -19.0 -23.0 23.0 21.0 -21.7 -26.2 -26.2 Roof Pitch 5s = 0.0 5s = 0.1 18.8 -19.1 -23.1 23.0 -21.7 -26.2 -26.2 -26.2 11:12 -16.9 -20.4 18.7 -19.1 -23.1 -23.1 21.7 -26.2 -26.2 -26.2 1:12 0.7 0.8 1.0 <		6:12	-14.9	-29.1	-45.1	13.0	-16.9	-32.9	-50.9	13.5	-19.2	-37.3	-57.7	14.8
8:12		7:12	-16.7	-20.2	-20.2	19.3	-18.9	-22.9	-22.9	21.3	-21.5	-26.0	-26.0	23.7
9:12 -16.8 -20.3 -20.3 -19.0 -23.0 -23.0 21.1 -21.6 -26.1 -26.1 10:12 -16.8 -20.4 -20.4 19.0 -19.0 -23.0 21.0 -21.0 -26.2 -26.2 11:12 -16.8 -20.4 -20.4 18.8 -19.1 -23.1 -20.9 -21.7 -26.2 -26.2 11:12 -16.9 -20.4 -18.7 -19.1 -23.1 20.9 -21.7 -26.2 -26.2 Roof Pitch 5s = 0.1 5s = 0.2 5s = 0.3 5s = 0.4 5s = 0.5 5s = 1.2 20.7 -21.7 -26.2 -26.2 1:12 0.7 0.8 1.0 1.1 1.3 1.2 1.2 2.2 2.2 2.2 2.1 2.2 <		8:12	-16.7	-20.3	-20.3	19.2	-19.0	-23.0	-23.0	21.2	-21.6	-26.1	-26.1	23.6
10:12		9:12	-16.8	-20.3	-20.3	19.1	-19.0	-23.0	-23.0	21.1	-21.6	-26.1	-26.1	23.4
11:12 -16.8 -20.4 -20.4 18.8 -19.1 -23.1 -23.1 20.9 -21.7 -26.2 -26.2 Roof Pitch Ss = 0.0 Ss = 0.1 Ss = 0.2 Ss = 0.4 Ss = 0.5 Ss = 1.0 Ss = 1.5 Ss = 1.5 Ss = 2.5		10:12	-16.8	-20.4	-20.4	19.0	-19.0	-23.0	-23.0	21.0	-21.6	-26.2	-26.2	23.3
Roof Pitch Ss = 0.0 Ss = 0.1 Ss = 0.2 Ss = 0.		11:12	-16.8	-20.4	-20.4	18.8	-19.1	-23.1	-23.1	20.9	-21.7	-26.2	-26.2	23.2
Roof Pitch SS = 0.0 SS = 0.1 SS = 0.0 SS = 2.0 SS = 2.0 SS = 2.0 SS = 2.0 A3 1.12 0.7 0.8 1.0 1.1 1.3 1.4 1.9 2.0 2.4 2.0 2.0 2.0 3.0 4.3 3.0 4.3 5.1 4.3 4.3 5.2 4.0 4.3 5.1 2.0 4.3 5.2 4.0 4.3 5.2 4.0 4.3 5.2 4.0 4.3 5.2 4.0 4.3 3.0 4.0 4.3 4.0 4.0 4.0 4.0 4.0 5.1 6.1 5.1 6.1 5.1 5.1 6.1 5.1 6.1 5.1 5.2		12:12	-16.9	-20.4	-20.4	18.7	-19.1	-23.1	-23.1	20.7	-21.7	-26.2	-26.2	23.1
1:12 0.7 0.8 1.0 1.1 1.3 1.4 1.9 2.1 2.5 3.2 4.0 4.8 2:12 1.4 1.6 1.7 1.9 2.0 2.4 2.6 2.9 3.1 3.2 3.2 4.0 4.3 5.2 3:12 1.9 1.9 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.6 4.3 5.3 4:12 2.0 2.2 2.4 2.5 2.9 3.1 3.2 3.5 4.2 4.9 5.3 5:12 2.0 2.2 2.4 2.5 2.9 3.1 3.2 3.4 3.5 4.2 4.9 5.3 6. 5:12 2.4 2.5 2.9 3.4 3.5 3.4 3.8 4.0 4.4 5.1 6. 6:12 2.7 2.8 2.9 3.4 3.8 4.0 4.1 4.4 4.9 5.3 6. </td <td>Ř</td> <td>oof Pitch</td> <td>Ss = 0.0</td> <td>Ss = 0.1</td> <td>Ss = 0.2</td> <td>Ss = 0.3</td> <td>Ss = 0.4</td> <td>Ss = 0.5</td> <td>Ss = 1.0</td> <td>11</td> <td>Ss = 1.5</td> <td>Ss = 2.0</td> <td>Ss = 2.5</td> <td></td>	Ř	oof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	11	Ss = 1.5	Ss = 2.0	Ss = 2.5	
2:12 1.4 1.6 1.7 1.9 2.0 2.4 2.6 2.9 3.6 4.3 5.3 3:12 1.9 1.0 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.6 4.6 5.1 4:12 2.0 2.0 2.2 2.4 2.5 2.6 3.1 3.2 3.5 4.2 4.6 5.3 5:12 2.4 2.5 2.6 3.1 3.2 3.5 4.7 4.9 5.3 6:12 2.4 2.5 2.6 3.1 3.2 3.8 4.0 4.4 5.1 6.6 6:12 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.6 5.3 6.3 7:12 2.9 3.0 3.1 3.3 3.4 3.5 3.4 3.5 4.0 4.1 4.4 4.9 5.5 6.3 8:12 3.2 3.2 3.4 3.5		1:12	0.7		1.0	1.1	1.3		1.9	2.1				
3:12 1.9 1.0 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.9 4.6 5.8 4:12 2.0 2.0 2.2 2.4 2.5 2.6 3.1 3.2 3.5 4.2 4.9 5.3 5:12 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.6 5.1 6.6 6:12 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.6 5.3 6.1 6:12 2.7 2.8 2.9 3.1 3.2 3.8 4.0 4.6 5.3 6.3 7:12 2.9 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6.3 8:12 3.0 3.1 3.3 3.4 3.5 3.7 4.1 4.2 4.5 4.9 5.0 6.1 9:12 3.3 3.4		2:12	1.4	1.4	1.6	1.7	1.9	2.0		2.6	2.9		4.3	
