Amerimax
BUILDING PRODUCTS, INC.
www.amerimaxbp.com

Lattice Shade Structure
Installation Instructions

Issue Date 3/1/2005

Recommended Tools:

Safety Glasses	Variable Speed Drill	Extension Cord	Pencil
Work Gloves	1/2" Hole Saw	Socket Wrench	Level
Stud Finder	1/8" Drill Bit	Hex Head Drivers	Tape Measure
Ladder	5/16" Drill Bit	Crescent Wrench	Chalk Line
Framing Square	3/8" Masonry Bit	Hammer	Caulk Gun

Before You Begin:
Thank you for choosing the Amerimax Lattice Shade Structure Kit. Before you begin there are several things to note:

1. Please read all instructions carefully. Check the Bill of Materials for any missing parts and gather necessary tools. The paint finish can be damaged, so place materials on a tarp or other material to prevent scratching.
2. You may be required to obtain a building permit for an attached structure from your local building authority. This product can be installed in a 10, 20, 25, 30, 40 or 60 psf (pounds per square foot) snow load and 90 mph wind speed zone. This product is listed under ICBO Evaluation Report 2621P. You may have to submit two copies of your plot plan and also a copy of the evaluation report to your local building authority for a building permit. Contact your local building authority for details on your area's wind and snow load. This structure is classified as a Patio Cover as defined in Appendix Chapter 31 in the 1997 Uniform Building Code. For specific construction details, allowable spans and other technical details refer to ICBO 2621P.
3. Note that this patio cover is not designed to carry additional loads such as hanging plants, swings, people, trellis's or other objects. The minimum width is 75% of the projection. This patio cover may be enclosed with mesh screening.

①

1. Install Ledger Board. (Not included) (see note under step 2)

Note: Use a 2"x8" (1.5"x7.5" true size) Douglas Fir #2 or better for ledger board. Do not used pressed board, OSB or particle board.

A. Select mounting area on wall. Snap a level chalk along the wall to locate the bottom of the ledger board. This should be the post height plus 8" plus 1/2" per foot of projection.

B. Attach ledger board to the side of the house or ends of the roof truss/rafters as marked by the chalkline. Fasten the ledger board to the wood framing using 1/4"x4" lag screws. Refer to Table A below to determine how many lag screws per stud are required. Studs are assumed to be 16" o/c.

CHALK LINE

1/4"x4" LAG SCREW
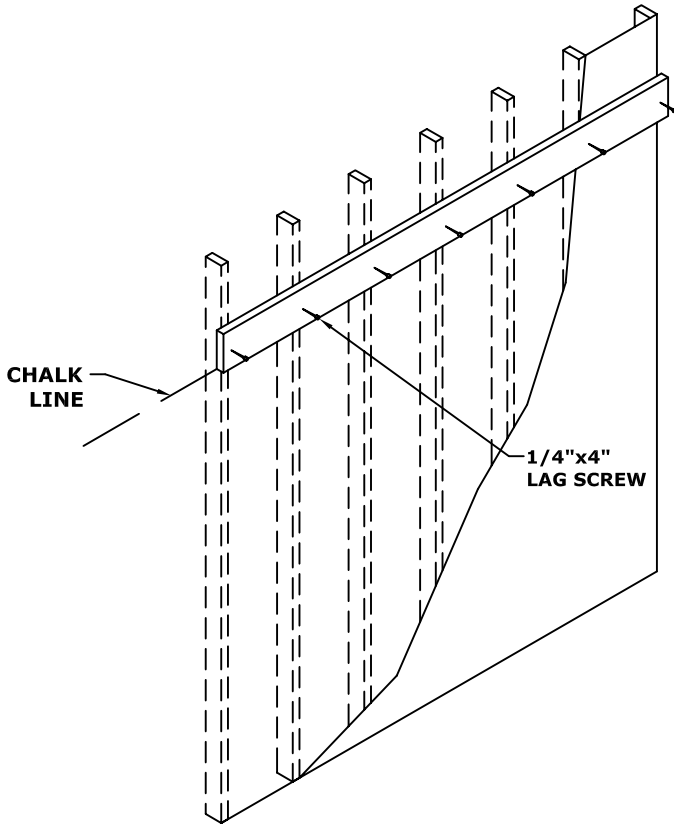
Table A: Lag Screws Required per Stud

