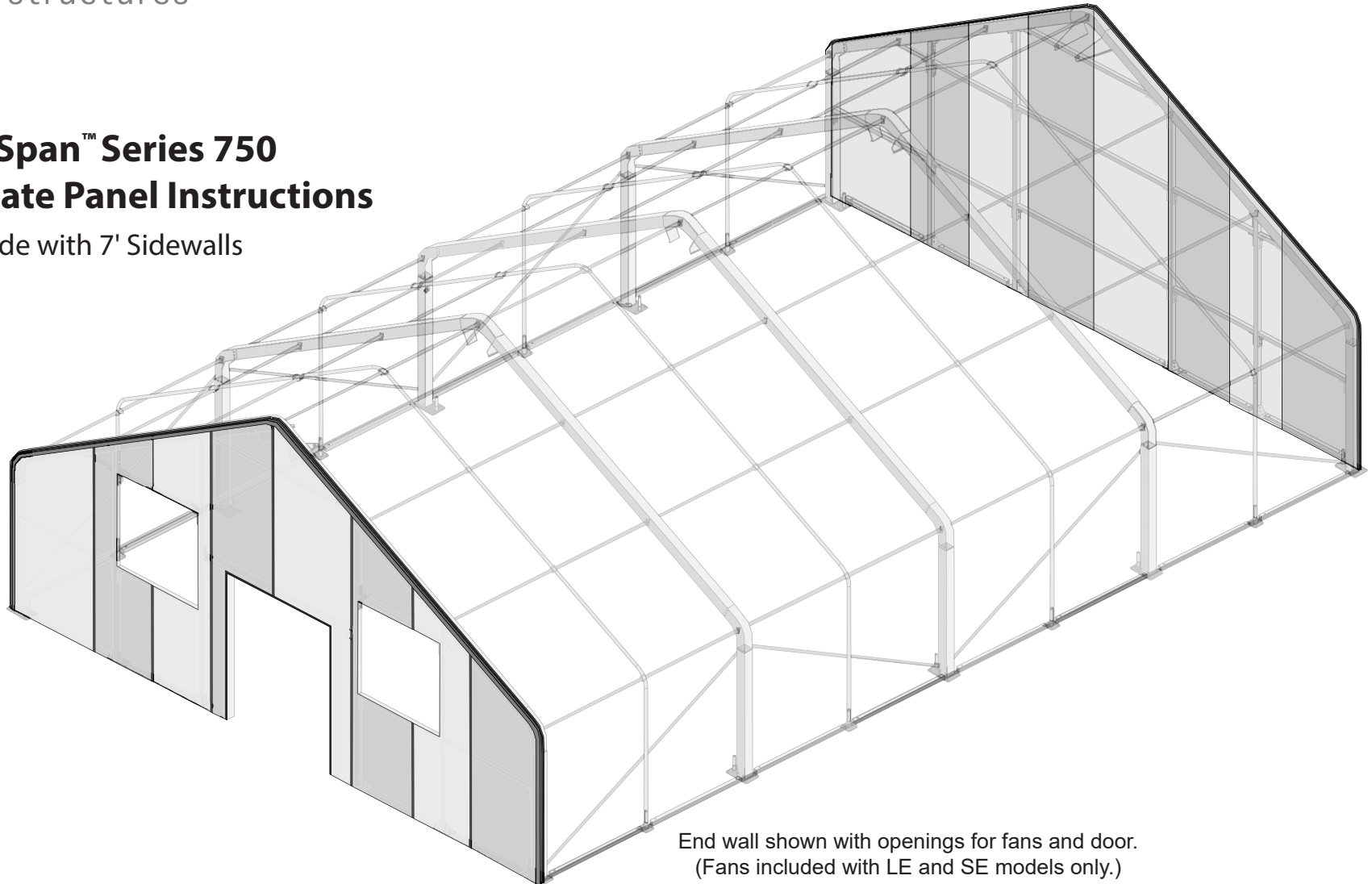**GREEN**

LOCATE MOST COMPONENTS FOR THE END CLADDING INSTALLATION IN PACKAGES IDENTIFIED BY GREEN LABELS OR MARKS.

GrowSpan™ Series 750 Polycarbonate Panel Instructions

32' Wide with 7' Sidewalls

End wall shown with openings for fans and door.
(Fans included with LE and SE models only.)

⚠️ **WARNING:** Cancer and Reproductive Toxicity - P65Warnings.ca.gov

Revision date: 04.25.23

Important Information

READ THIS DOCUMENT BEFORE YOU BEGIN

These instructions include helpful hints and important information needed to safely assemble and properly maintain the polycarbonate end cladding. Please read these instructions *before* you begin.

If you have any questions during the assembly, contact Customer Service for assistance.

UNPACK AND IDENTIFY PARTS

The following steps will help ensure you have all the necessary parts *before* you begin.

1. Unpack contents of shipment and place where you can easily inventory parts. Refer to Bill of Materials/Spec Sheets.

2. Verify all parts listed on Bill of Materials/Spec Sheets are present. If anything is missing or you have questions, consult the Pictorial Parts Guide and all diagrams for clarification, or contact Customer Service.

   NOTE: At this time, do not open plastic bags containing smaller parts such as fasteners or washers (if equipped).

ASSEMBLY PROCEDURE

Following these instructions helps ensure proper installation of the cladding panels. Steps outlining assembly are as follows:

1. Verify all parts are included in shipment. Notify Customer Service for questions or concerns.

2. Read these instructions and all additional documentation included with shipment *before* you begin.

3. Gather the tools, bracing, ladders (and lifts), and assistants needed to install cladding panels.

4. Check weather *before* you install cladding. *Do not install cladding on a windy or stormy day.*

5. Read care and maintenance information.

6. Complete and return all warranty information as instructed (if present).

SAFETY PRECAUTIONS

- Wear eye, hand, foot, and head protection.

- Use a portable GFCI (Ground Fault Circuit Interrupter) when working with power tools and cords.

- Do not climb on framing during or after construction.

- Do not occupy the shelter during high winds, tornadoes, or hurricanes.

- Provide adequate ventilation if the structure is enclosed.

- Do not store hazardous materials in the shelter.

- Provide proper ingress and egress to prevent entrapment.

REQUIRED TOOLS

The following list identifies the main tools needed to install the polycarbonate panels. *Additional tools and supports may be needed depending on the structure, location, and application.*

- Tape measure or measuring device.

- Chalk line and marker to mark the location on cladding panels.

- Variable-speed clutched drill driver (cordless with extra batteries works best).

- Saw to cut panels and aluminum profile.

- Rubber mallet, hammers, gloves, and eye protection.

- Adjustable pliers and self-locking pliers.

- Caulk gun to apply sealant.

- Ladders, work platforms, and other machinery for lifting designed to work safely at the building and end frame height.

ATTENTION: Consult the services of a qualified, professional contractor if you are not familiar with the installation of polycarbonate panels.