4:12 2.0 2.2 2.4 2.5 2.6 3.1 3.2 3.5 4.2 4.9 5.8 5:12 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.6 5.1 6.1 6:12 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.1 6.1 7:12 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.6 5.3 6.3 8:12 3.0 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 6.3 9:12 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6.3 9:12 3.2 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 6.1 10:12 3.3 3.4 3.5 3.7 3.8	_	3:12	1.9	1.9	2.0	2.2	2.4	2.5	2.9	3.1	3.4		4.6	
5:12 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.4 5.1 6.0 6:12 2.7 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 6.3 7:12 2.9 2.9 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 6.3 8:12 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6.3 9:12 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.4 4.9 5.6 6.3 10:12 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 6.3 11:12 3.3 3.4 3.5 3.7 3.8 4.2 4.4 4.7 5.3 5.9 6. 12:12 3.4 3.4 3.5 3.7 3.8		4:12	2.0	2.0	2.2		2.5	5.6	3.1	3.2	3.5		4.9	
6:12 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 6.3 7:12 2.9 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 6.3 8:12 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6.3 9:12 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.7 6.1 10:12 3.3 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 6.1 11:12 3.3 3.4 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6.1 11:12 3.3 3.4 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6. 12:12 3.4 3.4 3.5 3.7		5:12	2.4	2.4	2.5	2.7	2.8	2.9	3.4	3.5	3.8		5.1	0.9
7:12 2.9 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 6.3 8:12 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6.3 9:12 3.2 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.7 6.1 10:12 3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 6.1 11:12 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6.1 12:12 3.4 3.5 3.7 3.8 4.2 4.4 4.7 5.3 5.9 6.3 12:12 3.4 3.5 3.6 3.7 3.8 4.2 4.4 4.7 5.3 5.9 6.1 12:12 3.4		6:12	2.7	2.7	2.8	2.9	3.1	3.2	3.6	3.8	4.0	4.6	5.3	6.2
8:12 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6	_	7:12	2.9		3.0	3.1	3.3	3.4	3,8	4.0	4.2	4.8	5.5	6.3
3.2 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.7 6. 3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 6. 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6. 5s = 0.0 5s = 0.1 5s = 0.2 5s = 0.3 5s = 0.4 5s = 0.5 5s = 1.2 5s = 2.5 5s = 2.5 5s = 2.5		8:12	3.0				3.4	3.5	4.0	4.1	4.4		9.6	6.5
3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 6. 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6. 3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 6. Ss=0.0 Ss=0.1 Ss=0.2 Ss=0.3 Ss=0.4 Ss=0.5 Ss=1.0 Ss=1.25 Ss=1.5 Ss=2.0 Ss=2.5 Ss=		9:12	3.2			3.4	3.6	3.7	4.1	4.2	4.5		5.7	6.5
3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 6. 3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 6. Ss = 0.0 Ss = 0.1 Ss = 0.3 Ss = 0.4 Ss = 0.5 Ss = 1.0 Ss = 1.25 Ss = 1.5 Ss = 2.0 Ss = 2.5 Ss = 2.		10:12	3.3		3.4	3.5	3.7	3.8	4.2	4.3	4.6		8.0	9.9
3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 6. Ss = 0.0 Ss = 0.1 Ss = 0.2 Ss = 0.4 Ss = 0.6 Ss = 1.0 Ss = 1.5 Ss = 1.5 Ss = 2.0 Ss = 2.5		11:12				3.6	3.7	m c	4.2	4.4	4.6		0.0	9.0
Ss = 0.1 Ss = 0.2 Ss = 0.3 Ss = 0.4 Ss = 0.5 Ss = 1.0 Ss = 1.25 Ss = 1.5 Ss = 2.0 Ss = 2.5 Ss =		12:12	3.4	3.4	vill.		n	3.9	4.3	4.4	4.7	ν.	5.9	ó
			55 = 0.0	SS = 0.1	ш	SS = 0.3	11	55 = 0.5	SS = 1.0	SS = 1.25	5s = 1.5	= 2	SS = 2.5	н