Projection (ft)	Snow Load (psf)		
	10	20	30
8'	1	1	1
10'	1	1	1
12'	1	2	2
14'	1	2	2

X

24"

LEDGER BOARD

X

24"

24"

24"

X

24"

X
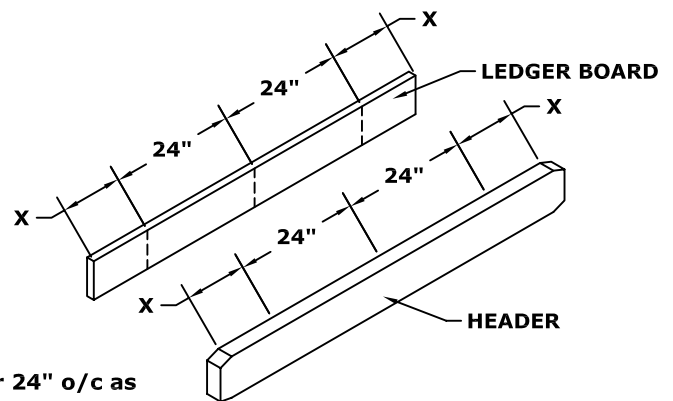
HEADER

2. Mark Header and Ledger

A. Using a straight edge, mark the Ledger 24" o/c as shown. The distance to the ends, "x", are normally the same.

B. Mark the Header, seam side up, the same way.

3. Mount the Rafter Hangers

A. Pre-drill the rafter hangers using a 1/8" bit. Align the rafter hanger on the center of the marks on the ledger board made in the step #2.
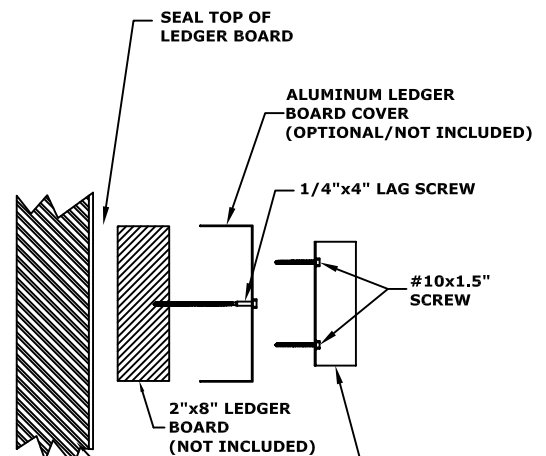
B. Install the top screw of each bracket using #10x1.5" screw. Do not tighten. Locate additional rafter hangers at 24" o/c.

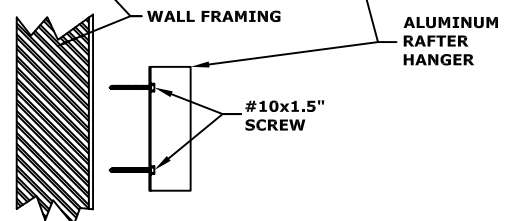C. Use a level or framing square to straighten the bracket and install the botom screw. Tighten the top screw.

D. Apply a bead of caulk to the top and bottom ledger.

Note: A ledger board is not required if the rafter hangers can be mounted directly to the wood framing of the house.