The installers are responsible for designing and furnishing all temporary bracing, shoring and support needed during the assembly process. For safety reasons, those who are not familiar with recognized construction methods and techniques must seek the help of a qualified contractor.
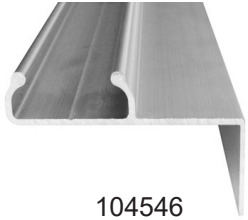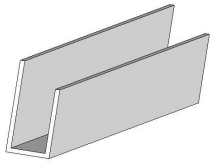
PARTS

The following graphics and photos identify different parts. (Some parts are not shown.)
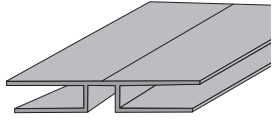
113236Zxxx
Aluminum
H-Channel

104546
U-Channel Flashing

104213
Aluminum
U-Channel

102921 Neo-bonded Washers
& FA4484B Long Tek Screws

CARE AND MAINTENANCE

Proper care and maintenance is important. Check these items periodically:

- Inspect all components regularly and frequently.

- Check connections and all fasteners to verify they remain tight and in good repair.

- Do not climb or stand on shelter or end frame.

- Remove debris and objects that may accumulate on or around the shelter. Use tools that will not damage cladding when removing debris.

- Remove snow to prevent excess accumulation. Use tools that will not damage cladding when removing snow. *Never allow snow to accumulate on the cover or along sides and end cladding after removing snow.*

- *Replace all worn or damaged parts promptly.*

POLYCARBONATE PANELS

Do not allow panels to remain in direct sunlight with protective film in place. Doing so will cause protective film to become difficult if not impossible to remove before installation.

Store panels indoors or cover with a light-colored tarp until you are ready to install.
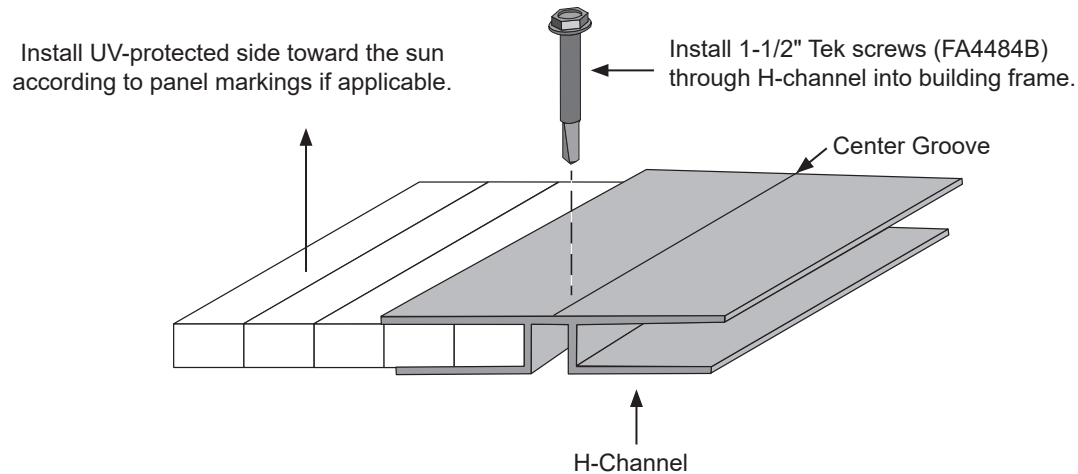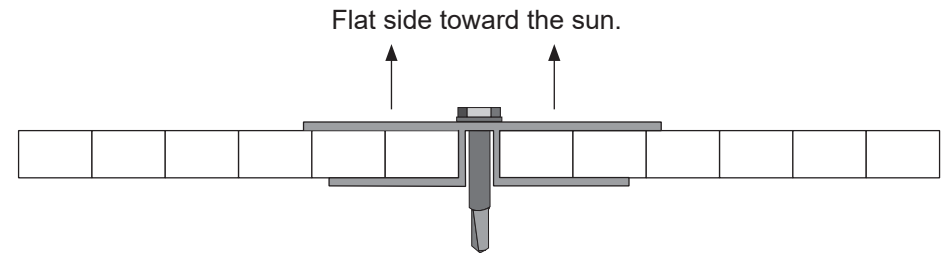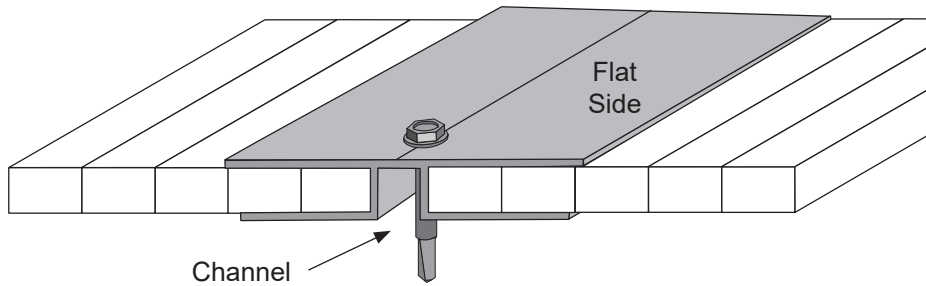
LE AND SE MODELS WITH EQUIPMENT PACKS

WHEN CUTTING THE OPENING FOR THE EVAPORATIVE COOLING SYSTEM AND VENT, TAKE CARE NOT TO DAMAGE THE PANELS DURING THE REMOVAL PROCESS. *PANELS REMOVED FROM THE VENT OPENING ARE USED FOR THE VENT CLADDING.*

SEE DIAGRAMS ON PAGES 11 & 13 OF THIS GUIDE FOR DETAILS.

ASSEMBLY NOTE: Install Tek screws using a clutched drill driver running approximately 750 RPM while applying approximately 50 lbs of force. **DO NOT USE AN IMPACT DRIVER!**

Install H-Channel — End Walls

The H-channel (113236Zxxx) design requires installation of the flat side facing out with channel side toward the frame. Design of the H-channel *does not allow* channel-side out installation. Use the diagrams on this page to install H-channel with flat side facing out.

⚠ ATTENTION: Use only 1-1/2" Tek screws (FA4484B) to attach H-channel to building frame. *Do not use the shorter 1" Tek screws. They will not hold. Washers are not needed on Tek screws used to secure H-channel to the end frame.*

Flat Side

Channel

Flat side toward the sun.

Install UV-protected side toward the sun according to panel markings if applicable.

Install 1-1/2" Tek screws (FA4484B) through H-channel into building frame.

Center Groove

H-Channel

⚠ ATTENTION: Install all twin-wall polycarbonate panels with UV-protected side toward the sun (if marked).