Southwest*

ASCE

115 mph

Basic Wind Speed

5 psf Ground Snow Load

* This table is not inclusive of all areas within the state or region. The local wind speeds and snow loads should be independantly verifed for the specific install location.

o.

0.2

0.0



PRESSURE TABLES | 13 | PAGE

East Coas Snov	
ASCE	7-10
130 r	nph
Basic Win	d Speed
10	osf
Ground Sr	ow Load
* This tab	le is no
inclusive of	
within the	
region. T	
wind spe	
indepen	
verifed t	
specific	install

location.

	_	5			-			-	-				
Roo	Roof Pitch	Zone 1	Up Pressures (psr)	Zone 3	Down (pst)	Zone 1	Up Pressures (psr)	Zone 3	Down (pst)	Zone 1	Up Pressures (psr) 1	Zone 3	Down (psr)
ľ	1:12	-14.2	-26.5	-45.0	18.5	-14.2	-26.5	-42.0	18.5	-17.5	-32.5	-51.2	18.5
2	2:12	-12.6	-25.0	-38.9	17.8	-12.6	-25.0	-38.9	17.8	-15.6	-30.6	-47.5	17.8
m	3:12	-12.7	-25.0	-38.9	17.0	-12.7	-25.0	-38.9	17.0	-15.6	-30.6	-47.5	17.0
4	4:12	-12.7	-25.0	-38.9	14.6	-12.7	-25.0	-38.9	14.6	-15.7	-30.7	-47.5	14.6
S	5:12	-12.7	-25.1	-39.0	14.0	-12.7	-25.1	-39.0	14.0	-15.7	-30.7	-47.6	14.0
9	6:12	-12.8	-25.1	-39.0	13.4	-12.8	-25.1	-39.0	13.4	-15.7	-30.7	-47.6	13.4
7	7:12	-14.3	-17.4	-17.4	17.2	-14.3	-17.4	-17.4	17.2	-17.6	-21.4	-21.4	20.2
00	8:12	-14.4	-17.5	-17.5	17.1	-14.4	-17.5	-17.5	17.1	-17.7	-21.4	-21.4	20.1
6	9:12	-14.4	-17.5	-17.5	17.0	-14.4	-17.5	-17.5	17.0	-17.7	-21.5	-21.5	20.0
10	10:12	-14.5	-17.5	-17.5	16.9	-14.5	-17.5	-17.5	16.9	-17.8	-21.5	-21.5	19.8
뒤	11:12	-14.5	-17.6	-17.6	16.7	-14.5	-17.6	-17.6	16.7	-17.8	-21.6	-21.6	19.7
12	12:12	-14.5	-17.6	-17.6	16.6	-14.5	-17.6	-17.6	16.6	-17.8	-21.6	-21.6	19.6
=	1:12	-17.5	-32.5	-51.2	18.5	-20.3	-37.6	-59.3	18.5	-23.7	-43.6	-68.5	18.5
2	2:12	-15.6	-30.6	-47.5	17.8	-18.2	-35.5	-55.0	18.7	-21.2	-41.1	-63.6	19.9
m	3:12	-15.6	-30.6	-47.5	17.0	-18.2	-35.5	-55.0	17.9	-21.2	-41.1	-63.6	19.2
4	4:12	-15.7	-30.7	-47.5	14.6	-18.2	-35.5	-55.0	15.5	-21.2	-41.2	-63.6	16.7
5	5:12	-15.7	-30.7	-47.6	14.0	-18.3	-35.6	-55.0	14.9	-21.3	-41.2	-63.6	16.2
9	6:12	-15.7	-30.7	47.6	13.4		-35.6	-55.1	14.4	-21.3	-41.2	-63.7	15.9
7	7:12	-17.6	-21.4	-21.4	20.2	-20.5	-24.8	-24.8	22.8	-23.8	-28.8	-28.8	25.8