Wall Attachment w/ Ledger Board

Wall Attachment w/o Ledger Board

SEAL TOP OF LEDGER BOARD

ALUMINUM LEDGER BOARD COVER (OPTIONAL/NOT INCLUDED)

1/4"x4" LAG SCREW

#10x1.5" SCREW

2"x8" LEDGER BOARD (NOT INCLUDED)

WALL FRAMING

ALUMINUM RAFTER HANGER

#10x1.5" SCREW

4. Install Rafter Brackets to Header

A. Attach the Rafter Brackets to the seam side of the Header using two #8x1/2" sheet metal screws per bracket. These should spaced to match up with the Ledger Board Rafter Hangers.

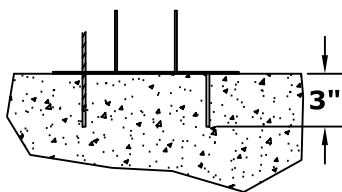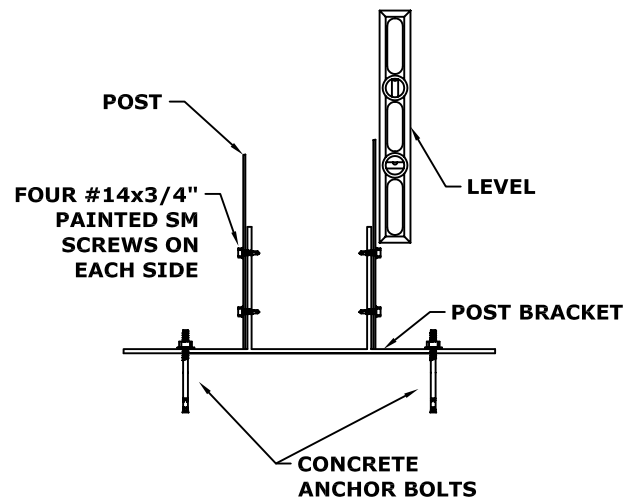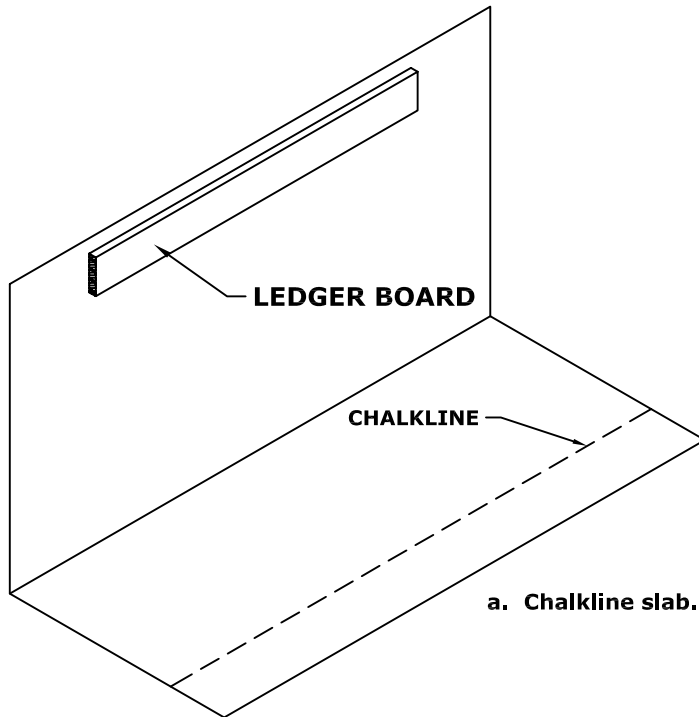**X**

24"

24"

3"x8" HEADER

SEAM SIDE

X

#8x1/2" SHEET METAL SCREWS
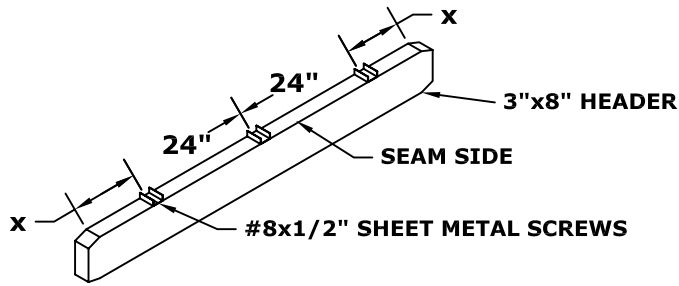
5. Post Bracket Installation and Post Attachment

