

INSTALLATION MANUAL



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General Information

Application

This concealed fastener, interlocking, exterior wall system provides a flat-surfaced, steel Stucco Building Panel with a textured coating to simulate the look and feel of Stucco.

This non-structural, Stucco Wall system may be used as the primary exterior building surface for newly constructed pre-engineered metal buildings.

It may also be used in combination with other surfacing materials on new or existing structures. For resurfacing applications, the Stucco Panels may be applied over masonry, concrete, brick, wood, composition siding or existing metal siding.

Material Specification

Stucco Wall Panels are manufactured from 20-gauge, G-90 galvanized coil steel that is primer coated on both sides with a baked-on coil coat finish.

Standard Trim profiles are manufactured from 24-gauge, G-90 galvanized sheet steel and are used for Stucco Panel base, building corners, window and door openings are shipped with each order as required by the user. Special Trim sections are also available. All visible Trim is Stucco coated.





Manufacturing Process

Stucco Building Panels are roll formed and edge formed to Architect / Engineer / Builder specified lengths from continuous coil steel. Stucco coating is applied after which the Wall Panels are baked and packaged, ready for shipment.

The computerized manufacturing process is continuous, without handling, from de-coiling to packaging.

Stucco Finish

The specially formulated texture coating is a fiber reinforced polymer and crushed aggregate composition that is oven baked to provide excellent adhesion to the prime coated, galvanized steel Panel.

Our Stucco Wall Panels are available in fifteen standard color options. Special colors and color matching is available but are in addition to our standard pricing and may require additional time for production.

Design Assistance

Headquarters Sales/Service personnel are available to assist builders, contractors, architects and metal building manufacturers with determination of Stucco Wall Panel and Trim requirements.

Printed and scaled architectural plans, construction drawings, building elevations and wall sections are helpful but not required for initial quotation.

Distribution

Our Stucco Wall Panels are shipped from St. Louis, Missouri throughout the United States including Alaska and Hawaii, and Canada.

Technical Service

Service and installation questions are handled from our St. Louis headquarters. Most common questions are addressed in our Installation Manual but sales and engineering help are always as close as the telephone, fax or e-mail.

Warranty

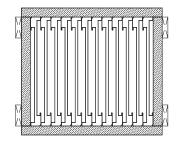
Panels and Trim carry a Twenty-Year Warranty against material or coating defect.





Storage and Handling of Stucco Panels

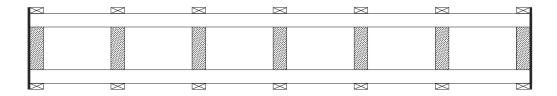
Stucco Panels are specially packaged in crates and separated with spacers to avoid contact with other Stucco Panels. Dragging panels across each other can cause abrasion and marring of the finished surface.



Care should be exercised in handling and storage of the panels. DO NOT allow Stucco Panels to be stored outdoors on dirt, mud, or grass surfaces.

If Stucco Panels must be stored outdoors at the job site, they should be tarp covered after being placed on a well-drained concrete or elevated surface.

Care should be taken when handling and erecting Stucco Panels. Wearing clean gloves and handling Panels primarily by the edges will help protect the painted surface from dirt and staining.

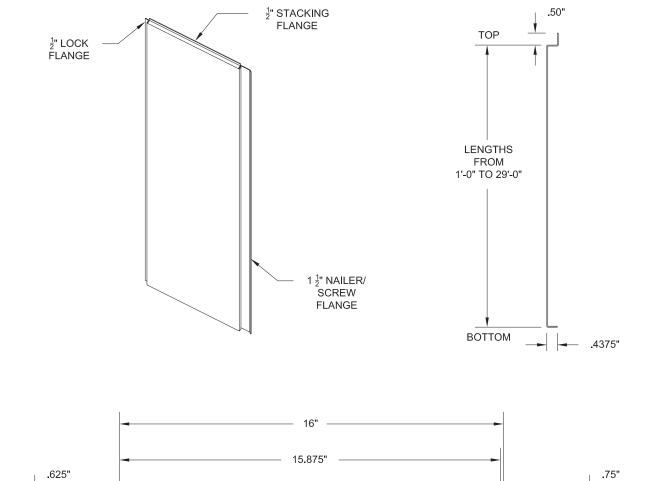






Panel Description

Our panels are custom manufactured for your application and supplied in lengths ranging from 1' to 29' long. Each Panel has a 16" face (coverage) with a 1 ½" nailer flange on one edge and a ½" lock flange on the other edge for an overall width of 18". The top flange is finished with a double 90° flange. These formed ends allow the panels to nest (end to end) for stacking up a vertical wall and gives the building the ability to utilize the panel for taller elevations without the need for special trim sections.