Remove protective film from each panel before installation. Identify and mark UV-protected side (if present) using a piece of tape or similar non-permanent means. ***Always install UV-protected side toward the sun as marked on the panel. Some panels install with either side toward the sun/outside.***


Mark UV-Protected Side

X
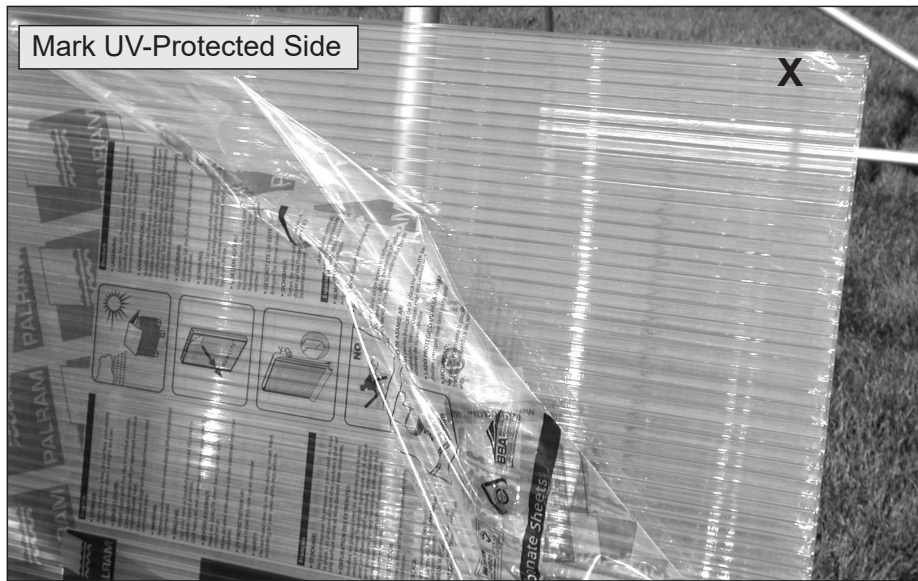
Seal the bottom of panels using 104774 vent tape. Install 104213 U-channel over vent tape at the bottom end of the panels. Apply foil tape (DH8007) to seal top of all panels along end rafter. See diagrams near the end of this guide for additional details.

Install Vent Tape

PANEL TOP

Apply DH8007 foil tape over open panel cells after installing and cutting the panels to length. Install foil tape only at the top of panels to close the open cells.

Twin-Wall Polycarbonate Panel
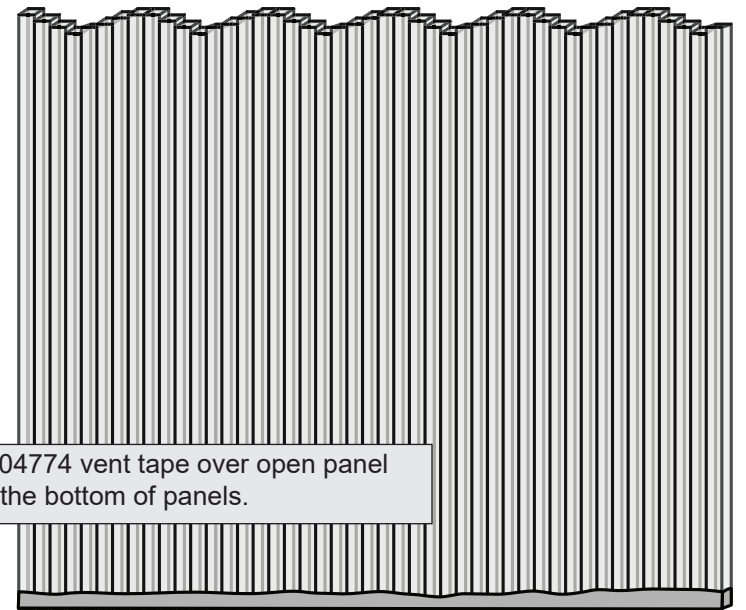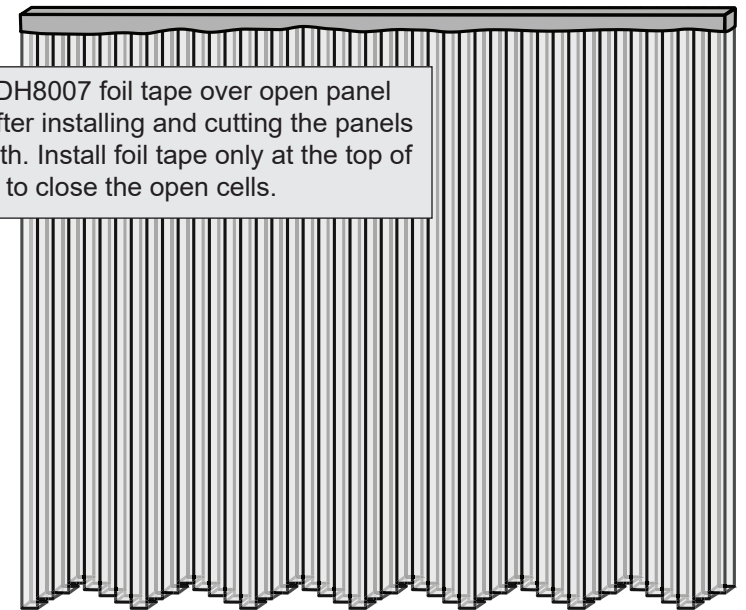
Apply 104774 vent tape over open panel cells at the bottom of panels.

PANEL BOTTOM

Install End Wall Cladding

There are different ways to install the polycarbonate end wall cladding. Some installers prefer to install all panels and then cut openings for doors, fans, and vents. Others prefer to cut panels to fit around the rough openings for these items. Still many prefer a combination of both these examples. Whichever method is used, verify panel layout, confirm rough openings for accessories, and ensure there are parts to complete the installation. Use the information and photos that follow to help guide the installation of panels. Example shows a different but similar building; installation of the end wall cladding is similar. Complete these steps:

ATTENTION: Cut panels as needed to fit around and over the motor bracket installed earlier at the end rafter peak. Bracket will extend through the end panels to the outside to attach blackout system drive motor.

Drive motor bracket location.

3. Mark screw locations on installed panels. Use a straight edge to align with frame members and non-permanent marker.

12" On-Center

1. Place prepared panel in position and align according to the end wall diagrams.

    NOTE: Protective panel film is typically removed before installation.