00	8:12	-17.7	-21.4	-21.4	20.1	-20.6	-24.9	-24.9	22.7	-23.9	-28.9	-28.9	25.6
6	9:12	-17.7	-21.5	-21.5	20.0	-20.6	-24.9	-24.9	22.5	-23.9	-28.9	-28.9	25.5
10	10:12	-17.8	-21.5	-21.5	19.8	-20.6	-25.0	-25.0	22.4	-23.9	-28.9	-28.9	25.4
1	11:12	-17.8	-21.6	-21.6	19.7	-20.7	-25.0	-25.0	22.3	-24.0	-29.0	-29.0	25.3
12	12:12	-17.8	-21.6	-21.6	19.6	-20.7	-25.0	-25.0	22.2	-24.0	-29.0	-29.0	25.2
ľ	1:12	-21.4	-39.6	-62.4	18.5	-24.3	-44.8	-70.4	18.5	-27.6	-50.7	7.67-	18.5
2	2:12	-19.2	-37.4	-57.8	19.1	-21.8	-42.2	-65.3	20.2	-24.7	47.9	-73.9	21.4
m	3:12	-19.2	-37.4	-57.8	18.3	-21.8	-42.3	-65.3	19.4	-24.8	-47.9	-73.9	20.6
4	4:12	-19.2	-37.4	-57.9	15.5	-21.8	-42.3	-65.3	16.6	-24.8	-47.9	-73.9	18.1
5	5:12	-19.3	-37.4	-57.9	15.0	-21.9	-42.3	-65.4	16.3	-24.8	-48.0	-74.0	18.0
9	6:12	-19.3	-37.5	-57.9	14.8	-21.9	-42.4	-65.4	16.2	-24.9	-48.0	-74.0	17.9
7	7:12	-21.6	-26.2	-26.2	23.8	-24.5	-29.6	-29.6	26.4	-27.8	-33.6	-33.6	29.3
00	8:12	-21.7	-26.2	-26.2	23.7	-24.5	-29.6	-29.6	26.2	-27.8	-33.6	-33.6	29.5
6	9:12	-21.7	-26.2	-26.2	23.5	-24.6	-29.7	-29.7	26.1	-27.9	-33.7	-33.7	29.1
10	10:12	-21.7	-26.3	-26.3	23.4	-24.6	-29.7	-29.7	26.0	-27.9	-33.7	-33.7	29.0
=	11:12	-21.8	-26.3	-26.3	23.3	-24.6	-29.8	-29.8	25.9	-28.0	-33.7	-33.7	28.9
12	12:12	-21.8	-26.4	-26.4	23.2	-24.7	-29.8	-29.8	25.8	-28.0	-33.8	-33.8	28.7
Roo	Roof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1
-	1:12	1.1	1.1	1.3	1.5	1.6	1.7	2.1	2.3	5.6	3.2	4.0	4.8
2	2:12	2.1	2.1	2.1	2.3	2.4	2.5	3.0	3.1	3.4	4.0	4.5	5.2
m	3:12				3.0	3.1	3.2	3.7		4.1	4.7		5.9
4	4:12		5.9		3.0	3.1	3.2	3.7	3.9	4.1	4.7		5.9
2	5:12	3.3	3.3	3.3	3.4	3.5	3.6	4.0	4.2	4.5	2.0	5.6	6.2
9	6:12	3.6	3.6	3.6	3.6	3.8	3.9	4.3	4.5	4.7		2.8	6.5
7	7:12	89.	0.	.00 .00	00	4.0	4.1	4.5	4.7	4.9	5.5	0.9	9.9
00	8:12	3.9	3.9	3.9	4.0	4.1	4.2	4.6	4.8	5.1	5.6	6.1	6.7
6	9:12	4.0	4.0	4.0	4.1	4.2	4.3	4.7	4.9	5.1			8.9
10	10:12	4.1	4.1	4.1	4.1	4.3	4.4	4.8	4.9	5.2	5.7	6.2	6.8
1	11:12	4.1	4.1	4.1	4.2	4.3	4.4	8 0	6.9	5.2	5.7	6.1	6.7
12	12:12	4.1	4.1	4.1	4.2	4.3	4.4	4.8	4.9	5.2	5.6	6.1	6.7
		Ce = 00	0 - 0										
	_	0.01	25 = U.1	Ss = 0.2	Ss = 0.3	Ss = 0.4	Ss = 0.5	Ss = 1.0	Ss = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1