.625"

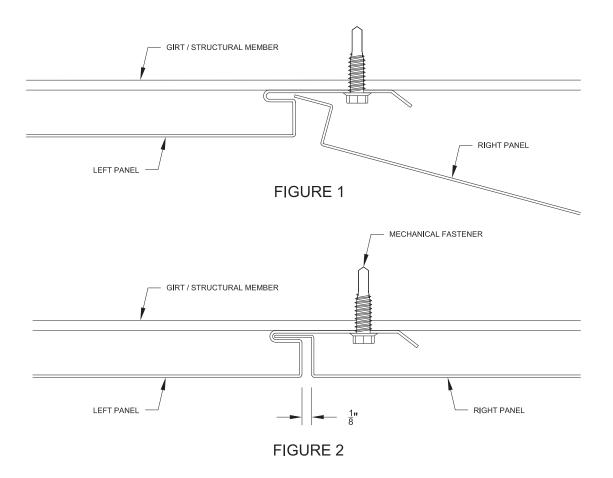
.40" 2.125"



Panel Attachment

Stucco Panels are installed left to right with each panel fastened to bottom, top and intermediate structural members. (Figure #1)

Each succeeding panel has the ½" left side lock flange inserted into the right side ½" pocket flange of the previously installed panel. (Figure #2)



First, the left panel is screwed to the supporting girt / structural member through its screw flange.

Second, the right panel is inserted and interlocked to the left panel and then screwed to the girt / structural member through its screw flange.





Determining Stucco Panel Layout Starting with a Full or Partial Panel

Read entire section before beginning installation!

It is common that by design or by variance from design during structural framing, a building elevation's lineal width may not be divisible by sixteen inch increments. As a result, vertical cutting (ripping) of a panel(s) may be necessary.

This width adjustment may be made to a single (left or right end) panel or the total amount of excess material may be divided between the first panel on the left side and the last panel on the right side of the wall.

The following procedure describes a method for resolving these situations.

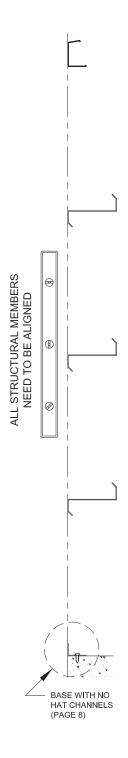
- 1. For each elevation, field measure the horizontal width the panels are to cover. For example, measurement of a wall shows the width to be 50'-4".
- 2. Take the result (i.e. $50' \ 4"$) and convert the number of feet to inches (i.e. $50' \ X \ 12" = 600"$) and add the remaining inches (i.e. 4" + 600" = 604").
- 3. Divide the sum of inches by 16" (i.e. 604" divided by 16" = 37.75) to get the number of panels required to cover the elevation from left to right.
- 4. Convert any decimal remainder of panel to inches (i.e. 0.75 panels = 12") by multiplying $16" \times 0.75 = 12"$.
- 5. The result shows that 37 full panels of 16" width will be needed <u>PLUS</u> 12" of an additional panel.
- 6. Installation may be made in this manner by removing 4" from the raised right face of the last panel or the total remaining width may be divided into equal distances (i.e. 6") on both the left and right ends of the wall.
- 7. To equally divide the distance (12" divided by 2 sides = 6"), the left 6" of the raised surface of the first panel must be removed and the last 6" from the right raised surface of the last panel must be removed.

NOTE: Vertically ripped panels must have Sub-Jamb Flashing (Part I unpainted) installed behind the full length of the ripped edge. See <u>Sub-Jamb Flashing</u>.





Installation Tips

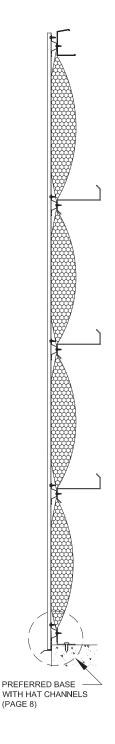


Structural Alignment

Before panels can be installed it is necessary to check that all structural members, from the eave strut through the intermediate girts to the base angle, are aligned and plumb. This is critical to the finished, flat appearance of Stucco Wall Panels. Adjust or shim framing members as necessary to assure plumb condition. Failure to do so can cause oil-canning and panel distortion.

Insulation

Once the structural members determined to be aligned and plumb it is necessary to consider the amount of insulation, if any, to be installed behind the Stucco Wall Panels. If using batt insulation greater than 3" in thickness it recommended to install hat channels over the insulation at each structural member. This is done to compress the insulation at these points to relieve pressure on the back side of the panels to eliminate the possibility of panel distortion. Panel Systems can supply hat channel sections. Modified trim profiles and quantity changes may be required as a result of the use of hat channel. Consult our Sales/Service department.





Installation Tips

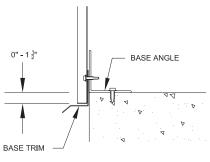
Base Conditions

When installing Stucco Building Panels without blanket insulation or when the blanket insulation is less than 3" in thickness, the Base Trim will sit flush with the building line or edge of the slab.