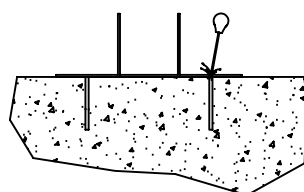**A.** Posts should be plumb and bottom cut off if necessary to adjust the pitch of the panels for proper drainage and, at the same time, to adjust the header so that it is level from end to end. (Recommended roof pitch is 1/2" for each 1 foot of rafter length)

B. With the posts cut to length, plumb them again and mark the slab for attachment. The anchors should be at least 4" away from an edge of the slab or expansion joint and 30" away from any crack. Two 3/8" holes should be drilled through the post brackets and corresponding holes 3" deep into the slab. Attach the brackets to the slab using the concrete anchors provided and hammering them into the concrete making sure not to damage the threads.
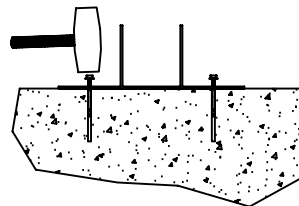
C. Next, fit each post onto its bracket and fasten with four #14x3/4" sheet metal or self drilling screw.
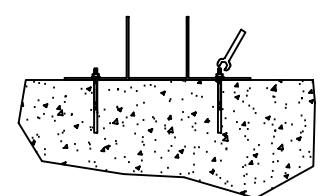
LEDGER BOARD

CHALKLINE

a. Chalkline slab.

POST

FOUR #14x3/4" PAINTED SM SCREWS ON EACH SIDE

LEVEL

POST BRACKET

CONCRETE ANCHOR BOLTS

3"

b. Drill 3/8" hole with the masonry bit at least 3"deep.

**c. Clean hole by blowing out debris.**

d. Drive the concrete anchor bolt far enough into hole so that at least six threads are below the surface. Do not damage threads.

e. Tighten to 7 foot lbs with a torque wrench or 2 to 3 turns from the finger tight position to achieve the proper anchor setting.
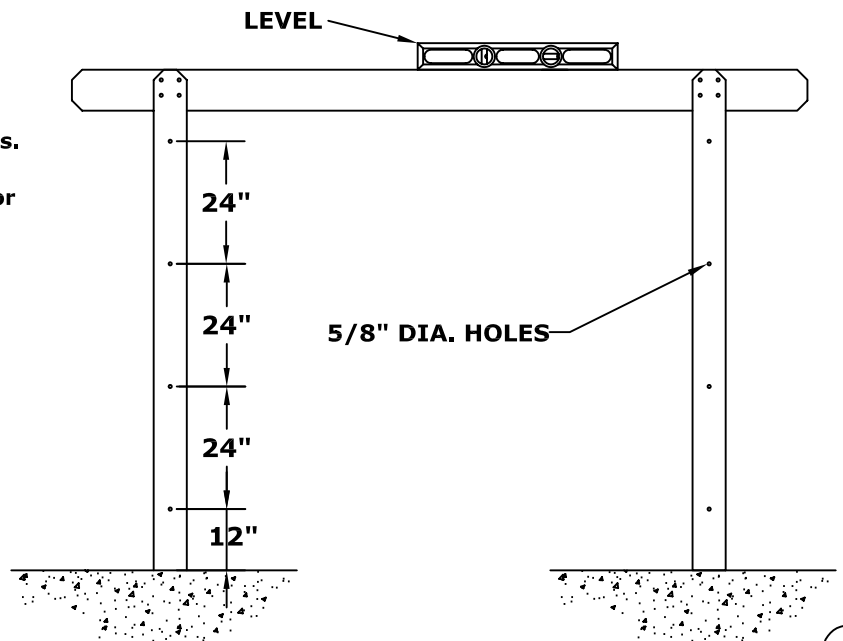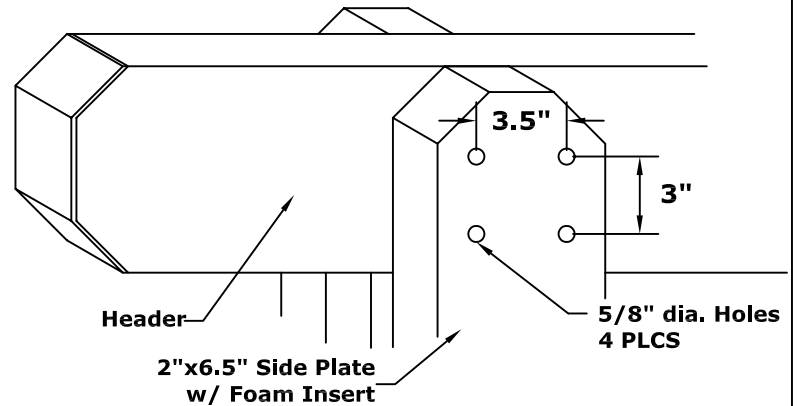
6. Install Header

