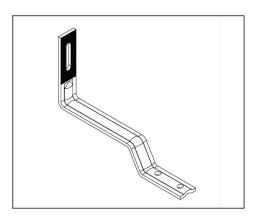
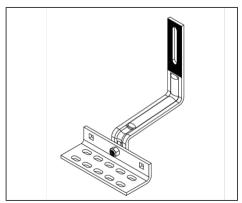
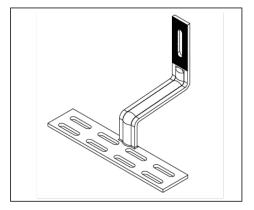
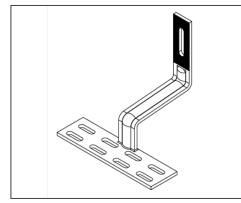


INSTALLATION GUIDE









SOLARHOOK FLAT TILE 004AT1H

SOLARHOOK UNIVERSAL W/ ADJUSTABLE BASE 004CT5H

SOLARHOOK SPANISH 7" FIXED BASE 004CT1H

SOLARHOOK SPANISH 9" FIXED BASE 004CT2H



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) capac	ities (lbs) i	n 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 COUNCIL, NI	DS 2005, TA	ABLE 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.



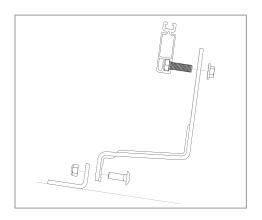
4. Remove hook, clean debris and fill pilot holes with roofing sealant



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.



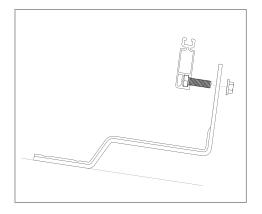
4. Remove hook, clean debris, then fill pilot holes and rib on back of hook with roofing sealant.



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.



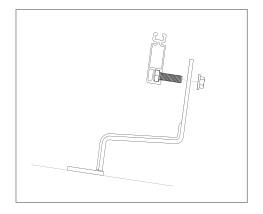
4. Remove hook, clean debris and fill pilot holes with roofing sealant



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.



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 Height 	65	inches
 Landscape Module Width 	39.4	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)		
	U	IP	Down	Slope	Late	eral
Allowable	Portrait	Landscape	Portrait	Landscape	Portrait	Landscape
Spans (in.)	Modules	Modules	Modules	Modules	Modules	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)		
	U	IP	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)		•
	U	IP	Down	Slope	Lat	eral
Allowable	Portrait	Landscape	Portrait	Landscape	Portrait	Landscape
Spans (in.)	Modules	Modules	Modules	Modules	Modules	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)		
	U	IP	Down	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





		j <u> </u>	9	9	9-1				9				
Ro	Roof Pitch	Zone 1	Zone 2 Z	Zone 3	(led)limon	Zone 1	Zone 2	Zone 3	Down (psi)	Zone 1	Zone 2 Z	Zone3	od limo
	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	-8.7	-17.4	-27.3		-8.7	-17.4	-27.3	14.7	-10.8	-21.5	-33.5	14.7
	3:12	8.8	-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	6.8-	-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	6.6-	-12.1	-12.1	13.2	6.6-	-12.1		13.2	-12.3	-15.0	-15.0	15.2
ry	9:12	-10.0	-12.2	-12.2	13.1	-10.0	-12.2	-12.2	13.1	-12.3	-15.0	-15.0	15.1
	10:12	-10.0	-12.2	-12.2	13.0	-10.0	-12.2	-12.2	13.0	-12.4	-15.0	-15.0	15.0
1	11:12	-10.1	-12.3	-12.3	12.8	-10.1	-12.3	-12.3	12.8	-12.4	-15.1	-15.1	14.9
1	12:12	-10.1	-12.3	-12.3	12.7	-10.1	-12.3	-12.3	12.7	-12.5	-15.1	-15.1	14.7
	27.5	101	0 000	26.4	, 11	* * * *	300	0 14	, 1,	100	20.7	40 5	,
,	21.12	1.21-	0.22-0	1.00-	13.1	1.4.1	0.02-	0.14	17.1	-10.0	7.00-	0.04	17.1
	2:12	-10.8	-21.5	-33.5	14.7	-12.6	6.47-	20.00	14.7	-14./	6.82-	5.44	14.7
Exp	3:12	-10.8	-21.5	-33.5	14.3	-12.6	-24.9	-38.8	14.3	-14.7	-29.0	44.9	14.3
	4:12	-10.8	-21.5	-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	-12.3	-14.9	-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	-12.4	-15.0	-15.0	15.0	-14.4	-17.5	-17.5	16.8	-16.8	-20.3	-20.3	18.9
Н	11:12	-12.4	-15.1	-15.1	14.9	-14.5	-17.5	-17.5	16.7	-16.8	-20.4	-20.4	18.8
1	12:12	-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
pos	4:12	-13.4	-26.3	-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	-15.1	-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	-15.2	-18.4	-18.4	17.7	-17.2	-20.9	-20.9	19.5	-19.6	-23.7	-23.7	21.6
	10:12	-15.2	-18.4	-18.4	17.5	-17.3	-20.9	-20.9	19.4	-19.6	-23.7	-23.7	21.5
П	11:12	-15.2	-18.5	-18.5	17.4	-17.3	-20.9	-20.9	19.2	-19.6	-23.8	-23.8	21.4
1	12:12	-15.3	-18.5	-18.5	17.3	-17.3	-21.0	-21.0	19.1	-19.7	-23.8	-23.8	21.3
Ro	Roof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	$S_S = 0.3$	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	2.9	3.6	4.3	5.2
	3:12	1.9	1.9	2.0	2.2	2.4	2.5	5.9	3.1	3.4	3.9	4.6	5.5
	4:12	2.0	2.0		2.4	2.5	5.6	3.1	3.2	3.5	4.2	4.9	5.8
ow	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	5.9	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		3.3	3.4	3.5	4.0	4.1	4.4	4.9		6.5
	9:12	3.2	3.2	3.3	3.4	3.6	3.7	4.1	4.2	4.5	2.0	5.7	6.5
-	10:12		3.3		3.5	3.7	œ (c	4.2	4.3	4.6	5.1	8.5	9.9
Н	11:12	3.3	m. m.	3.5	3.6	3.7	ю ю	4.2	4.4	4.6			9.9
П	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	Sc = 0.3	400			1	,			
				1		3S = 0.4	55 = 0.5	55 = 1.0	25 = 1.25	Ss = 1.5	Ss = 2.0	Ss = 2.5	Ss = 3.1

California*

ASCE 7-05

......