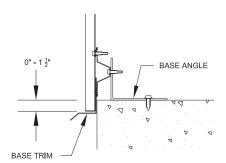
When installing Stucco Building Panels over blanket insulation greater than 3" in thickness you have two options.

The first, and preferred option, is to extend the slab past the base structural member by the depth of the hat channel to be used. Our hat channel is 1" deep. This allows for proper sealing to occur between the bottom of the Base Trim / Drip Cap and the building slab. This will help protect the structural base member from early corrosion.

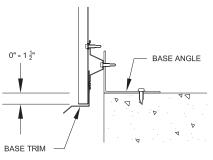
The second option is to hold the structural base member at the slab edge and let the hat channels extend beyond. If this option is chosen it is recommended to fill the gap between the Base Trim / Drip Cap with backer rod and then fill with sealant.



BASE WITH NO HAT CHANNELS



PREFERRED BASE WITH HAT CHANNELS



BASE WITH HAT CHANNELS





Insulation

General Information

Our STUCCO WALL PANEL is compatible with the use of most types of insulation, including loose blown materials, kraft or poly backed fiberglass batts, etc.

Expanded Polystyrene (EPS) Option

We offer optional factory installed expanded polystyrene foam (EPS) insulation in a variety of thickness and densities to accommodate desired R-Values. EPS can be used alone or in combination with various types of field-installed insulation. Factory installed EPS is form fitted and glued into the back of the Panel with a tongue and groove design to eliminate thermal transfer.

Installing EPS Insulated Panels

Installation of EPS insulated Panels is basically the same as installing our non-insulated Panel with a few exceptions:

- <u>DO NOT</u> over tighten the fastening screws when using EPS insulated Panels as crushing the insulation against the Panel may distort the flat surface plane.
- Insulated Panels may require alteration of Trim profiles and quantities of Trim needed.

Installing Panels Over Batten Insulation

Make certain that insulation and vapor backers are installed loosely enough to allow the insulation cushion to flow outward, away from the Panel (See page 7). This allows for maximum insulating benefit and avoids distortion of the Panel plane. Tight vapor backing materials can compress the insulation taut against the back of the Panel and cause surface distortion. Check for flat Panel plane with a straight edge.

When using thicker batts of insulation it may be necessary to score and remove some of the insulation where the insulation crosses over the girts. This allows for the benefit of thick insulation without distortion of the Panel plane. Check for flat Panel plane with a straight edge.





Tools Required For Installation

The following tools and accessories should be at hand before beginning Stucco Building Panel and Trim installation:

- Safety Glasses
- Clean Work Gloves
- Circular Saw with Metal Cutting Blades
- Hand Shears (Heavy Duty 12")
- Hand Flanger (4")
- 2' Carpenter Square
- Rivet Gun & Rivets
- Drill (Cordless) with Metal Bits
- Screw Drive
- Screws (self tapping, hex head, gasketed)
- Level (4' 6')
- Straight Edge (4'0" min. For circular saw to ride on when cutting or ripping panels)
- Chalk Line
- Tape Measure
- Caulk Gun & Caulk
- Clamps (For attaching straight edge to Panel face before cutting or ripping)





Installation Procedure

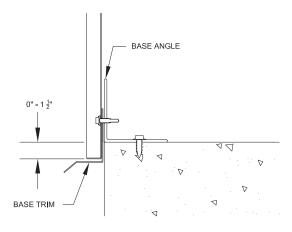
Step 1 – Base Trim / Drip Cap

Once you have determined all structural members are plumb and have decided whether or not you will need to install hat channels (refer back to Installation Tips) Base Trim / Drip Cap should be installed.

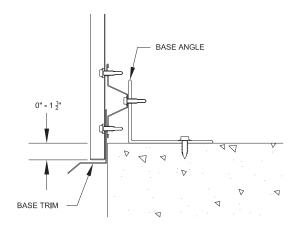
Base Trim / Drip Cap (Parts "C" or "D") must be attached to base angle or hat channel before installing panels.

Verify Base Trim / Drip Cap Location, i.e. at finished floor level or distance below finished floor level, before attaching to base angle or structure. It is also necessary to place screws in a manner that they will not interfere with the panel flanges.

A bead of caulk between Base Trim / Drip Cap and base angle will weatherproof the assembly. It is recommended to place a bead at the top edge, at each break, and along the underside between the Base Trim / Drip Cap and the building slab.



BASE WITH NO HAT CHANNELS



BASE WITH HAT CHANNELS





Installation Procedure

Step 2 – Panel Attachment

After field measuring the elevation width and establishing the width of the first panel, installation can begin.