A. Set the Header on top of the posts. Make sure the seam side is up and the Rafter Brackets line up with the Rafter Hangers on the ledger board or wall.

B. Level the header. Mark the positions where the "U" brackets will be placed.

C. Attach the post to the header using the bracket as shown.

D. Set the Header in place on top of the posts. Using three painted #14x3/4" self drilling screws on each side attach the "U" bracket to the post.

E. Repeat these steps for the remaining posts.

#14 SELF DRILLING SCREW (2 PLCS)

#14x3/4" SMS (6 PLCS)
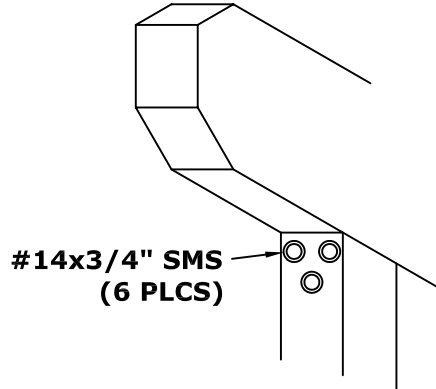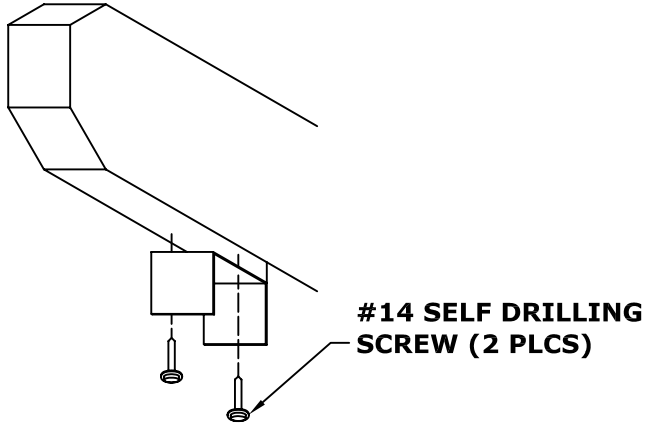
7. Install Sideplates on Posts

Note: Sideplates should be stuffed with foam.

A. Place the sideplate so that it is centered on the post. Measure 12" from the bottom of the sideplate and drill a 5/8" hole through one side and the foam, making sure not to puncture the other side or dent the sideplate.