    BUILDING IS ATTACHED TO HELICAL ANCHORS. EMBED PANELS 4" - 6" BELOW GRADE FOR BEST RESULTS. ***DOES NOT APPLY TO SLAB FOUNDATIONS.***

2. Add H-channel at each splice between panels — flat side out — and gently seat into place using a rubber mallet.

    IMPORTANT: Remember to cap the bottom of each panel between the H-channel using the 104213 U-channel. See panel layout diagrams near the end of this guide for additional details.
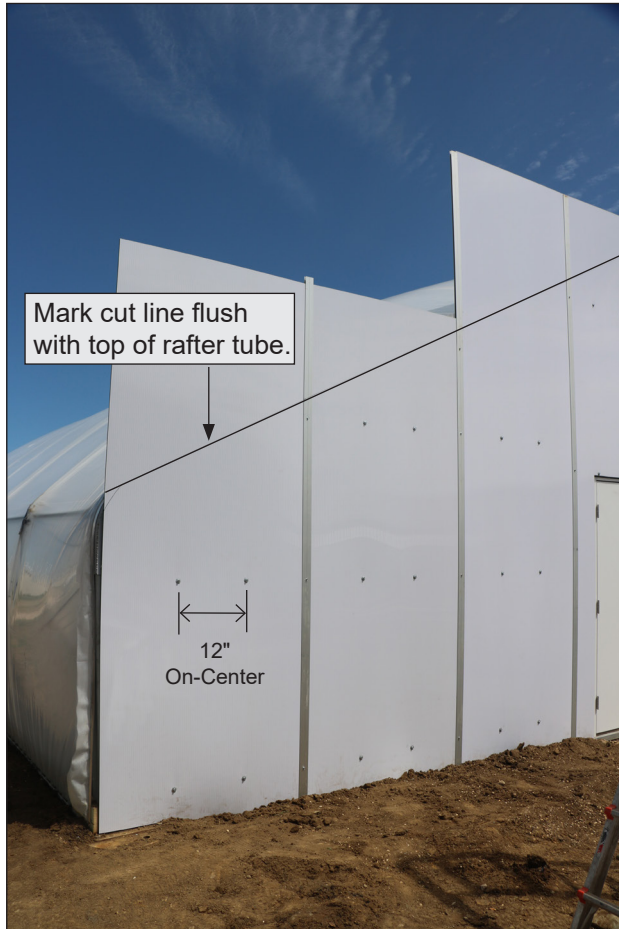
4. Secure panels to the end wall frame. Use a clutched drill driver or similar power tool. ***DO NOT USE AN IMPACT WRENCH TO INSTALL TEK SCREWS.***

    ATTENTION: See Cladding Connection Details diagrams on the last page for fastener details.

INSTALL END WALL CLADDING (CONTINUED)

GREEN

Mark cut line flush with top of rafter tube.

12"
On-Center

Cut Line

5. Continue adding H-channel and panels to complete the cladding installation for the first end wall.

6. Mark the cut line at the top of all panels as shown above.

   NOTE: Panels to remain flush to the top of of the square-tube end rafter.

7. Cut panels and H-channel to length.

8. Tape open cells using DH8007 foil tape. Dashed line (above) shows where to apply the foil tape.

9. Repeat the steps for the remaining end wall.

10. After installing all panels and taping the tops with foil tape, continue with the installation of 104546 u-channel flashing.

Install 104546 U-Channel Flashing

The 104546 u-channel flashing serves to cap the tops of all end panels while providing the channel to secure the 2-layer film cover. Use the information and photos below to attach the u-channel flashing to each end rafter. **Secure flashing to rafters using FA4482B Tek screws installed at 12" on-center.**

NOTE: When installing the u-channel flashing, never start or end an 8' section on the rafter corner or peak. Always splice pieces on a straight section of the rafter. Install flashing at each corner as shown then complete the installation by adding shorter lengths between the corner and peak sections.
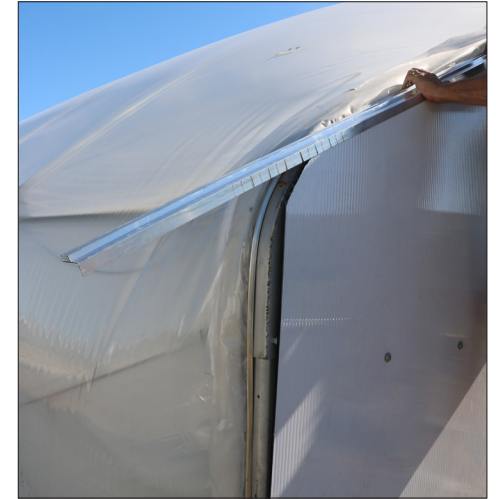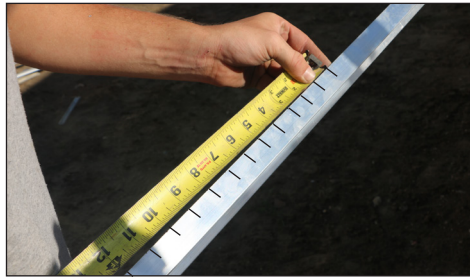
1. Mark the beginning and end of the rafter curve *on the flashing*. Measure along the curve and transfer dimension to the flashing.

2. Mark the cut lines on the flashing lip. Space cuts at 1" on-center. Number of marks depends on the installer.

3. Using a metal-cutting saw, make relief cuts in the flashing.

4. Align the flashing on the end rafter with the lip overlapping the tops of the installed and taped panels.

5. Secure flashing to rafter using FA4482B Tek screws.

6. With assistance, press flashing around the corner and secure.

7. Gently tap the outer lip to align the tabs created during cutting.

8. Press the flashing against the rafter to install final screws.

U-CHANNEL FLASHING INSTALLATION (CONTINUED)