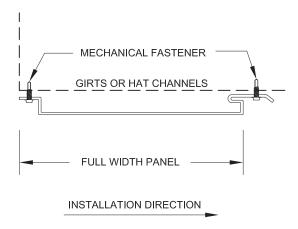
Full Length Panel

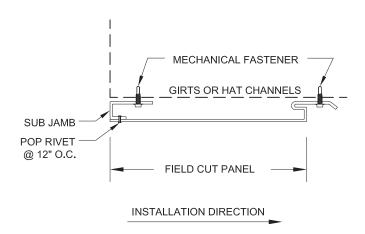
If the first panel is established as being full length it should be held in place and checked for plumb before attaching it to the girts / hat channels. The first full length panel is then attached by screwing the ½" left side lock flange to the bottom, top, and intermediate structural members. This panel must also be attached by screwing the 1 ½" pocket / screw flange to the bottom, top, and intermediate structural members.

Less Than Full Length Panel

If the first panel is established as less than a full width panel it needs to be cut / ripped. Any cutting / ripping of a panel must be done to the left side of the panel so the 1 ½" pocket / screw flange is not altered, this is necessary for the panel to accept the next panel in a weather tight manner. When cutting Stucco Panels with a circular saw, it is recommended that the saw base not drag directly over the stucco coating as this can cause marring and scratching of the finished surface.

Once the panel is cut to the desired width, a piece of sub jamb flashing (Part I) should be installed by holding it in place and checking for plumb. It is attached by screwing the longer leg to the bottom, top, and intermediate structural members. Now the cut panel can be attached to the sub jamb flashing by holding it in place, checking it for plumb, and pop riveting it every 12". This panel must also be attached by screwing the 1 ½" pocket / screw flange to the bottom, top, and intermediate structural members.





NOTE: Field cut panels must have any metal shavings/dust removed prior to installation. Failure to do so will allow for these to oxidize and stain the panel.





Installation Procedure

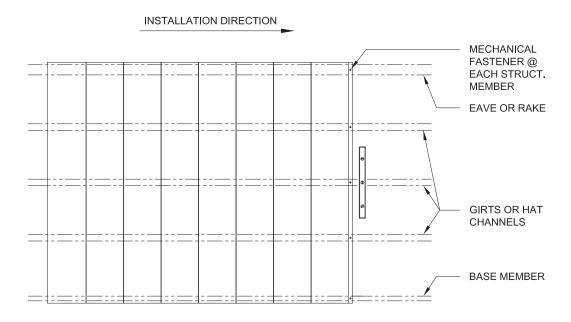
Step 3 - Proceeding Panels

Proceed with installation of the next and succeeding panels by inserting the Left Side 1/2" (Lock Flange) of each Stucco Panel into the Right Side (Pocket Flange) of the preceding panel.

DO NOT attempt to clamp or jam Stucco Panels together for the purpose of reducing the approximate 1/8" vertical seam at the panel junction. Panel distortion, "oil canning" may result.

Check vertical alignment of each Stucco Wall Panel with a level or plumb line before fastening the panel to structural members.

Repeat the Stucco Wall Panel installation process with successive panels to the right end of the elevation.





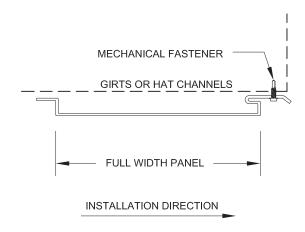


Installation Procedure

Step 4 - Ending Panel

Full Length Panel

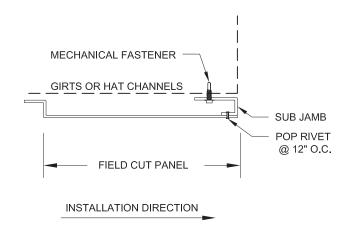
If the last panel is established as being full length it should be installed in the same manner as the proceeding panels.



Less Than Full Length Panel

If the last panel is established as less than a full width panel it needs to be cut / ripped. Any cutting / ripping of an ending panel must be done to the right side of the panel so the ½" left side lock flange is not altered, this is necessary for the panel to fit into the proceeding panel in a weather tight manner. When cutting Stucco Panels with a circular saw, it is recommended that the saw base not drag directly over the stucco coating as this can cause marring and scratching of the finished surface.

Once the panel is cut to the desired width, a piece of sub jamb flashing (Part I) should be installed by holding it in place and checking for plumb. It is attached by screwing the longer leg to the bottom, top, and intermediate structural members. Now the cut panel can be attached to the sub jamb flashing by holding it in place, checking it for plumb, and pop riveting it every 12".



NOTE: Field cut panels must have any metal shavings/dust removed prior to installation. Failure to do so will allow for these to oxidize and stain the panel.



