AP400

Full Depth Aluminum Plate

Installation Manual

INTRODUCTION

AP400 aluminum plate system is the building material of the future, which you will discover as soon as you install it. Our AAP400 is easy to install and requires no special tools with the exception of standard installation tools. AP400's versatility makes it adaptable to many other standard systems that are available from a variety of vendors, including rout & return systems, glazed-in systems and creative custom systems. In addition, you can create complex assemblies with AP400 in combination with polyethylene welding and support systems attached with structural adhesives.

This "How To" Manual has been developed to assist new installers with installation of simple standard AP400 panels in the most efficient and effective manner. The tips and suggestions contained in this manual are the result of many years of combined experience by installers in both the U.S. and abroad. These recommended suggestions are based on information which is, in our opinion, reliable. However, since skill, judgment, and quality of installation, equipment, and tools are involved, and since conditions and methods of installing AP400 material are beyond our control, the suggestions contained in this manual are provided with-out guarantee. We recommend that prospective users determine the suitability of both the material and suggestions before adopting them on a commercial scale.

LUMABUILT DOES NOT MAKE ANY WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR PURPOSE, WITH RESPECT TO ANY SAID SUGGESTIONS AND PRODUCT DATA. In no event shall Lumabuilt, have any liability in any way related to or arising out of said suggestions and product data for direct, special, consequential or any other damages of any kind regardless whether such liability is based on breach of contract, negligence or other sort, or breach of any warranty, express or implied. Also, normal safety and health precautions practiced in any fabricating environment should be used when fabricating AP400 material. Goggles or other face protection, as well as hand protection should always be worn. MSDS for AP400 materials are available through our Customer Service Department.

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Section I: Pre-Installation Guidelines

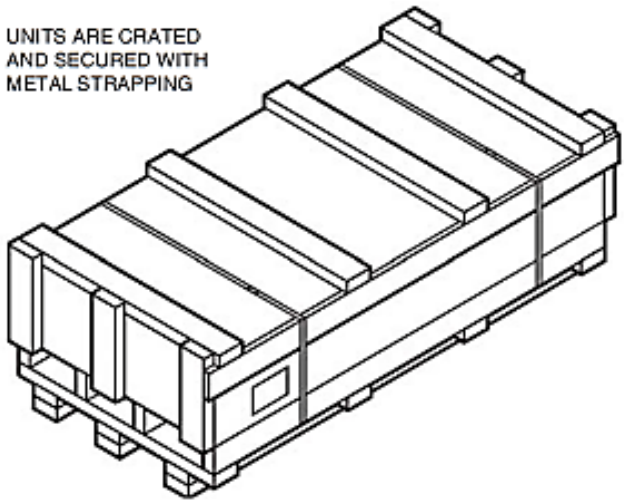
WARNING: FAILURE TO FOLLOW THESE GUIDELINES WILL VOID THE STANDARD WARRANTY.

BE SURE TO READ, UNDERSTAND AND FOLLOW ALL GUIDELINES. Manufacturer guidelines may vary depending upon specific application and project conditions. The manufacturer should be contacted with questions regarding conditions which vary from the guidelines set forth. Standard carpentry knowledge is required and good construction practice for health, safety and welfare must be followed when fabricating Aluma-Kor. Rollfab Metal Products offers these recommended guidelines based upon current product information and accepts no responsibility for the conditions and/or methods of fabrication.

Material Receiving & Inventory:

VISUAL INSPECTION:
Upon material arrival, all panel units and accessory cartons should be visually inspected to verify that the product is in good condition and free from shipping damage, weather damage or defects.

- ☑ **IS THE PRODUCT IN GOOD CONDITION?**
- ☑ **IS THE PRODUCT FREE FROM DEFECTS?**
- ☑ **IS THE PRODUCT CLEAN AND DRY?**
- ☑ **ARE ALL OF THE PANEL UNITS PRESENT?**
- ☑ **...THE ACCESSORY UNITS?**
- ☑ **IS THE PIECE PER UNIT COUNT CORRECT?**



- **Shipping damage and packaging issues should be noted on the bill of lading and immediately reported to manufacturer.**

- **Customers are responsible for filing freight claims with the shipping company WITHIN 24 HOURS of receiving materials. Failure to do so may result in forfeit of corrective actions.**

- **Any defective material must be reported directly to the manufacturer.**

Transporting & Handling:

AP400 planks should be transported by means of a forklift with the proper length forks or extension in the original / sealed packaging until processing of the material is ready to begin. If a forklift is unavailable, planks may be lifted and carried by hand per the following guidelines.