85 mph

Basic Wind Speed

5 psf

Ground Snow Load





Roof Pitch 1:12 2:12 3:12 4:12 5:12 6:12	Zone 1	Op Pressures (psr)		DOWN DSL		op Pressures (psr)		I SOUTH I DEST	5	up Pressures (pst)		DOWN (psr
1:12 2:12 3:12 4:12 5:12 6:12		Zone 2	cone 3		Zone 1	Zone 2	Zone 3	Community of	Zone 1	Zone 2	one3	
2:12 3:12 4:12 5:12 6:12	-11.1	-20.9	-33.3	15.1	-11.1	-20.9	-33.3	15.1	-13.7	-25.7	-40.7	15.1
3:12 4:12 5:12 6:12	8.6-	-19.7	-30.8	14.7	8.6-	-19.7	-30.8	14.7	-12.2	-24.2	-37.7	14.7
4:12 5:12 6:12	-9.9	-19.7	-30.8	14.3	6.6-	-19.7	-30.8	14.3	-12.2	-24.2	-37.7	14.3
5:12	6.6-	-19.8	-30.9	13.6	6.6-	-19.8	-30.9	13.6	-12.3	-24.3	-37.7	13.6
6:12	-9.9	-19.8	-30.9	13.6	6.6-	-19.8	-30.9	13.6	-12.3	-24.3	-37.8	13.6
1	-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	-11.4	-13.9	-13.9	13.8	-14.1	-17.1	-17.1	16.2
1.12	-137	-25.7	40.7	15.1	-16.0	-29 R	-47 1	15.1	-18.6	-346	-545	151
2.12	-122	-24.2	-37.7	14.7	-143	-28.1	-43 6	14.7	-16.7	-376	707	14.7
3.12	-122	-24.2	-37.7	14.3	-143	-28.1	-43.7	143	-16.7	-326	70.5	143
4.12	-123	-243	-37.7	13.6	-143	-28.1	-43.7	13.6	-167	-326	-50.6	13.6
5:12	-12.3	-243	-37.8	13.6	-14.4	-28.2	-43.7	13.6	-16.7	-32.7	-50.6	13.6
6.12	-123	-243	-37.8	13.4	-14.4	-28.2	-43 8	13.4	-16.8	-327	-50.6	13.4
7:12	120	16.0	16.0	16.8	16.7	10.5	10.6	180	100	22.0	22.0	21.0
8.12	120	16.9	16.9	16.7	16.2	19.7	10.7	18.7	188	22.2	22.0	21.1
0.12	140	17.0	17.0	16.6	16.2	10.7	10.7	186	180	22.0	22.0	210
10.12	140	-170	-170	16.4	-16.3	10.7	-10.7	18.5	18.0	-220	22.0	20.00
11.12	2 5	110	17.0	16.31	16.3	10.01	10 01	10.4	100	22.0	22.0	000
13.13	14.0	17.1	17.1	16.0	16.4	10.0	0.01	10.01	10.01	0.65-	23.0	20.0
71:71	-14.1	1./1-	1./1-	7.01	-TD.4	-T3.8	2.EL-	18.3	-13.0	-23.0	-23.0	20.0
1:12	-16.9	-31.4	-49.6	15.1	-19.2	-35.5	-56.0	15.1	-21.8	-40.3	-63.4	12.1
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
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	8.0	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	2.6	2.9	3.6	4.3	5.2
3:12	1.9	1.9	2.0	2.2	2.4	2.5	5.9	3.1	3.4	3.9	4.6	5.5
4:12	2.0	2.0	2.2	2.4	2.5	5.6	3.1	3.2	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 8 9	4.0	4.2	4.8	5.5	6.3
8:12	3.0	3.0		3.3	3.4	3.5	4.0	4.1	4.4	4.9	5.6	6.5
9:12	3.2	3.2	3.3	3.4	3.6	3.7	4.1	4.2	4.5	2.0	5.7	6.5
10:12		3.3		3.5	3.7	3.8	4.2	4.3	4.6			9.9
11:12		3.3		3.6	3.7	3,8	4.2	4.4	4.6	5.2		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	$S_{S} = 1.0$	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