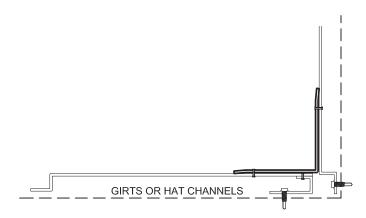


Installation Procedure

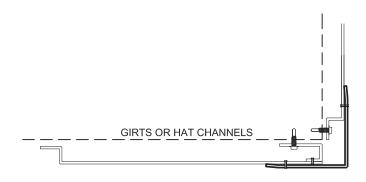
Step 5 - Inside and Outside Corners

Attachment of inside and outside corners is done by placing blind rivets (pop rivets) every 2'-0" along each leg of the corner. If a corner length exceeds 10'-0" you can use multiple pieces provided you overlap the lower piece by 3".

Field painting of the rivets will be required. Touch up paint and some rivets are provided with each Stucco Building Panel project.



INSIDE CORNER



OUTSIDE CORNER





Window & Door Trim Fabrication and Installation

1. Measure window *opening height* and *opening width* to determine overall part lengths needed to fabricate the right & left hand jamb flashing, sill flashing, header flashing, and top trim flashing.

NOTE!

As there are many configurations of pre-manufactured doors and windows, our Stucco Trims are generic and intended to work (with field modifications if necessary) with most framed openings.

It is the customer's (designer, architect, builder, erector) responsibility to assure a weather tight fit by using sealants, caulks, weather strips, etc. as needed and recommended by the manufacturer of each system in conjunction with our Standard Trims.

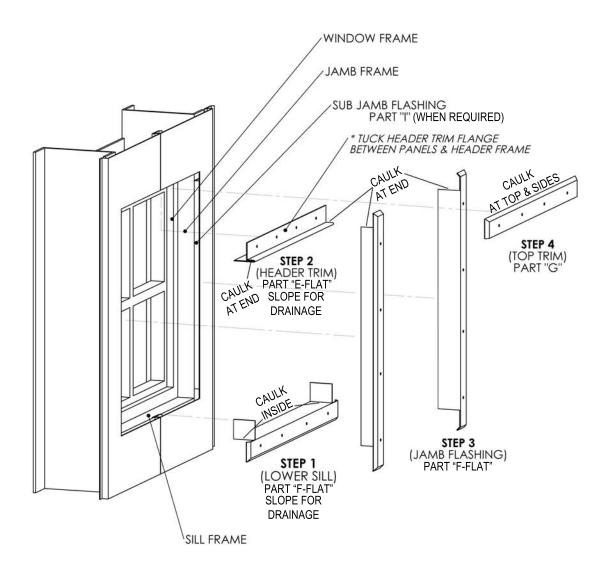
Custom Panel Systems may modify (at the customer's request) it's Standard Trims to specifically accompany particular door and window systems.

- 2. The lower sill is fabricated from (Part F) and installed first. Cut part to length, *Overall length* = opening width + 3 1/2". Fold up 2" long ears on both ends of window sill face, (Do not fold ears on the outside 1 3/4" face of flashing). Bend ½" kick back on both ends of outside face. Bend slight slope on sill face for water run off. Position lower sill flashing in place and fasten with blind rivets. (See Figures 1, 4, 6 & 7)
- 3. Cut the header flashing (Part E) to length, *Overall length = opening width*. Tuck the header trim flange between panels and header frame then insert vertically. Position header flashing in place and fasten with blind rivets. (See Figures 1, 3, 6, & 7)
- 4. The left and right side jambs are fabricated from (Part F) and installed after the lower sill and header flashing. Cut parts to length, *Overall length = opening height + 3 1/2"*. Cut 2 1/4" long notch on sill end of inside face. The lower notch is not cut on door assemblies. *(Do not fold ear or cut notch on the outside 1 3/4" face of flashing)*. Bend ½" kick back on both ends of outside face. Position left and right side jambs in place and fasten with blind rivets. (Both left and right hand jambs are symmetrical). (See Figures 1, 5, 6 & 7)





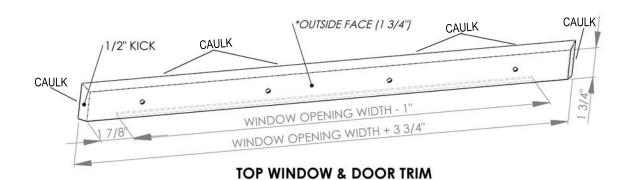
5. The top trim is fabricated from (Part G) and installed last. Cut part to length, Overall length = opening width + 3 3/4". Trim off rear flange 2 3/8" from both ends. (Do not trim off the outside 1 3/4" face of flashing). Bend 1/2" kick back on both ends of outside face. Position top trim flashing in place and fasten with blind rivets. (See Figures 1, 2, 4, 6 & 7)



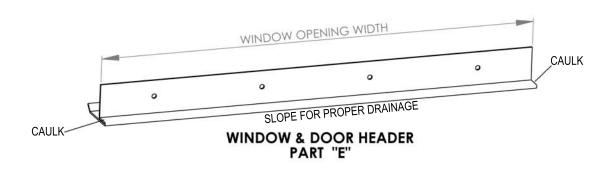
(FIGURE 1)