ATTENTION: For the end wall where the blackout system drive motor is located, the motor bracket extends through panels to the outside. See Blackout Instructions for additional details. See inset diagram below for bracket location.
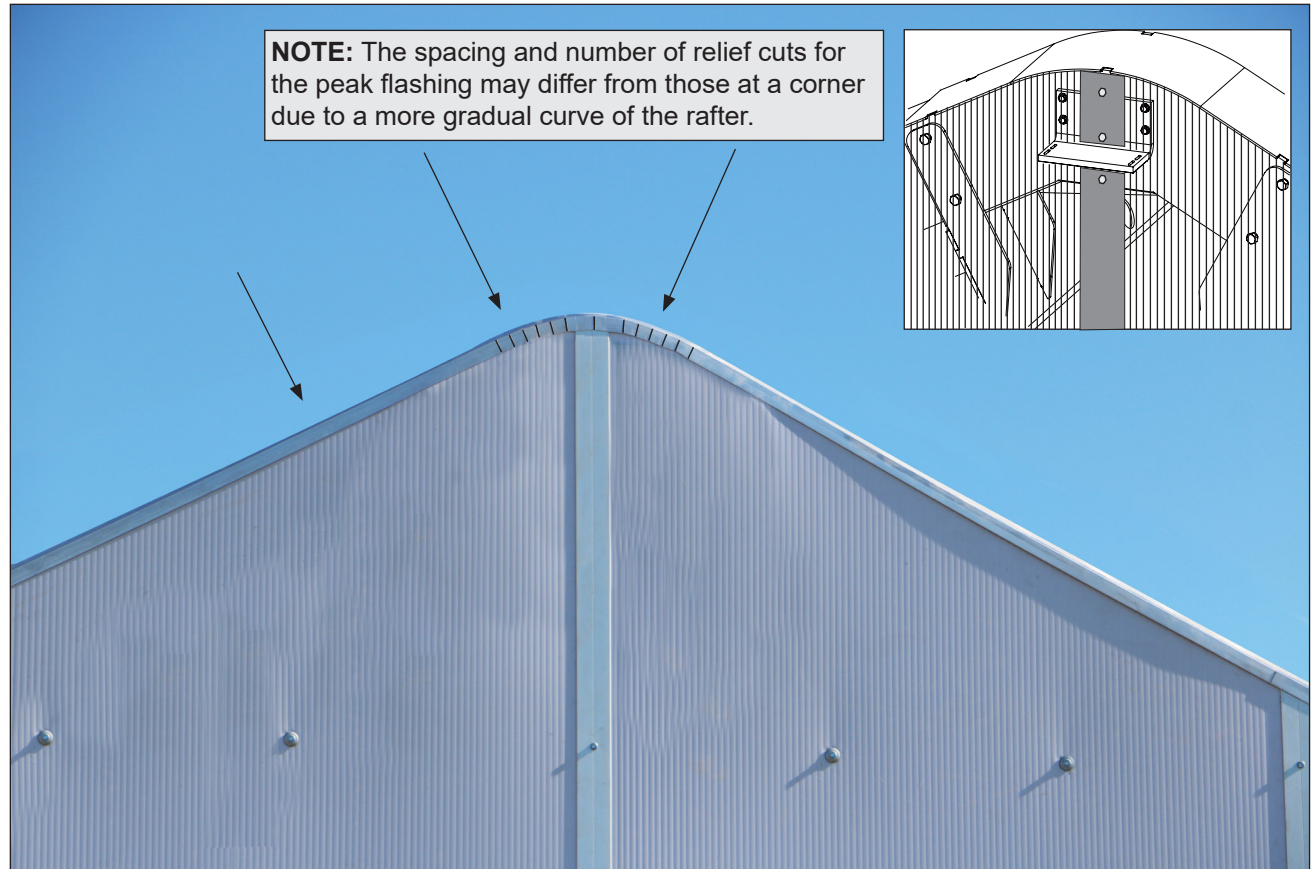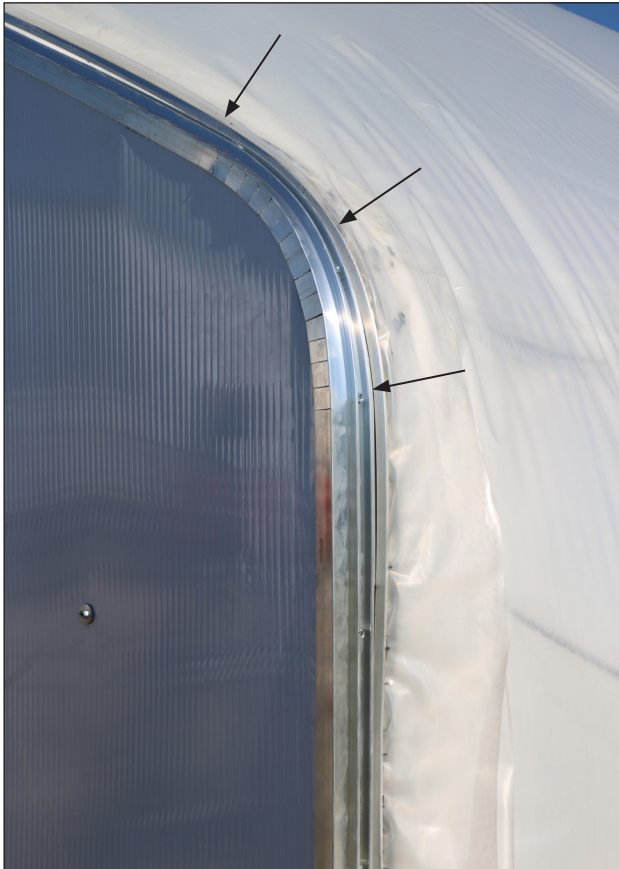
NOTE: The spacing and number of relief cuts for the peak flashing may differ from those at a corner due to a more gradual curve of the rafter.

9. Repeat steps to install flashing at the remaining corner and at the peak as shown.

10. Install smaller sections of flashing between the corners to complete the installation.

11. Repeat the steps as needed to install flashing for the remaining end wall.

12. Return to the main instruction manual and continue with **Section 7: U-Channel Installation**.

End Wall Framed for Door & Fans: Panel Layout

INSTALLATION OF FASTENERS

- Install a Tek screw through the H-channel and into the end wall frame tube (vertical an horizontal) when possible. If H-channel aligns with a frame member, install screws at 12" on-center.

- Install an FA4484B Tek screw with a washer through the polycarbonate panel and into the horizontal frame tubes when possible. Space fasteners at 12" on-center. *Do not allow screws to crush or deform panel surface during installation.*

- Secure panels around all door and accessory openings as needed. Review diagrams and photos.
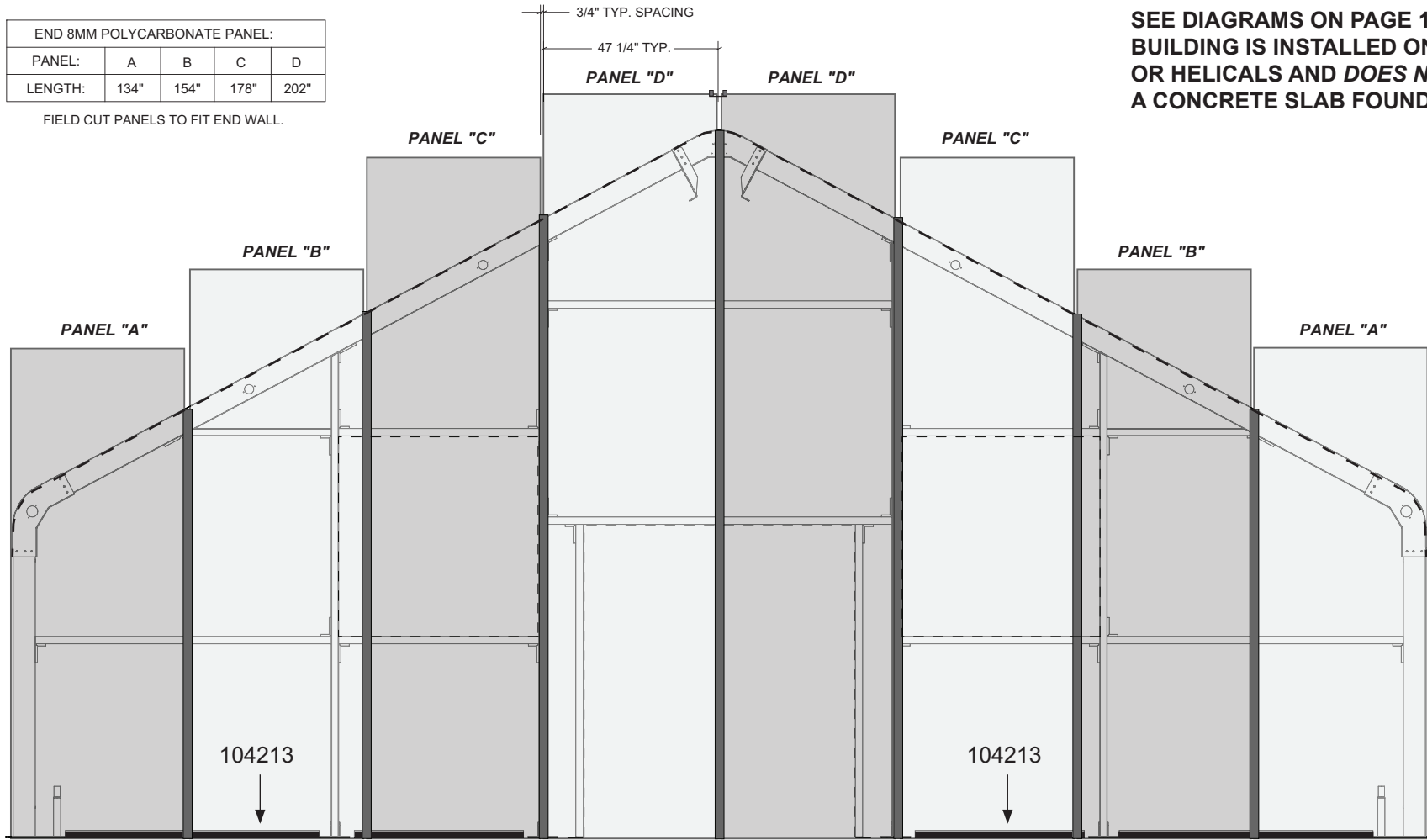
SEE DIAGRAMS ON PAGE 12 IF YOUR BUILDING IS INSTALLED ON PIERS OR HELICALS AND *DOES NOT* HAVE A CONCRETE SLAB FOUNDATION.