AP400 panels have a strippable protective film on the painted surface to protect the finished surface. The film should be left on the product until installation of the product has been completed. The protective film is designed to prevent minor abrasions to the finish surface. However, the product should still be handled very carefully to avoid scratches and denting which can penetrate through the film and damage the products finished surface.

- **When handling product, clean work gloves should always be worn to protect hands from being cut on the sharp edges.**
- **DO NOT drag nor slide product at any time while handling it. Product must be directly lifted away from contacting surfaces to avoid damage to the painted surface. (see figure below)**

AP400 product must be kept in a dry well-ventilated area away from exposure to all elements including natural and construction based during storage, failure to do so may result in damage to the finished surface and/or the core. Such damage is NOT covered under warranty.

AP400 product can be stored either horizontally or vertically per the following guidelines:

- **Materials must be kept completely flat to prevent warping by means of palletizing or rack stands.**
- **Materials should be the same size when stacked as different sizes can cause scratching & denting.**
- **Materials stored vertically should be leaned into a structural rack on top of a rubber mat.**

Scheduling & Grid Layout:

COORDINATION OF WORK:

In accordance with good construction practice, schedule the work to coordinate with other trades so that installation can proceed without significant interference/delay. Once installation has begun, work should not be delayed for long periods of time at a point which might cause damage to the product if acted upon by external conditions (i.e. rain, snow, and long periods of exposure to the sun).

DETERMINING THE GRID:

Before beginning the installation procedure, it is important to plan the overall layout of the installation. Architectural drawings should be consulted to determine the correct grid layout, where applicable.

CALCULATE MATERIAL USAGE:

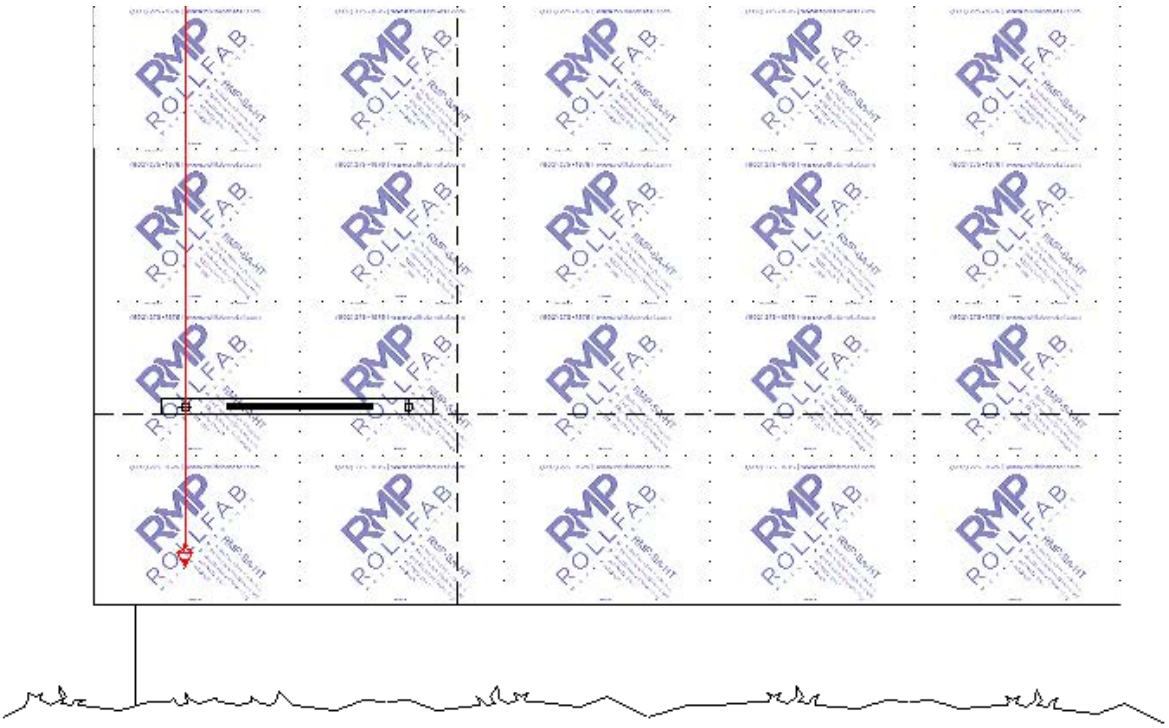
After identifying & determining the grid layout, begin to verify that the correct amount of material has been ordered for your specific application. Since material takeoffs and resulting quantities are based upon the grid layout, installing the material in another pattern other than what has been pr-determined may result in material shortages or panels not fitting in position.