B. Place a #14x3/4" SM screw through the sideplate into the post.

C. Measure and mark up 24" on center. Drill a 5/8" hole.

D. Use a level to make sure the sideplate is centered on the post and plumb.

E. Place a #14x3/4" SM screw through the remaining holes.

F. Drill four holes into the sideplate as done previously but for the header/sideplate attachment. (As shown)

G. Place a #14x3/4" SM screw into the four holes.

H. Place the 5/8" plugs into the holes.

I. Repeat these steps on the opposite side and for all remaining posts.

3.5"

3"

Header

2"x6.5" Side Plate w/ Foam Insert

5/8" dia. Holes 4 PLCS
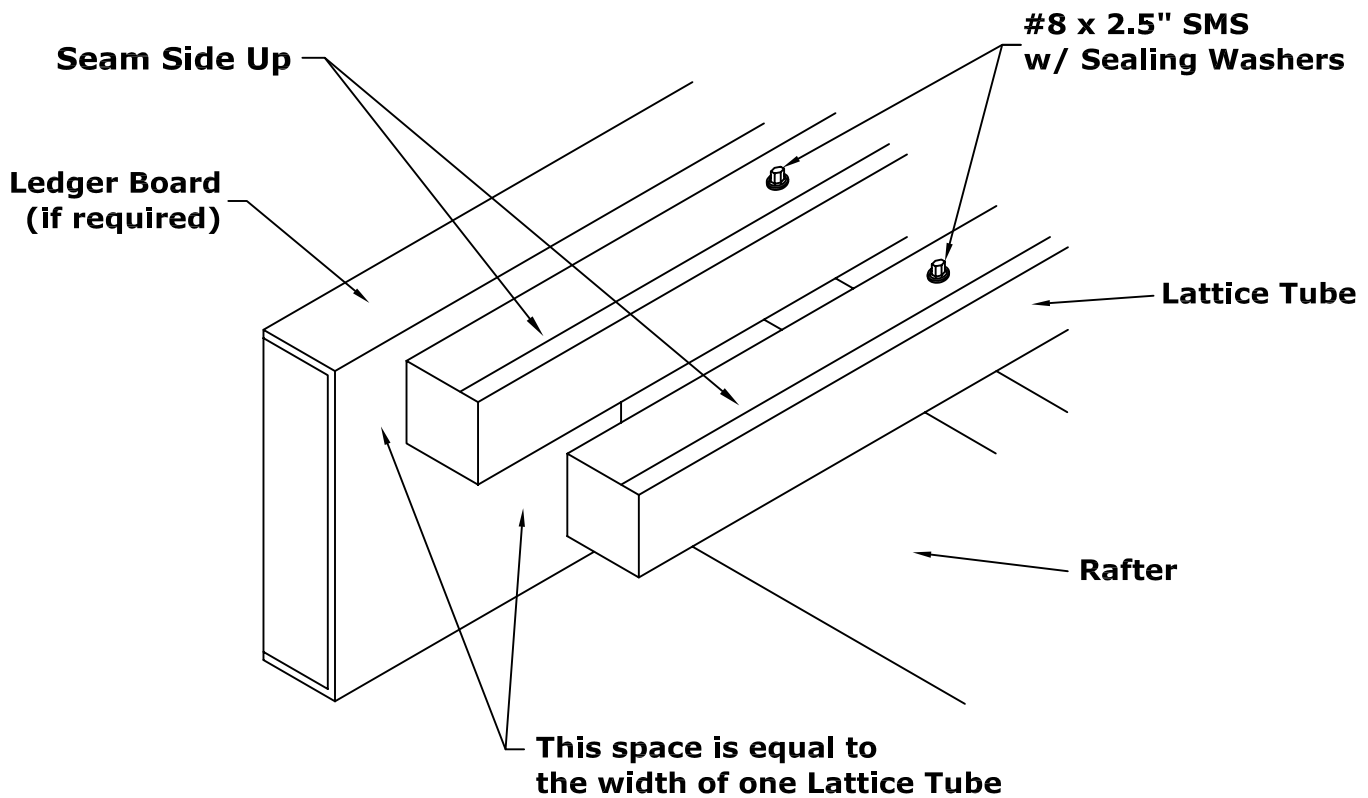
LEVEL

24"