END 8MM POLYCARBONATE PANEL:				
PANEL:	A	B	C	D
LENGTH:	134"	154"	178"	202"

FIELD CUT PANELS TO FIT END WALL.

3/4" TYP. SPACING
47 1/4" TYP.

PANEL "D" · PANEL "D" · PANEL "C" · PANEL "B" · PANEL "A"

104213

FIELD CUT DOOR & FAN OPENINGS AFTER POLY PANELS ARE INSTALLED.

ATTENTION: During panel installation, install the 104213 u-profile along the taped bottom of individual panels *between the vertical H-channel*. Secure the installed panels to the end wall base tube anchored to the concrete.

INSTALLATION OF FASTENERS

- Install a Tek screw through the H-channel and into the end wall frame tube (vertical an horizontal) when possible. If H-channel aligns with a frame member, install screws at 12" on-center.

- Install an FA4484B Tek screw with a washer through the polycarbonate panel and into the horizontal frame tubes when possible. Space fasteners at 12" on-center. *Do not allow screws to crush or deform panel surface during installation.*

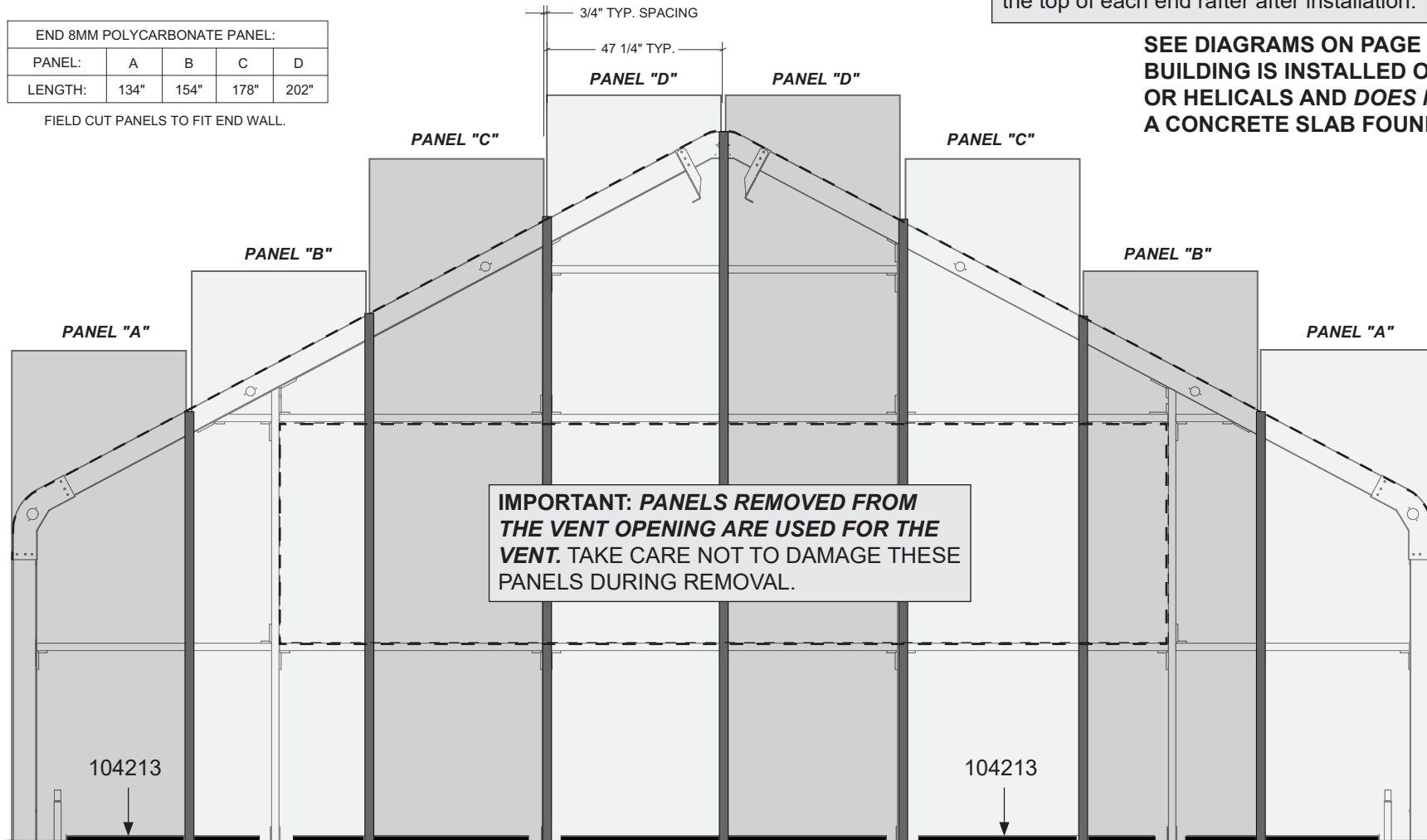- Secure panels around all door and accessory openings as needed. Review diagrams and photos.

ATTENTION: Attach twin-wall panels to end wall frame using FA4484B Tek screws and 102921 neo-bonded washers spaced at **12" on center.**

Washers are not needed on Tek screws used to secure H-channel to end framing.

Dashed line shows where panels are trimmed flush to the top of each end rafter after installation.

SEE DIAGRAMS ON PAGE 12 IF YOUR BUILDING IS INSTALLED ON PIERS OR HELICALS AND *DOES NOT* HAVE A CONCRETE SLAB FOUNDATION.