ALIGNING & MARKING THE GRID:

Using the pre-determined grid pattern, establish a base point in the lower left corner or lower center/midpoint of the elevation. After installation of all dry-in materials, use a chalk line, levels, and a plumb bob to mark the complete grid (FIG. B) on the substrate/weatherproofing. Doing so will allow for any necessary adjustment to be made prior to installation.

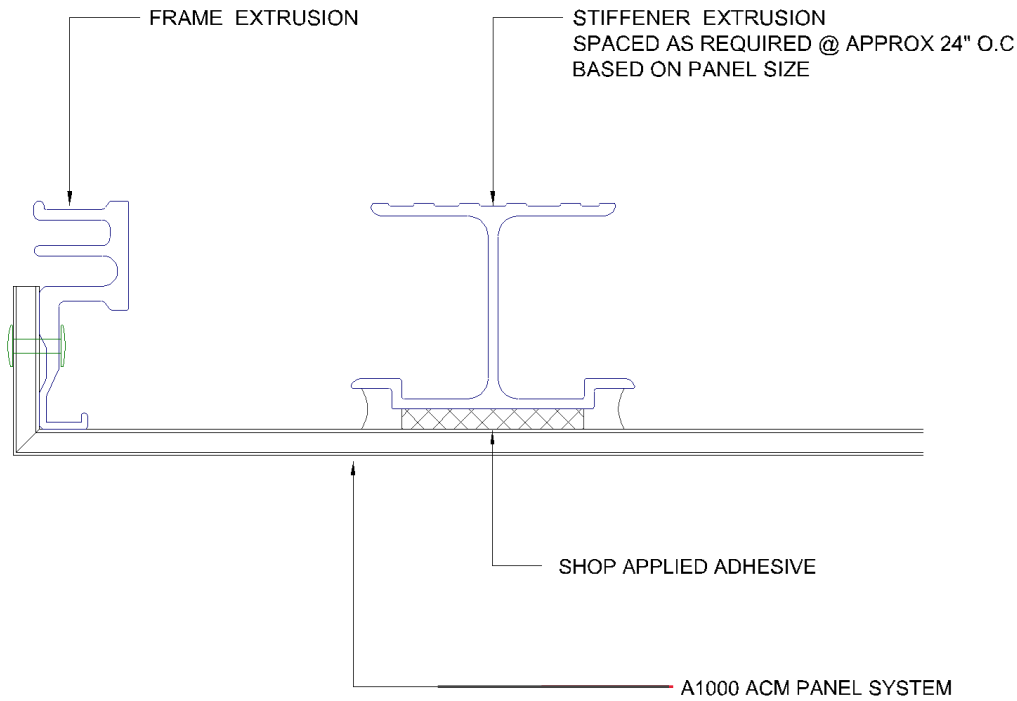
All surfaces of the substrate should be free from any obstructions and/or projections which might interfere with panel application. Note areas where shims may be required to bring the panel system into a plumb, level, and a consistent plane.