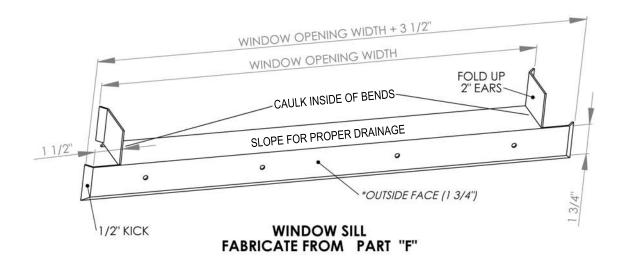






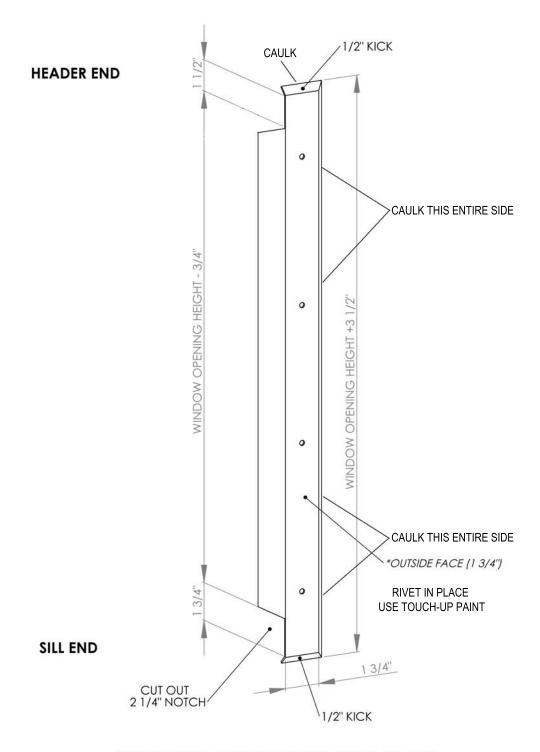
FABRICATE FROM PART "G"







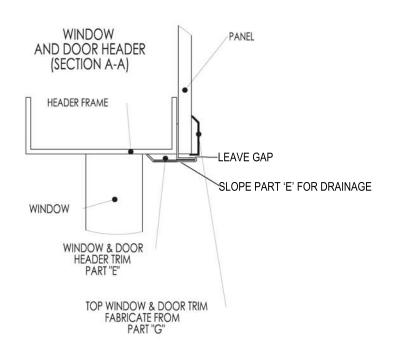


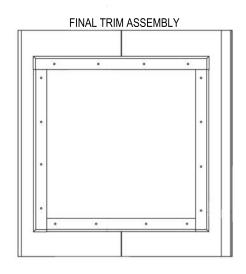


RIGHT HAND JAMB FABRICATE FROM PART "F"



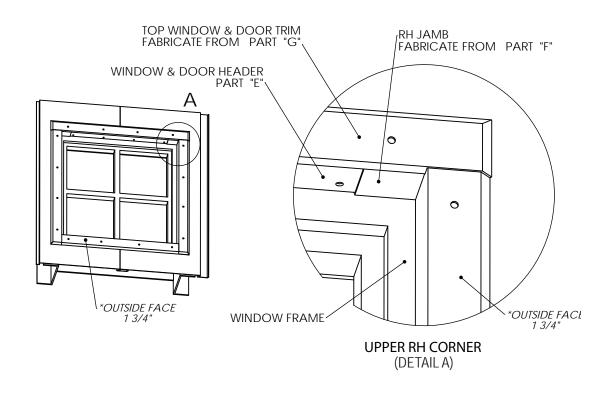


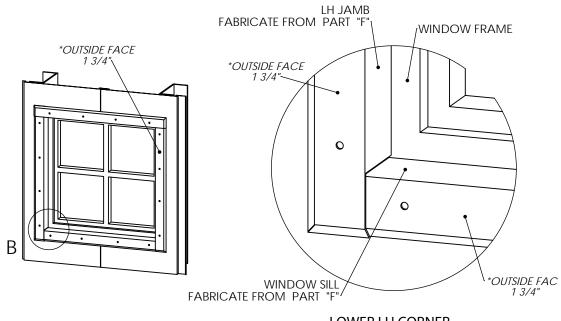












LOWER LH CORNER (DETAIL B)

(FIGURE 7)





Stacking Panels

Panel Stacking Option

A unique feature of our Stucco Building Panels is the ability to stack one Panel over the other without external flashings or trim. The Panels are flanged on both the top and bottom and interlock at the corners.

The Stucco Panel stacking option should be viewed as a design opportunity for potential color change. Stacking allows for creation of a variety of patterns and colors and makes possible almost unlimited wall heights.

Changing colors is particularly effective and attractive on gable ends or where long, high sidewalls are without other visual interest or architectural enhancement.