END 8MM POLYCARBONATE PANEL:				
PANEL:	A	B	C	D
LENGTH:	134"	154"	178"	202"

FIELD CUT PANELS TO FIT END WALL.

3/4" TYP. SPACING

47 1/4" TYP.

PANEL "D" *PANEL "D"*

PANEL "C" *PANEL "C"*

PANEL "B" *PANEL "B"*

PANEL "A" *PANEL "A"*

IMPORTANT: *PANELS REMOVED FROM THE VENT OPENING ARE USED FOR THE VENT.* TAKE CARE NOT TO DAMAGE THESE PANELS DURING REMOVAL.
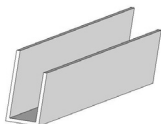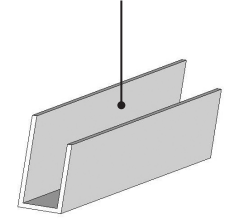
104213

104213

ATTENTION: During panel installation, install the 104213 u-profile along the taped bottom of individual panels *between the vertical H-channel*. Secure the installed panels to the end wall base tube anchored to the concrete.

End Wall Panel Layout: No Concrete Slab

For buildings *without a perimeter concrete foundation or floor* such as those installed on piers or helical anchors, end panels are typically buried 4" to 6" *below grade* to better seal the area between panel and site. In those instances, the 104213 trim cap does not require installation along the bottom of the cladding panels.

ATTENTION: THESE DIAGRAMS DO NOT APPLY TO BUILDINGS ATTACHED TO CONCRETE SLAB FOUNDATIONS.

SEE PAGES 10 & 11 FOR ADDITIONAL PANEL INSTALLATION DETAILS.

END 8MM POLYCARBONATE PANEL:

PANEL:	A	B	C	D
LENGTH:	134"	154"	178"	202"

FIELD CUT PANELS TO FIT END WALL.

3/4" TYP. SPACING

47 1/4" TYP.

PANEL "D"   PANEL "D"

PANEL "C"   PANEL "C"

PANEL "B"   PANEL "B"

PANEL "A"   PANEL "A"

104213

Install panels 4"- 6" below finished grade.

Finished Grade

FIELD CUT DOOR & FAN OPENINGS AFTER POLY PANELS ARE INSTALLED.

END 8MM POLYCARBONATE PANEL:

PANEL:	A	B	C	D
LENGTH:	134"	154"	178"	202"

FIELD CUT PANELS TO FIT END WALL.

3/4" TYP. SPACING

47 1/4" TYP.

PANEL "D"   PANEL "D"

PANEL "C"   PANEL "C"

PANEL "B"   PANEL "B"

PANEL "A"   PANEL "A"

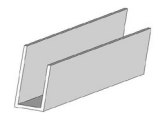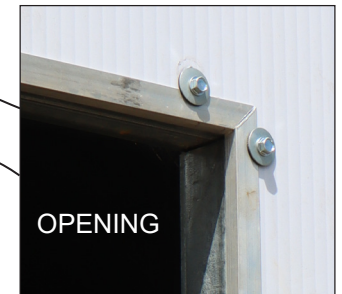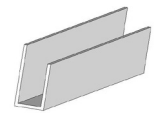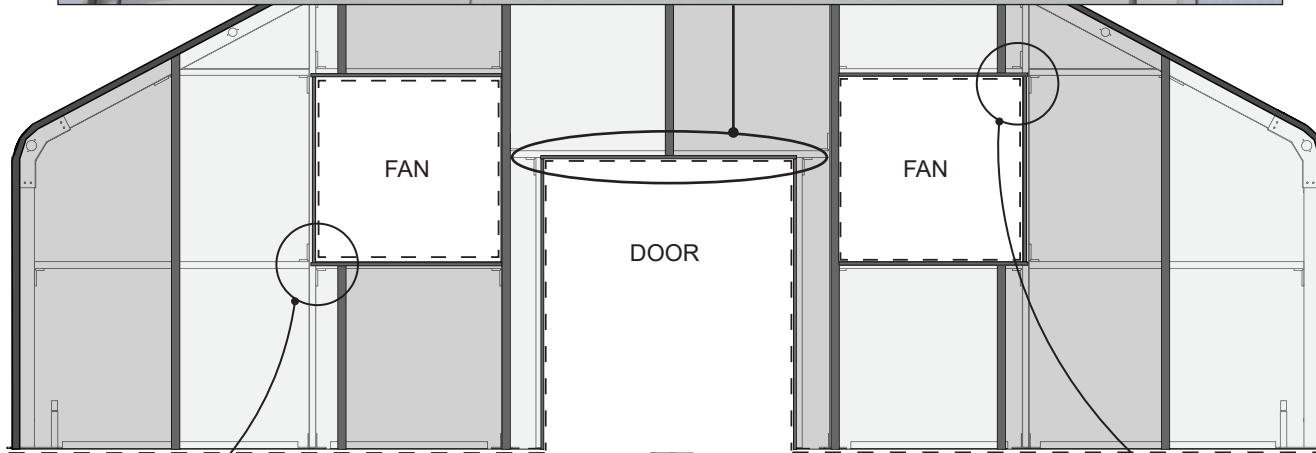Install panels 4"- 6" below finished grade.

Finished Grade

INSTALLATION OF 104213 U-PROFILE

Dashed line shows typical location of 104213 u-profile used to frame around doors, fans, and vent openings. Install fasteners as shown and previously described. ***Depending on fan design, you may not need to install the 104213 profile around the rough opening.***