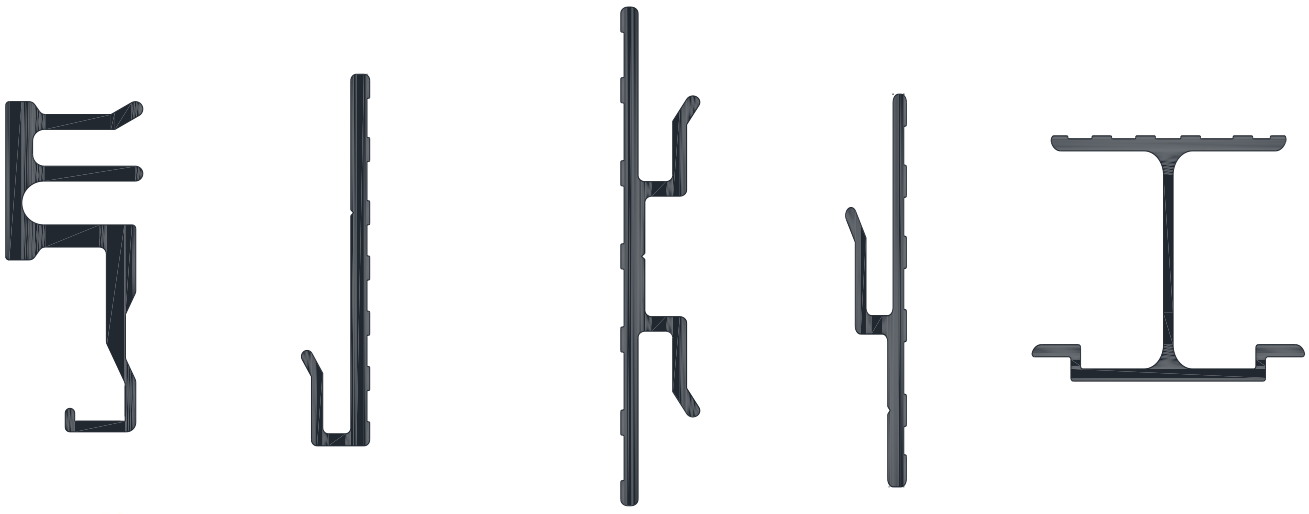
Figure A



SECTION II: PANEL COMPONENTS

Cor – A1000 DRAIN BACK VENTILATED PANEL (shown w/ stiffener).





12323RS
FRAME
EXTRUSION

12320RS
SILL CLIP
EXTRUSION

12321RS
CLIP
EXTRUSION

12322RS
MOD. CLIP
EXTRUSION

12324PS
STIFFENER EXTRUSION

SECTION III: ASSEMBLY NOTES

Panels

AP400 panels will arrive with the Frame and Stiffener (if required) Extrusions pre-mounted, the panels will have all necessary weep holes pre-drilled and each panel will have an angle brace mounted on the backside corners to strengthen the assembly. Each panel will be identified with a "Panel Mark" for easy placement identification. Installation Grid/Area maps will coincide with these marks.

Panel should be kept a minimum of 12" away from finished landscaping grade (refer to product warranty for information).

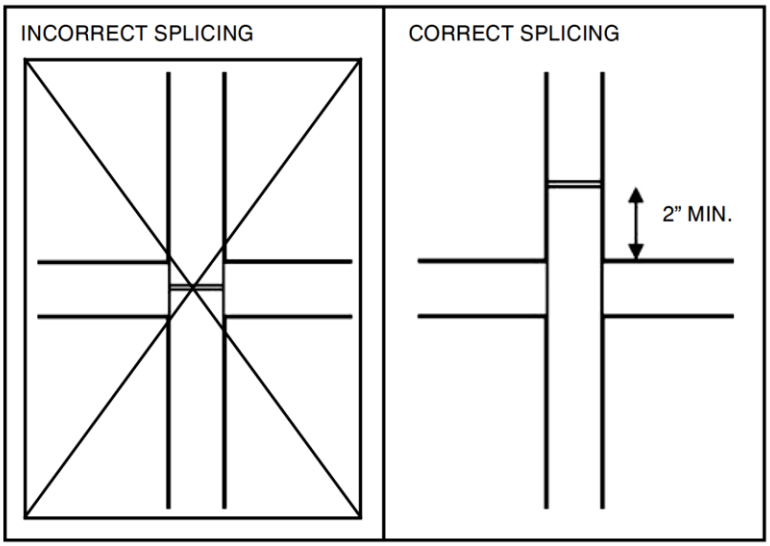
Extrusions

Sill, Wall Clip, and Modified Extrusions should have been pre-ordered and shipped with panel assemblies

Color Strips

ACM Reveal Color Strips will be shipped with panels; they will be of the same thickness as the project ACM. Color strips are 1½" wide x Varied lengths for the standard 1/2" reveal system, but can be made larger up to 12" for a wider reveal feature . When installing the panels, the color strips should be installed in such a manner that the vertical strips pass though the horizontal strips as shown. (Fig. B) When cutting the strip(s) to size, approximately 1" should be added to the desired joint size to obtain the correct strip width. For example, a 1/2" joint would require the accent strips to be cut to a 1½" width. The protective film should always be completely removed before installing the accent strip.