Southwest*

ASCE 7-05

...... 90 mph

Basic Wind Speed

5 psf

Ground Snow Load





_		-	December (not)		Donney Conf.	The December of the	December for	Good	Down load	-	December 1		
~	Roof Pitch	Zone 1	Zone 2 Z	one 3	cowin (psi)	Zone 1	L Zone 2 Z	Zone 3	DOWII (psi)	Zone 1	Zone 2 Z	Zone3	ed) iiwoo
L	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
	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
	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
ро	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
	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
	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
	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
	12:12	-17.5	-21.2	-21.2	19.3	-17.5	-21.2	-21.2	19.3	-21.5	-25.9	-25.9	22.9
L	1:12	-21.1	-39.0	-61.4	18.8	-24.5	45.2	-71.0	18.8	-28.5	-52.3	-82.0	18.8
	2:12	-18.9	-36.8	-56.9	19.0	-22.0	-42.6	-65.8	20.3	-25.5	-49.3	-76.1	21.7
	3:12	-18.9	-36.8	-56.9	18.2	-22.0	-42.6	-65.8	19.5	-25.5	-49.3	-76.1	21.0
	4:12	-18.9	-36.8	-57.0	15.8	-22.0	-42.6	-65.9	17.1	-25.6	49.4	-76.1	18.6
sur	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	4:12	-23.2	-44.9	-69.3	17.2	-26.3	-50.7	-78.2	18.9	-29.8	-57.4	-88.5	20.9
	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
	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
	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
	10:12	-26.1	-31.6	-31.6	27.4	-29.6	-35.7	-35.7	30.4	-33.5	40.4	40.4	34.0
	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
	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
æ	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
	2:12	2.1	2.1		2.3	2.4	2.5	3.0	3.1	3.4	4.0	4.5	5.2
	3:12	3.0	3.0	3.0	3.0	3.1	3.2	3.7	3.8	4.1	4.7		5.9
	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	3.3	3.3	3.3	3.4	3.5	3.6	4.0	4.2	4.5	2.0	5.6	6.2
	6:12	3.6	3.6	3.6	3.6	χ. Σ	3.9	4.3	4.5	4.7	5.3	2.8	6.5
pe	7:12	x, c	x, c	x, c	x, x	4.0	4.1	4.5	4.7	4.9 1.1	5.5 5.5	0.9	6,6
	9:12	4.0	4.0	4.0	4.1	4.2	4.3	4.7	4.9	5.1	5.6	6.2	8.9
	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
	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
	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	Sc = 1.25	Ce = 1 E	0 0 - 0	1	1
										25 = 1.J	35 = Z.U	Ss = 2.5	SS = 3.1

East Coast (Low Snow)*

ASCE 7-05

...... 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.

Lateral





		a	bidg. Height Up Pressures (psf)	bidg. Height = 15 it. Jp Pressures (psf) Do	L. Down(psf)	<u>a</u> 3	bidg. neignt = 50 rt. Up Pressures (psf) Do	ost)	Down (psf)	d d	bidg. Height Up Pressures (psf)	Didg. Height = 50 it.	Down (psf
Rox	Roof Pitch	Zone 1	Zone 2	Zone 3		Zone 1	Zone 2	Zone 3		Zone 1	Zone 2	Zone 3	
Н	1:12	-9.8	-18.6	-29.7	14.8	-9.8	-18.6	-29.7	14.8	-12.1	-22.9	-36.3	14.8
	2:12	-8.7	-17.5	-27.5	14.4	-8.7	-17.5	-27.5	14.4	-10.8	-21.6	-33.6	14.4
(1)	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
7	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
u)	5:12	-8.8	-17.6	-27.6	13.2	-8.8	-17.6	-27.6	13.2	-10.9	-21.6	-33.7	13.2
, a	6:12	8.8	-17.7	-27.6	13.0	8.8	-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
w	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
0	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
1	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
1	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
1	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
ľ	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	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
9	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
- W	8:12	-12.4	-15.0	-15.0	15.3	-14.4	-17.5		17.1	-16.8	-20.4	-20.4	19.3
0	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
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
1	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
1	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
13	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
(1)	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
7	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
4,	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
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
51	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
1	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
1	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
1	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
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
,,	1:12	0.7	0.8	1.0	1.1	1.3	1.4	1.9				4.0	
. 4	2:12	1.4	1.4	1.6	1.7	1.9	2.0	2.4	2.6	2.9		4.3	5.2
(1)	3:12	1.9	1.9	2.0	2.2	2.4	2.5	2.9		3.4		4.6	5.5
7	4:12	2.0		2.2	2.4	2.5	5.6	3.1	3.2	3.5		4.9	2.8
2,	5:12	2.4	2.4	2.5	2.7	2.8	5.9	3.4	3.5	3.8	4.4	5.1	0.0
	6:12	2.7	2.7	2.8	2.9	3.1	3.2	3.6	3.00	4.0	4.6	5.3	6.2
1	7:12	2.9	2.9	3.0		3.3	3.4	3.8	4.0	4.2	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	9.6	6.5
51	9:12	3.2	3.2	3.3	3.4	3.6	3.7	4.1	4.2	4.5	2.0	5.7	6.5
Ť,	10:12	3.3	m. 0	3.4	3.5	3.7	œ. 0	4.2		4.6			9.9
	11:12	y, y	y, y	3.5	3.6	3.7	x 0	4.2	4.4	4.6	5.2	9.9	0.0
1	71.7	Se = 0.0		Sc = 0.2	Sc = 0.3	Sc = 0.4	Sc = 0.5	Sc = 10		Sc = 1 5		Sc = 2	Sc = 3.1
		3		ב ב	20 0	1 6	3	4 6	0	il c	3	1 0	10 10
		0.0	0.7	0.5		6.0	1.0	1.0	1.8	7.7	5.3	3.0	ů.