24"

24"

12"

5/8" DIA. HOLES

④
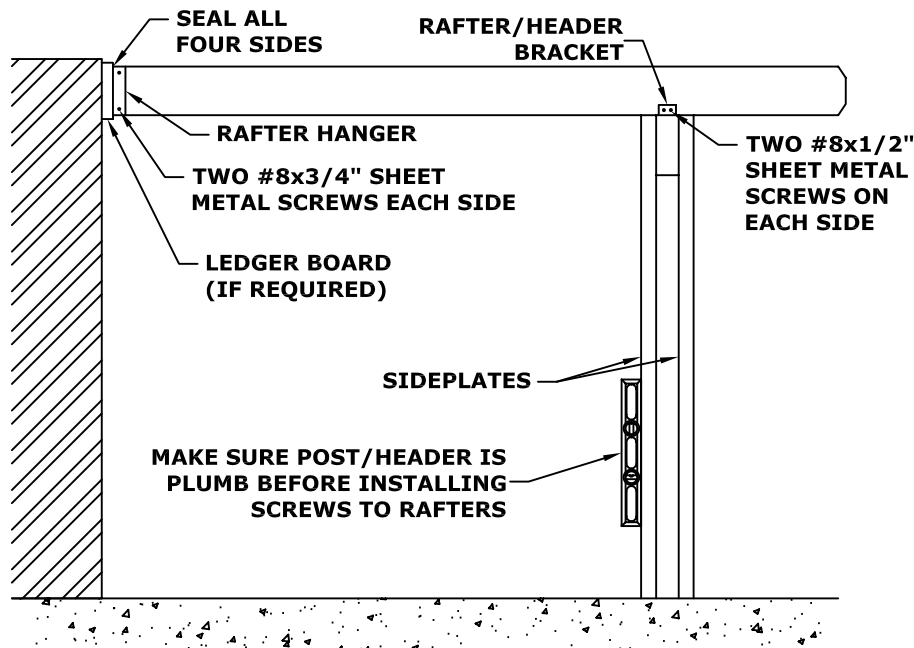
8. Install Rafters

Note: The ends of the ledgerboard may be painted to match the cover.

A. Place a rafter with the seam side up on a rafter hanger (by wall) and in a rafter bracket (on header)on one side of the unit.

B. Secure the rafter to the rafter hanger using one #8x1/2" sheet metal screw.

C. Secure the other end of the rafter to the header using on #8x1/2" sheet metal screw.

D. Install 3 more #8x1/2" screws to the rafter hanger through the rafter and 3 more screws to the rafter bracket.

E. Set the rafter in place on the other side of the unit. Install as above then install the remaining rafters as above.

F. Caulk around each rafter at the wall connection.

SEAL ALL FOUR SIDES

RAFTER/HEADER BRACKET

RAFTER HANGER

TWO #8x3/4" SHEET METAL SCREWS EACH SIDE

LEDGER BOARD (IF REQUIRED)

TWO #8x1/2" SHEET METAL SCREWS ON EACH SIDE

SIDEPLATES

MAKE SURE POST/HEADER IS PLUMB BEFORE INSTALLING SCREWS TO RAFTERS

Seam Side Up

Ledger Board (if required)

#8 x 2.5" SMS w/ Sealing Washers

Lattice Tube

Rafter

This space is equal to the width of one Lattice Tube

8. Install Lattice Tubes

Note: The maximum overhang of thelattice tubes is 16".

A. Install the end caps into both ends of the lattice tubes.

B. Starting one tube width away from the wall, set the first lattice tube in place with the seam side up.

C. Secure the tube to the rafter using a #8x2 1/2" sheet metal screw with a sealing washer. Be careful not to overtighten.

D. Install the remaining lattice tubes with at least one tube width between each. Check periodiaclly to maintain uniform overhang.