Figure C



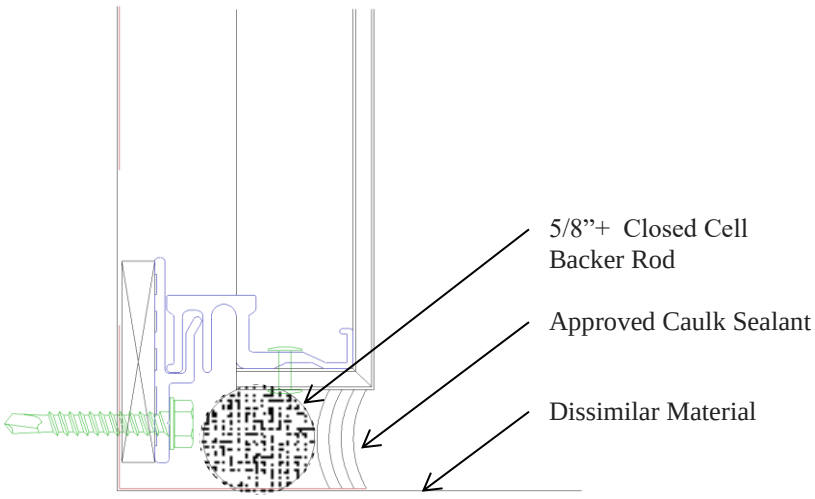
Sealant

As a rainscreen principle system, AP400 is an exterior cladding system designed to allow incidental water to enter the system and exit through weep holes. The RS System will always be applied over a moisture/air infiltration barrier (i.e. RMP SA-HT®). However, whenever the system butts a dissimilar material, you must allow for a sealant joint. Therefore, it is imperative that the following guidelines be followed accurately to ensure the integrity of the system against moisture intrusion. In order for the

proper bond to be created between the sealant and dissimilar materials, be sure to only apply the proper recommended sealant per the sealant manufacturer specifications (i.e. Tremco® Spectrem® 2, Dow Corning™ 795, or GE Silpruf™). Certain sealants may require additional steps (such as priming of materials) or cause the installation to fail due to poor weathering, staining and/or lack of adequate bonding.

In general, sealant should be liberally applied wherever the system butts up to dissimilar material conditions. All such joints should have a closed cell backer rod placed into the joint (set back approximately 1/2 the width of the joint) before sealant application (FIG. C).

Figure C



Protective Film

The protective film must be removed from the panel surface. For ease of removal, pull the film back against itself in the same plane as the panel.

Note:
Failure to remove the protective film promptly after installation (or exposure to long periods of sunlight) may cause difficulties in removal and possibly leave an adhesive residue.

Maintenance / Care

Panels should be incorporated into an overall building washing/maintenance schedule and cleaned in accordance with AAMA 610.1, Voluntary Guide Specification for Cleaning and Maintenance of Painted Aluminum Extrusions and Curtain Wall Panels. In general, panels may be cleaned using warm water and a mild detergent (if necessary). For more aggressive materials, a gentle brushing/scrubbing action may be required. Abrasive detergents and/or harsh solvents should not be used.

Touch Up / Repair

Any minor scratches or dings which may occur during installation can be repaired using touch-up paint available from the fabricator. Repainting of large areas with the touch-up paint is not recommended. Finish characteristics of the repainted surface may vary from the pre-painted aluminum.

Section IV: Installation Sequence

STOP! READ BEFORE PROCEEDING WITH WORK SEQUENCE

These guidelines are set forth to show the intent and general sequence of installation. The procedure for each individual application and condition may vary. For special conditions or for those not discussed (parapet, dissimilar material, etc.), refer to the General Work Guidelines, Typical Details or contact the manufacturer.

INSTALLATION SPECIFICATIONS:

System Type:
- Non-Structural, 'rainscreen principle' System

Work Flow:
- Progressive, moving up and across the elevation beginning at a bottom corner (typical).

Possible Substrates:
- Nailable Substrate with Moisture Barrier
- Non-Nailable Substrate with Moisture Barrier (fastened directly to studs)

Expansion/Contraction Spacing:
- Typical joint spacing is 1/2"-12" between abutting panels.

Type Of Fastener (for mounting extrusions):
- #10 TEK Screw, 1-1/2" long, hex head.

Fastening Schedule:
- Attachment Extrusions:
  Every 16" along length of molding.