California*

ASCE 7-10

110 mph

Basic Wind Speed

5 psf

Ground Snow Load





Cornel II Cornel II <t< th=""><th></th><th>5 -</th><th>In Drace uses (not)</th><th>200</th><th>Donney Local</th><th>The Description of the</th><th>Dependence</th><th>1</th><th>Down food</th><th>-</th><th>Dependent of the</th><th>900</th><th></th></t<>		5 -	In Drace uses (not)	200	Donney Local	The Description of the	Dependence	1	Down food	-	Dependent of the	900	
108 205 326 148 108 205 326 148 309 309 <th>Roof Pitch</th> <th>Zone 1</th> <th>Zone 2</th> <th>Zone 3</th> <th>(Isd)</th> <th></th> <th>Zone 2</th> <th>Zone 3</th> <th>DOWII (psi)</th> <th></th> <th>Zone 2</th> <th>Zone3</th> <th>low (lbs)</th>	Roof Pitch	Zone 1	Zone 2	Zone 3	(Isd)		Zone 2	Zone 3	DOWII (psi)		Zone 2	Zone3	low (lbs)
96 193 392 144 96 193 302 144 149 496 193 302 144 416 120 237 369 97 1193 302 140 410 110 237 369 97 1194 302 132 302 132 302 132 302 312 312 302 302 302 312 312 302 302 302 313 302 313 302 312 312 312 302 312 312 312 302 312 302 312 312 302 314 312	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
96 193 302 140 36 193 302 140 36 193 302 302 132 302 132 312 312 323 302 302 312 312 312 323 302 302 312 312 312 323 302 302 313 302 313 302 313 302 313 302 313 313 314 134	2:12	9.6-	-19.3	-30.2	14.4	9.6-	-19.3	-30.2	14.4	-11.9	-23.7	-36.9	14.4
97 193 302 13.2 49.7 193 302 13.2 40.7 13.9 30.2 13.2 40.7 13.9 30.2 13.2 40.7 13.9 30.2 13.2 13.0<	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
9,7 19,4 30,2 13,2 9,7 19,4 30,2 13,2 9,7 19,4 30,2 13,2 13,2 12,0 23,8 30,7 11,0 13,4 13,4 13,4 13,4 13,4 13,6 13,6 13,6 13,6 13,6 13,6 15,6 16,5 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7 16,7<	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
9.7 1.94 3.03 13.0 9.7 1.94 3.03 13.0 9.7 1.94 3.03 13.0 9.7 1.94 13.0 13.0 13.0 13.0 13.0 13.0 13.0 13.4 14.1 11.0 13.4 13.4 14.1 11.0 13.4 13.0 13.0 13.4 14.1 11.1 13.5 13.6 13.6 13.7 11.1 13.5 13.7 11.1 13.5 13.7 11.1 13.5 13.7 11.1 13.6 13.7 11.1 13.6 13.7 14.0 13.2 13.7 11.1 13.5 13.7 14.0 13.2 14.0 13.2 14.1 13.6 13.7 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.0 13.2 14.	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
110 134 134 142 110 134 134 142 110 134 134 144 141 136 136 140 111 134 134 141 141 135 136 141 135 136 141 135 136 137 140 111 135 136 137 141 135 136 137 141 136 136 137 140 141 135 136 137 140 140 141 135 136 137 140 141 136 136 137 140 <td>6:12</td> <td>-9.7</td> <td>-19.4</td> <td>-30.3</td> <td>13.0</td> <td>-9.7</td> <td>-19.4</td> <td>-30.3</td> <td>13.0</td> <td>-12.1</td> <td>-23.8</td> <td>-37.0</td> <td>13.0</td>	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
110 134 134 141 110 134 136 136 165 165 165 165 165 165 165 165 165 165 111 135 135 134 141 135 135 140 111 135 135 140 136 135 111 135 135 141 135 135 111 135 135 141 135 136 111 135 136 137 111 135 136 136 137 137 140 136 137 140 136 137 140 137 140 <td>7:12</td> <td>-11.0</td> <td>-13.4</td> <td>-13.4</td> <td>14.2</td> <td>-11.0</td> <td>-13.4</td> <td>-13.4</td> <td>14.2</td> <td>-13.6</td> <td>-16.5</td> <td>-16.5</td> <td>16.5</td>	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
111 135 135 140 111 135 135 136 111 135 136 136 137 136 136 137 136 137 137 131 135 135 137 111 135 135 137 111 136 136 137 111 136 137 111 136 137 111 136 137 111 136 137 141 138 137 141 136 137 141 136 137 141 136 137 144 136 137 140 <td>8:12</td> <td>-11.0</td> <td>-13.4</td> <td>-13.4</td> <td>14.1</td> <td>-11.0</td> <td>-13.4</td> <td>-13.4</td> <td>14.1</td> <td>-13.6</td> <td>-16.5</td> <td>-16.5</td> <td>16.4</td>	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
111 135 136 111 135 136 148 116 136 136 140 127 461 140 160 136 140 140 275 462 140 160 130 140 160 140 160 <td>9:12</td> <td>-11.1</td> <td>-13.5</td> <td>-13.5</td> <td>14.0</td> <td>-11.1</td> <td>-13.5</td> <td>-13.5</td> <td>14.0</td> <td>-13.6</td> <td>-16.6</td> <td>-16.6</td> <td>16.3</td>	9:12	-11.1	-13.5	-13.5	14.0	-11.1	-13.5	-13.5	14.0	-13.6	-16.6	-16.6	16.3
111 136 136 137 111 136 136 137 111 136 141 140 275 441 148 136 139 130 140 140 140 140 160 140 160 140 160 <td>10:12</td> <td>-11.1</td> <td>-13.5</td> <td>-13.5</td> <td>13.8</td> <td>-11.1</td> <td>-13.5</td> <td>-13.5</td> <td>13.8</td> <td>-13.7</td> <td>-16.6</td> <td>-16.6</td> <td>16.2</td>	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
11.2 13.6 13.6 -11.2 -13.6 -1	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