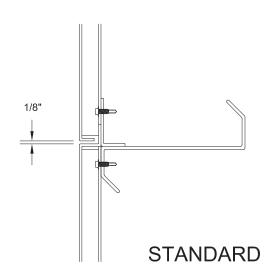
The top flange of the Stucco Panel is designed to deflect water back onto the face of the Panel when the stacking option is used.

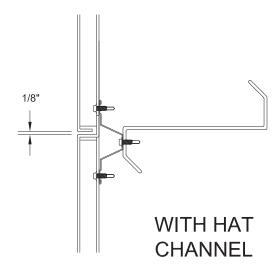


When stacking Stucco Building Panels it is required that there be a girt or other structural member at the upper and lower Stucco Panel junction for the attachment of both Panels.

To stack Panels, install the bottom row as in any standard application. Apply a bead of caulk along the top flange of the lower Panel to prevent water and air infiltration. The caulk should be applied along the 90° vertical stacking flange. BE CAREFUL not to use excessive amounts of caulk that may squeeze out onto the face of the Panels.

Intermediate and / or top row of Stucco Building Panels should be installed directly above, taking care to maintain the same vertical seam width throughout.



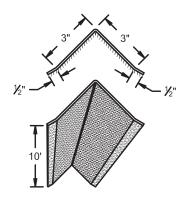




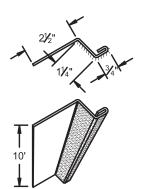


Standard Trim Sections *All trim sections are 10' in length

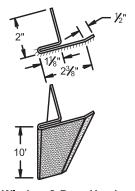
Non-Textured Surface
Textured Surface



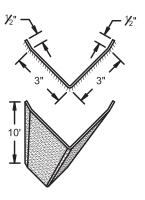
Inside Corner Trim Part # A



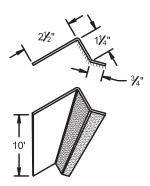
Base Trim or Drip Cap Part # C



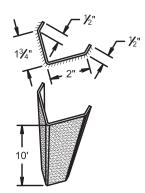
Window & Door Header Flashing - Part # E



Outside Corner Trim Part # B



Base Trim or Drip Cap Part # D



Frame Opening Sill and Jamb Trim - Part # F



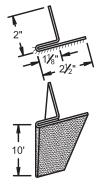


Standard Trim Sections

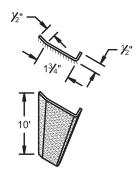
*All trim sections are 10' in length

Non-Textured Surface

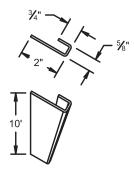
Textured Surface



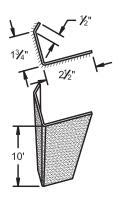
Window & Door Header Flashing - Part # E-Flat



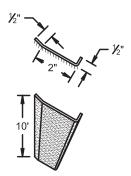
Top Window & Door Trim Part # G



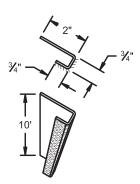
Sub - Jamb - Flashing Part # I



Frame Opening Sill and Jamb Trim - Part # F-Flat



Top Wall - Rake - Utility Trim - Part # H



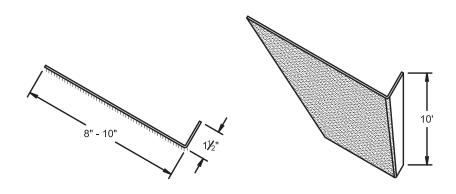
Top / Side Panel Cap Part # J



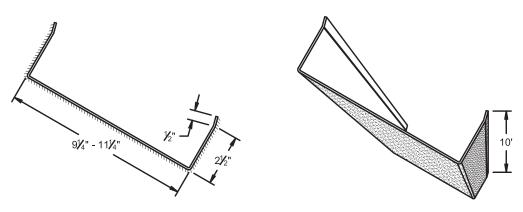


Special Trim Sections *All trim sections are 10' in length

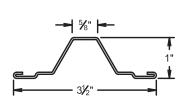
Non-Textured Surface
Textured Surface

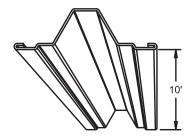


Overhead Door Jamb Cover



Wall Cap Flashing





Hat Channel





FREQUENTLY ASKED QUESTIONS

Do your STUCCO WALL PANELS come in different lengths?

YES! We form our Stucco Building Panels in lengths from One-Foot to Twenty-eight feet and in any increment of an inch in between.

How wide are your STUCCO WALL PANELS?

Our Stucco Panels cover Sixteen Inches in width (18" overall) from seam to seam. They are available <u>ONLY</u> in this width.

Can you match the existing color of my building with your STUCCO WALL PANELS?

YES! Provide us a wet sample of paint, a painted sample or simply give us the original paint manufacturer's name and color number to be matched. This option is in addition to our standard pricing and may require additional time for production.