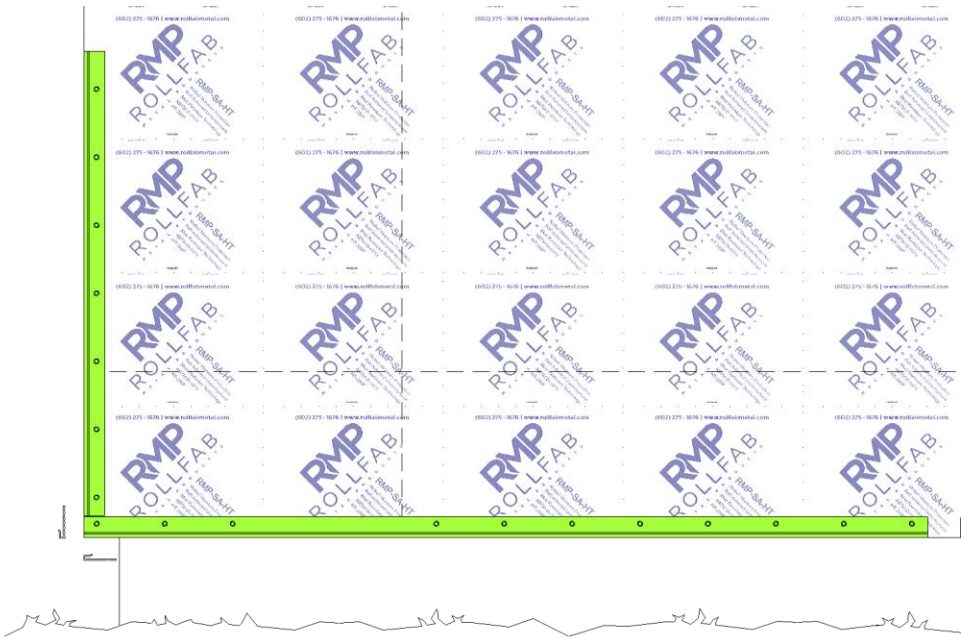
Open Cell Foam:
- Placed by the fabricator into weep holes to prevent debris/insects from getting into the cladding cavity. Weep holes should be facing downward.

Accent Strips:
- Placed in between mounting extrusions to close the cladding cavity, range in size from 1-1/2" for 1/2" joints to 13" for 12" joints.

STEP I: Attaching The Starter Extrusion:

Since the system is progressive, installation generally starts in the lowermost corner of the elevation. Once the appropriate flashing has been installed, set spacer blocks (1/2" joint typical) on the flashing to use as a guideline for setting the first panel. Begin by peeling the protective film back from the returned edges of the panel. Then, attach the Sill or Modified Clip extrusion along the bottom & left side (if installing left to right) to the substrate, shim where required (FIG. 1).

Figure 1



STEP II: Installing the First Panel:

Begin by sliding the edges of the first panel onto the starter extrusion (previously attached in STEP 1). Place the lower end of the starter panel into the extrusion first. For directional installation slide the panel to the left/right to fully engage the vertical extrusion once installed into the horizontal extrusion. Insert the 4" long "Wall Clips" into the top and sides of the Frame extrusions, be sure to softly seat the clips, a 1/16" gap is recommended for thermal expansion. Fasten the clips to the substrate w/ 2 - #10 x 1 1/2" self-tapping or tek point screws (FIG. 2 or 3). Completely remove the protective film.

Figure 2

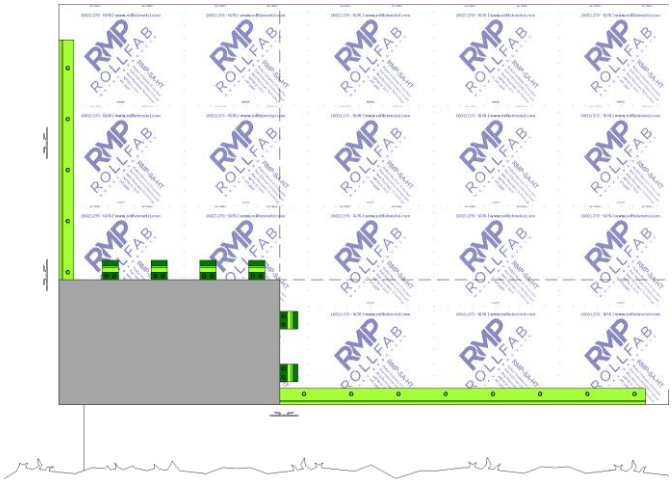
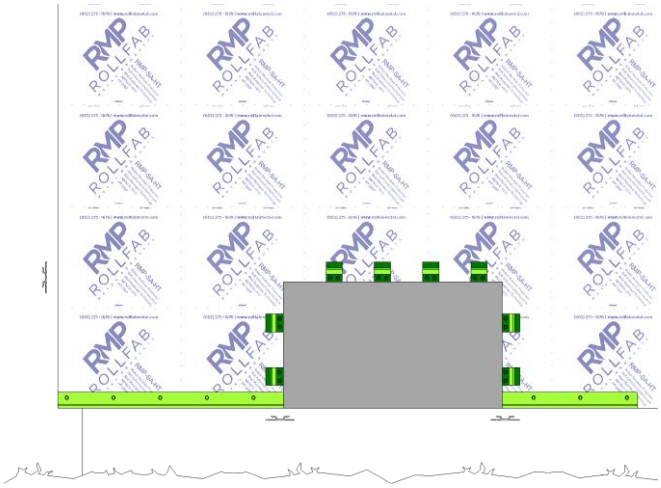