134 25.1 39.8 14.8 1.5.6 29.2 46.1 14.8 18.6 31.6 31.6 14.4 -14.0 27.5 -46.7 14.4 -16.3 31.9 49.5 -119 -23.7 -36.9 14.4 -14.0 -27.5 -42.8 13.2 -16.3 31.9 -49.5 -12.0 -23.7 -36.9 13.2 -14.0 -27.5 -42.8 13.2 -16.9 -49.5 -12.0 -23.7 -36.9 13.2 -14.0 -27.5 -42.8 13.2 -16.4 -32.0 -49.5 -12.0 -23.8 -37.0 13.0 -14.1 -27.6 -42.8 13.2 -16.4 -32.0 -49.5 -13.6 -16.5 -16.5 16.4 -14.0 -27.5 -42.8 13.0 -18.4 -27.5 -42.8 13.0 -49.5 -27.5 -42.8 13.0 -18.0 -27.5 -42.8 13.0 -18.0 -27.5 -42.8 13.	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
113 2.33 3.65 144 -140 27.5 -42.7 144 -163 31.9 495 -120 2.33 -36.9 140 -140 27.5 -42.7 140 -163 31.9 495 -120 -2.34 -36.9 13.2 -140 27.5 -42.7 140 -163 31.9 -49.5 -120 -2.34 -36.9 13.0 -14.1 27.6 -42.8 13.2 -164 32.0 -49.5 -120 -2.34 -37.0 13.0 -14.1 -27.6 -42.8 13.2 -164 32.0 -49.5 -121 -2.34 -37.0 13.0 -14.1 -27.5 -42.8 13.2 -164 -32.0 -49.5 -134 -165 -16.5 -16.9 -19.2 -19.2 18.8 -22.3 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4	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
12.0 2.33 3.65 14.0 -14.0 27.5 -42.7 14.0 -16.3 3.1 -49.5 -12.0 2.33 -36.9 13.2 -14.0 27.5 -42.8 13.2 -16.3 32.0 -49.5 -12.0 2.33 -30.9 13.2 -14.0 27.5 -42.8 13.2 -16.3 -30.0 -49.5 -13.1 -16.5 -16.5 16.5 -16.5 16.4 -15.9 -19.2 -19.2 18.4 -18.4 -22.3 -22.4 -13.6 -16.5 -16.5 16.4 -15.9 -19.2 -19.2 18.4 -22.3 -22.4 -13.7 -16.6 -16.6 16.2 -15.9 -19.2 -19.2 18.4 -22.3 -22.3 -13.7 -16.6 -16.7 -16.0 -19.4 -19.4 -18.4 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3 -22.3	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
120 2.33 -36.9 13.2 -14.0 -27.5 -42.8 13.2 -16.4 -32.0 -49.5 -120 -23.8 -37.0 13.2 -14.0 -27.6 -42.8 13.2 -16.4 -32.0 -49.5 -13.6 -16.5 -16.5 16.5 16.5 16.4 -12.9 -19.2 19.2 -19.2 18.4 -18.4 -22.3 -49.5 -13.6 -16.5 -16.5 16.4 -15.9 -19.2 -19.2 18.4 -18.4 -22.3 -22.3 -13.7 -16.6 -16.6 16.2 -15.9 -19.3 18.3 -18.5 -22.4 -22.3 <td>3:12</td> <td>-12.0</td> <td>-23.7</td> <td>-36.9</td> <td>14.0</td> <td>-14.0</td> <td>-27.5</td> <td>-42.7</td> <td>14.0</td> <td>-16.3</td> <td>-31.9</td> <td>-49.5</td> <td>14.1</td>	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
-12.0 -23.8 -37.0 13.2 -14.0 -27.6 -42.8 13.2 -16.4 -32.0 -49.6 -13.1 -33.8 -37.0 13.0 -14.1 -27.6 -42.8 13.0 -16.4 -32.0 -49.5 -13.6 -16.5 -16.5 -16.5 -16.4 -15.9 -19.2 -19.2 18.6 -18.4 -22.3 -23.3 -13.6 -16.5 -16.6 -16.6 -16.6 -16.9 -19.2 -19.2 18.6 -18.6 -22.4 -22.3 -13.7 -16.6 -16.6 -16.9 -19.2 -19.3 -18.2 -18.2 -22.4 -22.4 -22.4 -13.7 -16.6 -16.0 -16.0 -19.4 -19.4 -19.4 -18.7 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -22.4 -2	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
-12.1 -23.8 -37.0 13.0 -14.1 -27.6 -42.8 13.0 -14.1 -27.6 -42.8 13.0 -14.1 -27.6 -42.8 13.0 -14.1 -27.6 -15.2 -15	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
-136 -165 -166 -165 -165 -166 -165 -165 -166 -165 -169 -193 -183 -185 -223 -223 -137 -166 -166 -160 -160 -194 -194 -186 -225 -225 -137 -167 -167 -160 -160 -194 -194 -186 -225 -225 -225 -147 -290 -450 -144 -168 -32.8 -50.8 143 -181 -325 -225 -225 -225 -225 -225 -144 -16.8 -32.8 -50.8 147 -19.1 -19.1 -19.2 -19.2 -19.2 -19.2 -19.2 -19.2 -19.2 -18.2 -22.2 -22.2	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
13.6 16.5 16.5 16.4 15.9 19.2 19.2 18.4 18.4 18.4 22.3 22.4 13.6 16.6 16.6 16.6 16.9 19.9 19.3 19.3 18.5 18.5 22.4 22.4 13.7 -16.6 16.6 16.0 -16.0 19.4 19.3 18.2 -18.5 22.4 22.4 13.7 -16.7 -16.0 -16.0 -19.4 19.4 18.7 -18.5 22.5 22.5 13.7 -16.7 -16.0 -16.0 -19.4 18.8 -19.3 18.2 -22.8 22.8 22.8 -22.8 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.5 -22.9 -13.2 -22.8 -20.8 14.7 -19.1 -23.1 -23.1 -23.1 -23.2 -22.5 -22.5 -22.5 -22.5	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
-13.6 -16.6 -19.4 -18.7 -18.6 -22.4 -22.4 -22.4 -13.3 -16.7 -16.0 -16.0 -19.4 -19.4 18.6 -22.5 -22.5 -14.8 -29.0 -45.0 14.4 -16.8 -32.8 -50.8 14.7 -19.1 -22.5 -14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.9 13.7 -19.1 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9 -22.9	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
-13.7 -16.6 -16.6 -16.0 <th< 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></th<>	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
-13.7 -16.7 -16.0 <th< 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></th<>	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