Can your STUCCO WALL PANELS be repainted?

YES! Our panels can be painted to provide for accent striping or to simply give the panel a new look.

When repainting is desired it is necessary to clean the panels first. This must be done in order to remove dust, dirt, and debris which will prevent the new paint from adhering to the surface of the panel.

It is recommended that a flat exterior latex paint be used.

How can I clean your STUCCO WALL PANELS?

We recommend using a pressure washer at 1200 psi provided you keep the nozzle end at least 16" away from the surface of the panel. If you feel more pressure is needed we recommend that you instead use a soft bristle nylon brush and warm soapy water.

NOTE: INCREASING THE PSI OR GETTING CLOSER TO THE SURFACE OF THE PANEL MAY STRIP THE PAINT OFF OF THE PANEL AND VOID YOUR WARRANTY.





What gauge steel are your STUCCO WALL PANELS?

Our Metal Stucco Panels are formed from very sturdy, 20-gauge, G-90, galvanized steel to assure a uniform flat surface that resists wrinkling and "oil canning". Standard corrugated metal panels are normally much thinner, 26-28 gauge.

Are your STUCCO WALL PANELS insulated?

Not usually, but our Stucco Panels can be insulated at the factory (additional charges apply) with standard EPS (Expanded Polystyrene) foam board. Various thickness and densities can be used to achieve desired R-Values. More often though, batts of rolled fiberglass insulation are installed over the girts before our Stucco Wall Panels are attached. Contact us for installation procedures.

Will your STUCCO WALL PANELS be damaged if they are installed during bad weather?

NO! Unlike concrete, masonry or EIFS, our Stucco Wall Panels can be installed during periods of rain, snow or sub-freezing weather. No damage will result.

What are some of the typical applications for your STUCCO WALL PANELS?

Commercial Buildings, Offices, Retail Centers, Churches, Schools, and Government Buildings are some of the more popular uses for our Stucco Building Panels. Virtually any building project can be enhanced with our STUCCO PANELS. WE <u>DO NOT</u> OFFER OUR STUCCO WALL PANELS FOR RESIDENTIAL USE!! Visit our picture Gallery for a sampling of uses.

Can your STUCCO WALL PANELS be used to resurface an existing building?

YES, almost always. By installing "Hat Channel" or similar structural sections over existing building surfaces and attaching our Stucco Wall Panels to the hat channel, most existing surfaces like brick, masonry, corrugated metal, etc. can be easily retrofitted.

• Do you have a local STUCCO WALL PANEL representative or distributor in our area? Our single tier marketing structure helps our clients save money. Sales and Marketing, Technical Support, Production and Installation queries are all handled from our St. Louis headquarters. Assistance is as close as the telephone, fax or e-mail.





You say that your STUCCO WALL PANELS can be "stacked"; how does that work?

Our Stucco Panels can be stacked <u>without a trim section in between</u>. This allows the architect or designer to add accent stripes of a different color to a long or tall elevation that might otherwise have a somewhat boring appearance. See page 22 for more details.

How does your STUCCO WALL PANEL compare to EIFS?

We think we are FAR SUPERIOR.

- 1. Our Stucco Panels are MUCH LESS EXPENSIVE than EIFS.
- 2. Our Stucco Panels are MUCH MORE DURABLE than EIFS.
- 3. Our Stucco Panels INSTALL MUCH MORE RAPIDLY than EIFS.
- 4. Our Stucco Panels are <u>FAR LESS PRONE TO LEAKAGE</u> and resulting water damage. There are real EIFS horror stories involving building damage, lawsuits, government action, mold, insurance concerns, etc. <u>Bottom line...OUR STUCCO BUILDING PANELS DON'T LEAK OR ROT!</u>
- 5. Our Stucco Panels and Finish carry a 20-YEAR-WARRANTY!!

Can your STUCCO WALL PANELS be cut at the job site?

Yes. Use a circular saw with a good quality metal cutting blade to rip the Stucco Panels vertically or miter cut them to match the exact roof pitch or framed opening size.

When cutting panels with a circular saw it is important to not allow the saw base to drag directly over the stucco coating as this can cause marring and scratching of the finished surface.

NOTE: Field cut panels must have any metal shavings/dust removed prior to installation. Failure to do so will allow for these to oxidize and stain the panel.

Do you make STUCCO TRIM to give your STUCCO PANELS a finished appearance?

Yes. We have STANDARD TRIM SECTIONS, i.e. Inside Corners, Outside Corners, Base Trim, Window & Door Trims. We can also make "SPECIAL" trim to most dimension requests. All Trim is painted with baked on STUCCO coating.

How do we get started with your STUCCO WALL PANELS?

Just give us a call, email, or fax and we will be glad to assist you.

Phone: 314.894.3903 Fax: 314.631.3003





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