Figure 3



STEP III: Insert the Reveal Color Strips:

At each joint, install a reveal color strip into the frame extrusions (FIG. 4 or 5) before mounting the next panel in the sequence. Verticals should pass through horizontals. The color strips are slid into the slot on the frame extrusion. The strips are not fastened, but allowed to 'float' within the extrusion. Remove the protective film completely from the color strip before placing them.

Figure 4

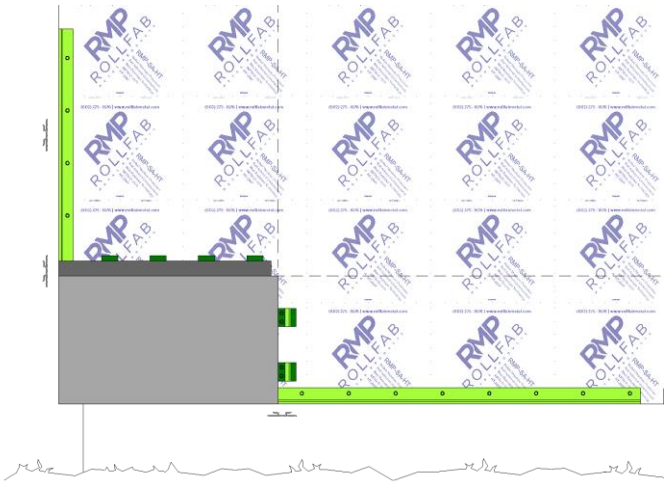
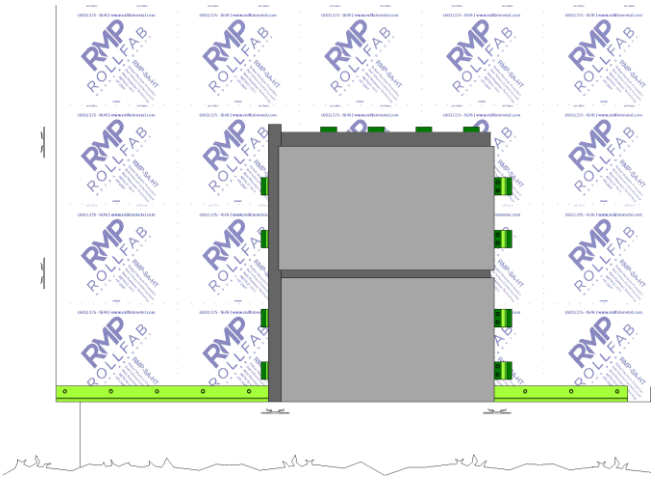


Figure 5



STEP IV: Insert the Adjoining Panels:

Begin by placing spacer blocks (equal to the joint width) along the panel edges to create the proper spacing. Then prepare the panel for installation (repeating STEP II). Slide the next panel in the sequence over the edge of the accent strip and into the frame extrusion, then insert and fasten the wall clips to the sides and top of the panel to the substrate (FIG. 6 or 7). Then completely remove the protective film from the installed panel(s). Complete the installation by moving vertically and horizontally across the grid. It is recommended to complete the first column vertically, then move horizontally at the bottom of the elevation and begin at the next column(s). Proceed with installation until completed; trim with flashings, add backer rod, add sealant at end-wall conditions as required