-13.8 -16.7 -15.9 -16.0 -19.4 -19.4 -19.4 17.9 -18.6 -22.5 -22.5 -22.5 -22.5 -22.5 -48.7 -18.8 -18.8 -18.4 -18.8 -18.8 -18.8 -18.8 -18.8 -18.8 -18.8 -18.8 -18.8 -18.8 -22.8 -18.9	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
165 30.7 48.5 14.8 -18.7 -34.8 -54.8 14.8 -18.7 -34.8 -54.8 14.8 -18.7 -34.9 -54.8 14.9 -18.9 -32.8 -50.8 14.7 -30.9 45.0 14.4 -16.8 -32.8 -50.8 14.7 -19.1 -37.2 -57.5 -14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.9 13.7 -19.1 -37.2 -57.6 -14.8 -29.0 -45.0 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 -14.8 -29.0 -45.0 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -32.0 -19.2 -57.6 -19.2 -57.6 -19.2 -19.2 -57.9 -19.2 -19.2 -57.9 -19.2 -57.6 -19.2 -57.6 -19.2 -57.6 -27.0 -27.0 -27.0 -27.0 -27.0 -27.0 -27.0 -27.0 -27.0<	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
-14.7 -29.0 -45.0 14.4 -16.8 -32.8 -50.8 14.7 -19.1 -37.2 -57.5 -14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.8 14.3 -19.1 -37.2 -57.6 -14.8 -29.0 -45.0 13.2 -16.8 -32.8 -50.9 13.7 -19.1 -37.2 -57.6 -14.8 -29.0 -45.1 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 -14.9 -29.1 -45.1 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 -14.9 -29.1 -45.1 13.0 -16.9 -32.9 -50.9 13.7 -19.1 -37.2 -57.6 -16.7 -20.2 19.1 -18.9 -22.9 -22.9 13.2 -19.1 -37.3 -57.6 -16.8 -20.3 19.1 -19.1 -23.0 -11.0 -22.0	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
-14.8 -29.0 -45.0 14.0 -16.8 -32.8 -50.9 14.3 -19.1 -37.2 -57.6 -14.8 -29.0 -45.0 13.2 -16.8 -32.8 -50.9 13.7 -19.1 -37.2 -57.6 -14.8 -29.0 -45.1 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.3 -57.6 -14.9 -29.1 -45.1 13.0 -16.9 -32.9 -50.9 13.5 -19.2 -37.3 -57.6 -14.9 -29.1 -45.1 13.0 -16.9 -22.9 13.5 -19.2 -37.3 -57.6 -16.7 -20.2 -20.2 19.3 -19.0 -23.0 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -22.9 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 -21.2 </td <td>2:12</td> <td>-14.7</td> <td>-29.0</td> <td>-45.0</td> <td>14.4</td> <td>-16.8</td> <td>-32.8</td> <td>-50.8</td> <td>14.7</td> <td>-19.1</td> <td>-37.2</td> <td>-57.5</td> <td>15.7</td>	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
-14.8 -29.0 -45.0 13.2 -16.8 -32.8 -50.9 13.7 -19.1 -37.2 -57.6 -14.8 -29.0 -45.1 13.2 -16.8 -32.9 -50.9 13.7 -19.1 -37.3 -57.6 -14.9 -29.1 -45.1 13.2 -16.8 -32.9 -50.9 13.5 -19.2 -37.3 -57.6 -14.9 -29.1 -45.1 13.0 -16.9 -32.9 -50.9 13.5 -19.2 -37.3 -57.6 -16.7 -20.2 10.3 -18.9 -22.9 -22.9 -21.9 -21.9 -21.9 -21.9 -21.9 -21.0 -21.0 -21.0 -20.0 -	3:12	-14.8	-29.0	-45.0	14.0	-16.8	-32.8	-50.8	14.3	-19.1	-37.2	-57.6	15.3
$ \begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	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
14.9 -29.1 45.1 13.0 -16.9 -32.9 -50.9 13.5 -19.2 -37.3 -57.7 -16.7 -20.2 -20.2 18.9 -22.9 -22.9 -22.9 21.3 -21.5 -26.0 -26.0 -16.7 -20.3 -20.3 19.2 -19.0 -23.0 -23.0 21.2 -21.6 -26.1 -26.1 -16.8 -20.4 -20.4 19.0 -19.0 -23.0 -23.0 21.1 -21.6 -26.1 -26.1 -16.8 -20.4 -20.4 19.0 -19.0 -23.0 -23.0 21.1 -21.6 -26.1 -26.1 -16.8 -20.4 -20.4 19.0 -19.0 -23.0 -21.0 -21.0 -26.2 -26.2 -16.9 -20.4 -20.4 18.7 -19.1 -23.1 -20.7 -21.7 -26.2 -26.2 -16.9 -20.4 18.7 -19.1 -23.1 -20.7 -21.7 -26.2	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
-16.7 -20.2 -20.2 -18.9 -22.0 -22.0 <th< td=""><td>6:12</td><td>-14.9</td><td>-29.1</td><td>-45.1</td><td>13.0</td><td>-16.9</td><td>-32.9</td><td>-50.9</td><td>13.5</td><td>-19.2</td><td>-37.3</td><td>-57.7</td><td>14.8</td></th<>	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
-16.7 -20.3 -23.0 -23.1 <th< td=""><td>7:12</td><td>-16.7</td><td>-20.2</td><td>-20.2</td><td>19.3</td><td>-18.9</td><td>-22.9</td><td>-22.9</td><td>21.3</td><td>-21.5</td><td>-26.0</td><td>-26.0</td><td>23.7</td></th<>	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
-16.8 -20.3 -20.3 -23.0 -23.0 -23.0 21.1 -21.6 -26.1 -26.1 -26.1 -26.2	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
-16.8 -20.4 -20.4 19.0 -19.0 -23.0 -23.0 21.0 -21.6 -26.2 -	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
-16.8 -20.4 -20.4 18.8 -19.1 -23.1 -23.1 20.9 -21.7 -26.2 -26.2 -26.2 -16.9 -20.4 18.7 -19.1 -23.1 -23.1 20.7 -21.7 -26.2 -26.2 -16.9 -20.4 18.7 -19.1 -23.1 -23.1 20.7 -21.7 -26.2 -26.2 0.7 0.8 1.0 1.1 1.3 1.4 1.9 2.1 2.7 2.1 2.5 3.2 4.0 1.9 1.0 0.8 1.0 1.1 1.3 1.4 1.9 2.0 2.1 2.2 2.2 3.2 3.2 3.2 4.0 4.2 4.3 4.0 4.2 4.3 4.0 4.2 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.3 4.4 4.3 5.2 2.2 2.2 2.2 3.2 4.2 4.3 4.4 4.4 5.1 <td< td=""><td>10:12</td><td>-16.8</td><td>-20.4</td><td>-20.4</td><td>19.0</td><td>-19.0</td><td>-23.0</td><td>-23.0</td><td>21.0</td><td>-21.6</td><td>-26.2</td><td>-26.2</td><td>23.3</td></td<>	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