NOTE: Install the long leg of the profile against the frame.
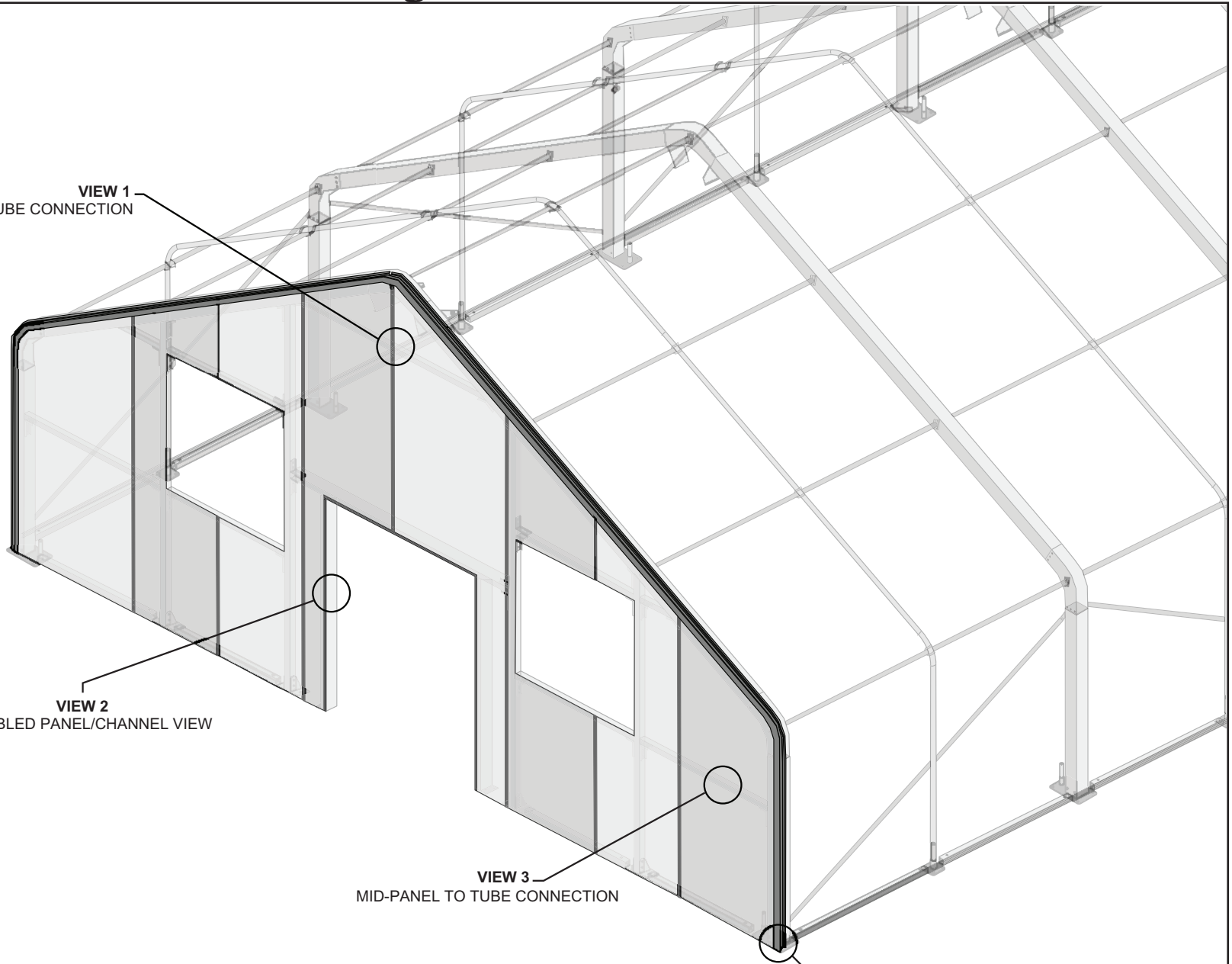
104213 Aluminum U-Channel

FAN

FAN

DOOR

OPENING

OPENING

IMPORTANT: ***PANELS REMOVED FROM THE VENT OPENING ARE USED FOR THE VENT.*** TAKE CARE NOT TO DAMAGE THESE PANELS DURING REMOVAL.

VIEW 1
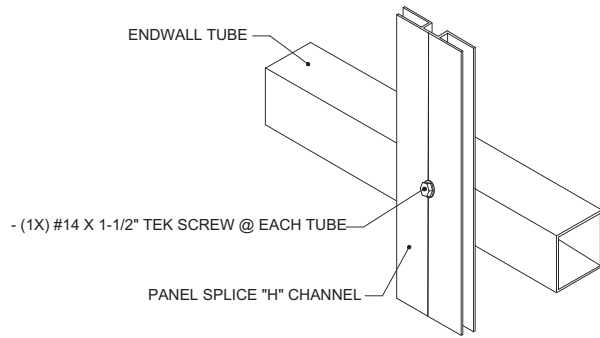PANEL CHANNEL TO TUBE CONNECTION

VIEW 2
ASSEMBLED PANEL/CHANNEL VIEW

VIEW 3
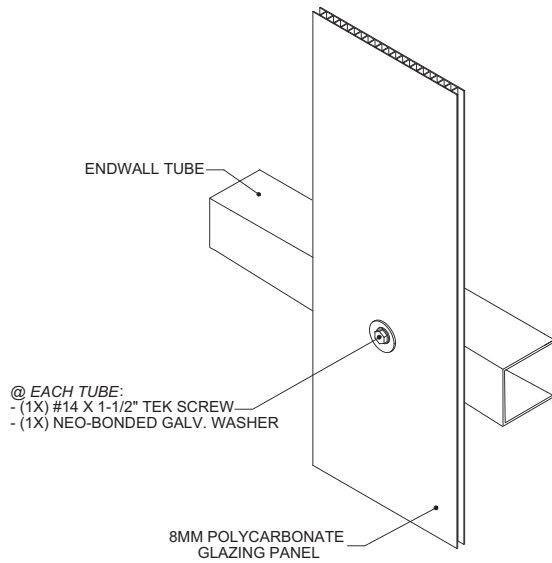MID-PANEL TO TUBE CONNECTION

VIEW 4
ENDWALL TO SIDEWALL FLASHING CONNECTION
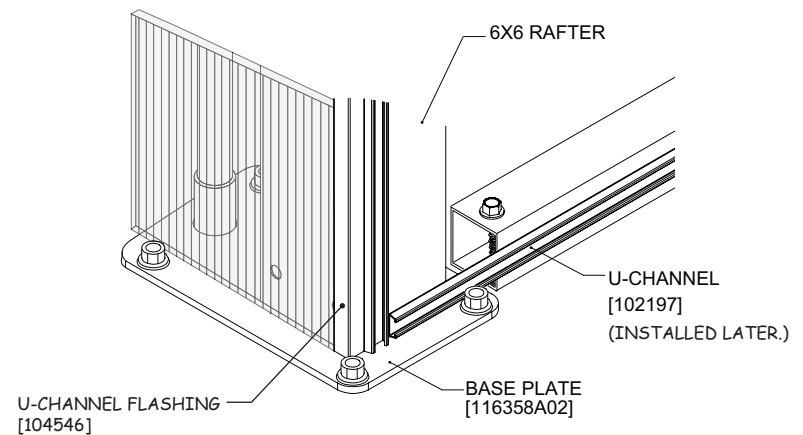
Cladding Connection Details

ENDWALL TUBE

- (1X) #14 X 1-1/2" TEK SCREW @ EACH TUBE

PANEL SPLICE "H" CHANNEL

VIEW 1
PANEL CHANNEL TO TUBE CONNECTION

ENDWALL TUBE

PANEL SPLICE "U" CHANNEL

@ *EACH TUBE*
- (1X) #14 X 1-1/2" TEK SCREW
- (1X) NEO-BONDED GALV. WASHER

8MM POLYCARBONATE
GLAZING PANEL

VIEW 2
ASSEMBLED PANEL/CHANNEL VIEW

ENDWALL TUBE

@ *EACH TUBE*:
- (1X) #14 X 1-1/2" TEK SCREW
- (1X) NEO-BONDED GALV. WASHER

8MM POLYCARBONATE
GLAZING PANEL

VIEW 3
MID-PANEL TO TUBE CONNECTION

6X6 RAFTER

U-CHANNEL
[102197]
(INSTALLED LATER.)

U-CHANNEL FLASHING
[104546]

BASE PLATE
[116358A02]

VIEW 4
ENDWALL TO SIDEWALL FLASHING CONNECTION