BILL OF MATERIALS
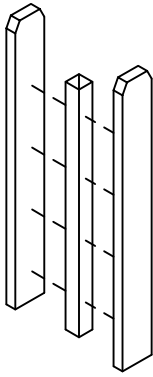
3"x8" HEADER

RAFTER HANGERS

2"X6 5/8" RAFTER

3"X3" ALUMINUM POST

2"X6 5/8" SIDEPLATES (FOAM INSERTS)

LATTICE TUBES

PLASTIC TUBE END CAP

PLASTIC RAFTER END CAP

PLASTIC HEADER END CAP

RAFTER BRACKETS

1/4"X4" LAG SCREW

3/8"X3.5" SS HILTI KWIK BOLT II

#14X3/4" SELF DRILLING SCREW

#10X1/2" SHEET METAL SCREW

10X2" SHEET METAL SCREW
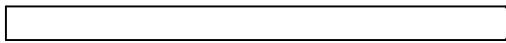
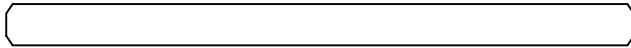#8X1/2" SHEET METAL SCREW

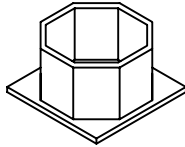#8X2 1/2" SHEET METAL SCREW

POST ASSEMBLY
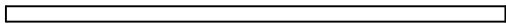
LATTICE TUBES

3"x3" POST
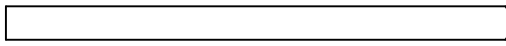
2"X6.625" SIDEPLATE W/ FOAM INSERT

2"X6.625" RAFTER

3"X8" HEADER

LATTICE TUBE ENDCAP
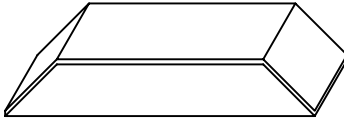
RAFTER ENDCAP
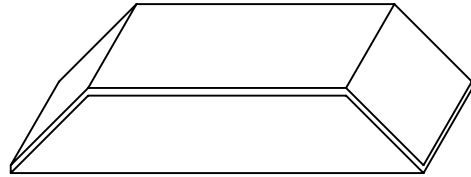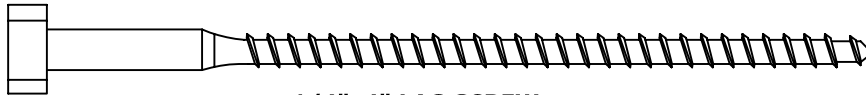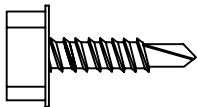
HEADER ENDCAP
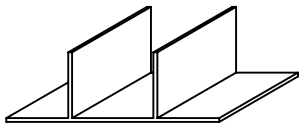
FLANGED "U" BRACKET
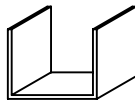
HEADER/POST "U" BRACKET
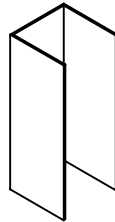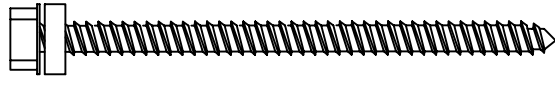
RAFTER BRACKET

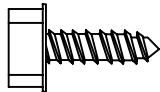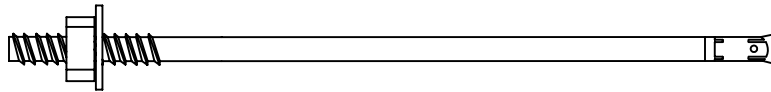RAFTER/HEADER BRACKET

1/4"x4" LAG SCREW

#14X3/4" SDS

#10x1.5" SHEET METAL SCREW

#8x2 1/2" SHEET METAL SCREW

#10x1/2" SMS

3/8"X3.5" SS HILTI KWIK BOLT II