-16.9 -20.4 -20.4 18.7 -19.1 -23.1 20.7 -21.7 -26.2 -27.2 -	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
SS=0.0 SS=0.1 SS=0.0 SS=0.0<	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
0.7 0.8 1.0 1.1 1.3 1.4 1.9 2.1 2.5 3.2 4.0 1.4 1.4 1.6 1.7 1.9 2.0 2.4 2.6 2.9 3.1 3.6 3.5 4.3 1.9 1.9 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.9 4.6 2.0 2.0 2.2 2.4 2.5 2.9 3.1 3.2 3.5 4.9 4.6 4.9 2.4 2.5 2.7 2.8 2.9 3.1 3.2 3.8 4.0 4.9 4.9 4.9 2.7 2.7 2.8 2.9 3.4 3.8 4.0 4.6 5.1 5.3 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.9 5.1 3.0 3.0 3.1 3.3 3.4 3.8 4.0 4.1 4.9 5.0 3.	Roof Pitch	Ss = 0.0	Ss = 0.1	Ss = 0.2	= 0	Ss = 0.4	Ss = 0.5	Ss = 1.0	11	Ss = 1.5	Ss = 2.0	= 2	Ss = 3.1
1.4 1.6 1.7 1.9 2.0 2.4 2.6 2.9 3.6 4.3 1.9 1.9 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.9 4.6 2.0 2.0 2.2 2.4 2.5 2.9 3.1 3.2 3.5 4.2 4.9 2.0 2.0 2.2 2.4 2.5 2.6 3.1 3.2 3.8 4.0 4.9 4.9 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.6 5.1 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 3.0 3.0 3.1 3.3 3.4 3.8 4.0 4.1 4.9 5.6 3.2 3.2 3.2 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.5 3.7 4.1 4.	1:12	0.7	0.8	1.0	1.1			1.9			3.2	4.0	4.8
1.9 1.9 2.0 2.2 2.4 2.5 2.9 3.1 3.4 3.9 4.6 2.0 2.0 2.2 2.4 2.5 2.6 3.1 3.2 3.5 4.2 4.9 2.4 2.2 2.4 2.5 2.6 3.1 3.2 3.5 4.2 4.9 4.9 2.4 2.2 2.7 2.8 2.9 3.4 3.5 3.8 4.0 4.4 4.9 5.1 2.9 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.5 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.2 3.4 3.5 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.9 3.3 3.3 3.	2:12	1.4	1.4	1.6	1.7	1.9	2.0	2.4		2.9	3.6	4.3	5.2
2.0 2.0 2.2 2.4 2.5 3.6 3.1 3.2 3.5 4.2 4.9 4.9 2.4 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.4 5.1 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 2.9 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.3 3.3 3.4 3.5 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.7 4.1 4.2 4.6 5.1 5.8 3.3 3.3 3.5 3.7 4.1 4.6 5.1 5.	3:12	1.9	1.9	2.0	2.2	2.4	2.5	2.9	3.1	3.4	3.9	4.6	5.5
2.4 2.4 2.5 2.7 2.8 2.9 3.4 3.5 3.8 4.4 5.1 2.7 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 2.9 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.5 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.3 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 3.4 3.5 3.7 3.8 4.2 4.	4:12	2.0	2.0	2.2	2.4	2.5	5.6	3.1	3.2	3.5	4.2	4.9	5.8
2.7 2.7 2.8 2.9 3.1 3.2 3.6 3.8 4.0 4.6 5.3 2.9 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 3.4 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 3.4 3.5 3.7 3.8 4.3 4.4 4.	5:12	2.4	2.4	2.5	2.7	2.8	2.9	3.4	3.5	0	4.4	5.1	0.0
2.9 2.9 3.0 3.1 3.3 3.4 3.8 4.0 4.2 4.8 5.5 3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.7 3.8 4.2 4.4 4.6 5.2 5.9 5.a 3.7 3.8 4.2 4.4 4.6 5.2 5.9 5.a 3.7 3.8 3.9 4.3 4.7 5.3 5.9 5.a 5.a 5.a 5.a 5.a 5.a 5.a 5.a 5.a<	6:12	2.7	2.7	2.8	5.9	3.1	3.2	3.6	3.8	4.0	4.6	5.3	6.2
3.0 3.0 3.1 3.3 3.4 3.5 4.0 4.1 4.4 4.9 5.6 3.2 3.2 3.3 3.4 3.6 3.7 4.1 4.2 4.5 5.0 5.7 3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 5.2 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 5.2 5.0 5.2 5.9 4.3 4.4 4.7 5.3 5.9 5.2 5.0 5.2 5.2 5.9 5.2 5.9 5.9	7:12	2.9	2.9	3.0	3.1	m m	3.4	ထ	4.0	4.2	8.8	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 3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 5.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 5.5 = 0.0 5.5 = 0.1 5.5 = 0.1 5.5 = 1.0 5.5 = 1.5 5.5 = 2.0 5.5 = 2.5	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
3.3 3.3 3.4 3.5 3.7 3.8 4.2 4.3 4.6 5.1 5.8 3.3 3.3 3.5 3.6 3.7 3.8 4.2 4.4 4.6 5.2 5.9 3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 5s=0.0 5s=0.1 5s=0.2 5s=0.5 5s=1.0 5s=1.5 5s=1.5 5s=2.0 5s=2.5	9:12	3.2	3.2		3.4	3.6	3.7	4.1	4.2	4.5	2.0	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 5.9 3.4 3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 5.9 8s=0.0 8s=0.1 8s=0.2 8s=0.3 8s=0.4 8s=0.5 8s=1.0 8s=1.2 8s=1.5 8s=2.0 8s=2.5	10:12	3.3	3.3	3.4	3.5	3.7	3.8	4.2	4.3	4.6	5.1	2.8	9.9
3.4 3.4 3.5 3.7 3.8 3.9 4.3 4.4 4.7 5.3 5.9 Ss = 0.0 Ss = 0.1 Ss = 0.2 Ss = 0.3 Ss = 0.4 Ss = 0.5 Ss = 1.0 Ss = 1.5 Ss = 1.5 Ss = 2.0 Ss = 2.5	11:12	m	 		3.6	3.7	ος ος	4.2	4.4	4.6	5.2	5.9	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	12:12	3.4	3.4	3.5	3.7	3,8	3.9	4.3	4.4	4.7			6.7
		Ss = 0.0	Ss = 0.1	Ss = 0.2	$S_S = 0.3$	Sc = 0.4	10			1			