Figure 6

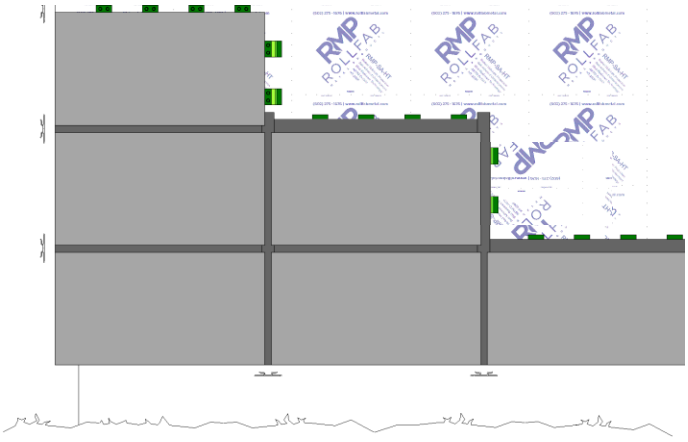
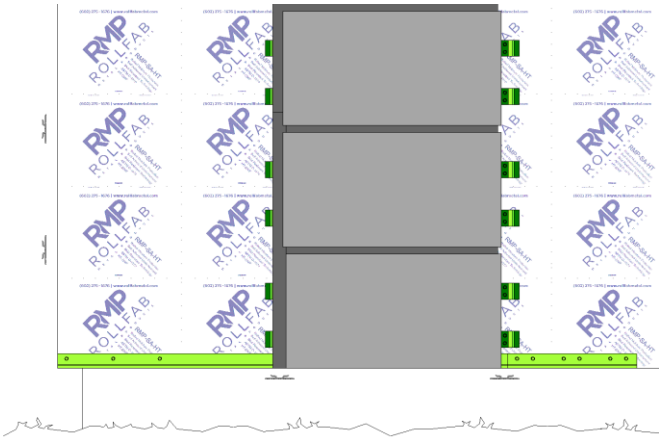


Figure 7



SECTION V: MATERIAL & EQUIPMENT SOURCES

TWO-PART ADHESIVES

National Starch & Chemical Corp.
Finderne Avenue
Bridgewater, NJ 08807
(908) 685-5000

Dymax Corporation
51 Greenwoods Road
Torrington, CT 06790
(203) 482-1010

STRUCTURAL SEALANT

Dow Corning Corporation
Product Information
P.O. Box 997
Midland, MI 48686
(517) 496-6000

GE Silicon Products
260 Hudson River Road
Waterford, NY 12188
(800) 332-3390

Tremco Corporation
3735 Green Road
Beachwood, OH 44122
(216) 292-5000

EPOXY

Lord Corporation
Industrial Adhesives Department
2000 West Grandview Boulevard
Erie, PA 16514
(814) 868-3611

Essex Specialty Products, Inc.
1250 Harmon Road
Aurbin Hills, MI 48326
(810) 391-6300

ROUTING BLADES

Drake Corporation
1913 North Van Buren Street
Huntingburg, IN 47542

MECHANICAL FASTENERS

Pro-Fastening
8126 Zionsville Road
Indianapolis, IN 46268
(800) 292-7550

COATINGS & PAINTS

AKZO Nobel
6369 Old Peachtree Road
Norcross, GA 30071
(770) 662-8464

Benjamin Moore & Company
2501 West North Avenue
Melrose Park, IL 60160
(708) 343-3100

PPG Coatings
One PPG Place
Pittsburgh, PA 15272
(412) 434-3131

Valspar Industrial Coatings
701 South Shiloh Road
Garland, TX 75042
(972) 276-5191

Sherwin Williams
10 Midland Building
101 Prospect Avenue
Cleveland, OH 44115
(800) 331-7979

SEALANTS

Dow Corning Corporation
Product Information
P.O. Box 997
Midland, MI 48686
(517) 496-6000

GE Silicon Products
260 Hudson River Road
Waterford, NY 12188
(800) 332-3390

Tremco Corporation
3735 Green Road
Beachwood, OH 44122
(216) 292-5000

ADHESIVE TAPES

3M Industrial Tape and Specialties Division
3M Center Building 220-7E-01
St. Paul, MN 55144
(800) 362-3550

Avery Dennison
Specialty Tape Division
250 Chester Street
Painesville, OH 44077
(216) 639-2600

Mactac Technical Products Division
4560 Darrow Road
Stow, OH 44224
(800) 323-3439

Norton Performance Plastics Corporation
One Sealants Park
Granville, NY 12832
(800) 724-0883