Southwest*

ASCE 7-10

...... 115 mph

Basic Wind Speed

5 psf

Ground Snow Load





		B	Bldg. Height = 15	= 15 f	ft.	В	Bldg. Height = 30 ft	ht = 30	ft.	В	Bldg. Height =	ht = 60 ft.	نړ
	Roof Pitch	Up Zone1	Up Pressures (psf)	one3	Down(psf)	Up Zone 1	Up Pressures (psf)	osf) Zone 3	Down (psf)	Up Zone 1	Up Pressures (psf)	zone3	Down(psf)
	1:12	-14.2	-26.5	-42.0	18.5	-14.2	-26.5	-42.0	18.5	-17.5	-32.5	-51.2	18.5
	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
Ex	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
	4:12	-12.7	-25.0	-38.9	14.6	-12.7	-25.0	-38.9	14.6	-15.7	-30.7	-47.5	14.6
_	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
	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
	7:12	-14.3	-17.4	-17.4	17.2	-14.3	-17.4	-17.4	17.2	-17.6	-21.4	-21.4	20.2
	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
_	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
	10:12	-14.5	-17.5	-17.5	16.9	-14.5	-17.5	-17.5	16.9	-17.8	-21.5	-21.5	19.8
	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	-14.5	-17.6	-17.6	16.6	-14.5	-17.6	-17.6	16.6	-17.8	-21.6	-21.6	19.6
ř.	1.12	-17.5	-325	-512	18.5	-203	-376	-59.3	18.5	-23.7	-43.6	-68.5	18.5
	2.12	15.6	30.5	47.5	17.8	18.0	25.5	2 2	18.7	21.2	411	63.6	100
_	2.12	15.6	20.00	77.5	17.0	10.7	טייים מיי	2 2	17.0	21.2	41.1	2000	10.5
хр	3.12	15.0	20.00	17.5	2.7.0	10.7	25.00	0.00	10.71	217-	41.1	0.00-	15.2
	4.12	15.7	20.7	77.6	14.0	10.2	25.5	0.00	140	21.12	41.2	0.50-	16.7
	6.12	-15.7	-30.7	47.6	13.4	-18.3	-35.6	, F.	14.4	-213	41.2	-63.7	15.9
	7:12	-17.6	-214	-214	20.2	-20.5	-24.8	-24.8	22.8	-23.8	-28.8	-28.8	25.8
	8-12	-177	-214	-214	20.1	-20.6	-24 9	-24 9	22.7	-23.9	-289	-289	25.6
	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
	10:12	-17.8	-215	-215	19.8	-20.6	-25.0	-25.0	22.4	-23.9	-28.9	-28.9	25.4
	11.12	-17.8	-216	-216	19.7	-20.7	-25.0	-25.0	223	-240	-29.0	-29.0	25.3
	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
	1.12	21.4	30.5	A C.2	10.5	24.2	8 77	A 05	19.5	276	507	7 0 7	10.5
	2.12	-19.2	-37.4	-57.8	101	21.5	42.2	65.3	20.2	-247	47.0	-73.9	21.4
	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
	4:12	-19.2	-37.4	-57.9	15.5	-21.8	-42.3	-65.3	16.6	-24.8	47.9	-73.9	18.1
	5:12	-19.3	-37.4	-57.9	15.0	-21.9	-42.3	-65.4	16.3	-24.8	-48.0	-74.0	18.0
	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
_	7:12	-21.6	-26.2	-26.2	23.8	-24.5	-29.6	-29.6	26.4	-27.8	-33.6	-33.6	29.3
	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
	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
	10:12	-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	-21.8	-26.4	-26.4	23.2	-24.7	-29.8	-29.8	25.8	-28.0	-33.8	-33.8	28.7
-	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
	2:12		2.1	2.1	2.3	2.4	2.5	3.0	3.1		4.0	4.5	5.2
	3:12	3.0	3.0		3.0	3.1	3.2	3.7	3.8	4.1	4.7	5.2	5.9
	4:12	2.9	2.9	2.9	3.0	3.1	3.2	3.7	3.9	4.1	4.7	5.2	5.9
_	5:12	3.3	3.3	3.3	3.4	3.5	3.6	4.0	4.2	4.5	5.0	5.6	6.2
	6:12	3.6	3.6	3.6	3.6	3.8	3.9	4.3	4.5	4.7	5.3	5.8	6.5
	7:12	3.8	3.8	3.8	3.8	4.0	4.1	4.5	4.7	4.9	5.5	0.9	9.9
	8:12	3.9	3.9	3.9	4.0	4.1	4.2	4.6	4.8		5.6	6.1	6.7
_	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
	10:12	4.1	4.1	4.1	4.1	4.3	4.4	4.8	4.9	5.2	5.7		6.8
	11:12	4.1	4.1	4.1	4.2	4.3	4.4	8.6	4.9	5.2	5.7	6.1	6.7
-	12:12	4.1	4.1	4.1	4.2	4.3	4.4	8.8	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 7-10

...... 130 mph

Basic Wind Speed

10 psf

Ground Snow Load